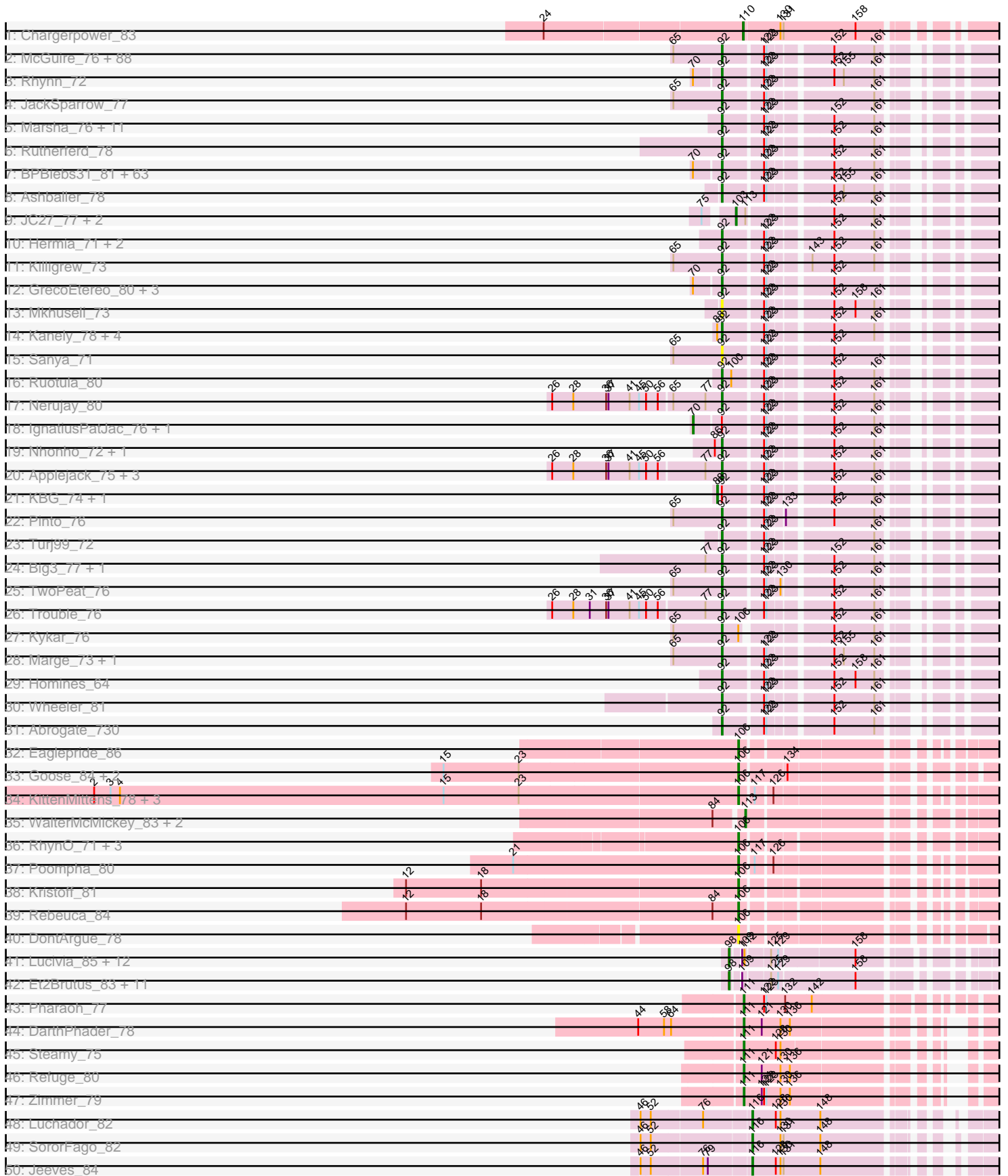
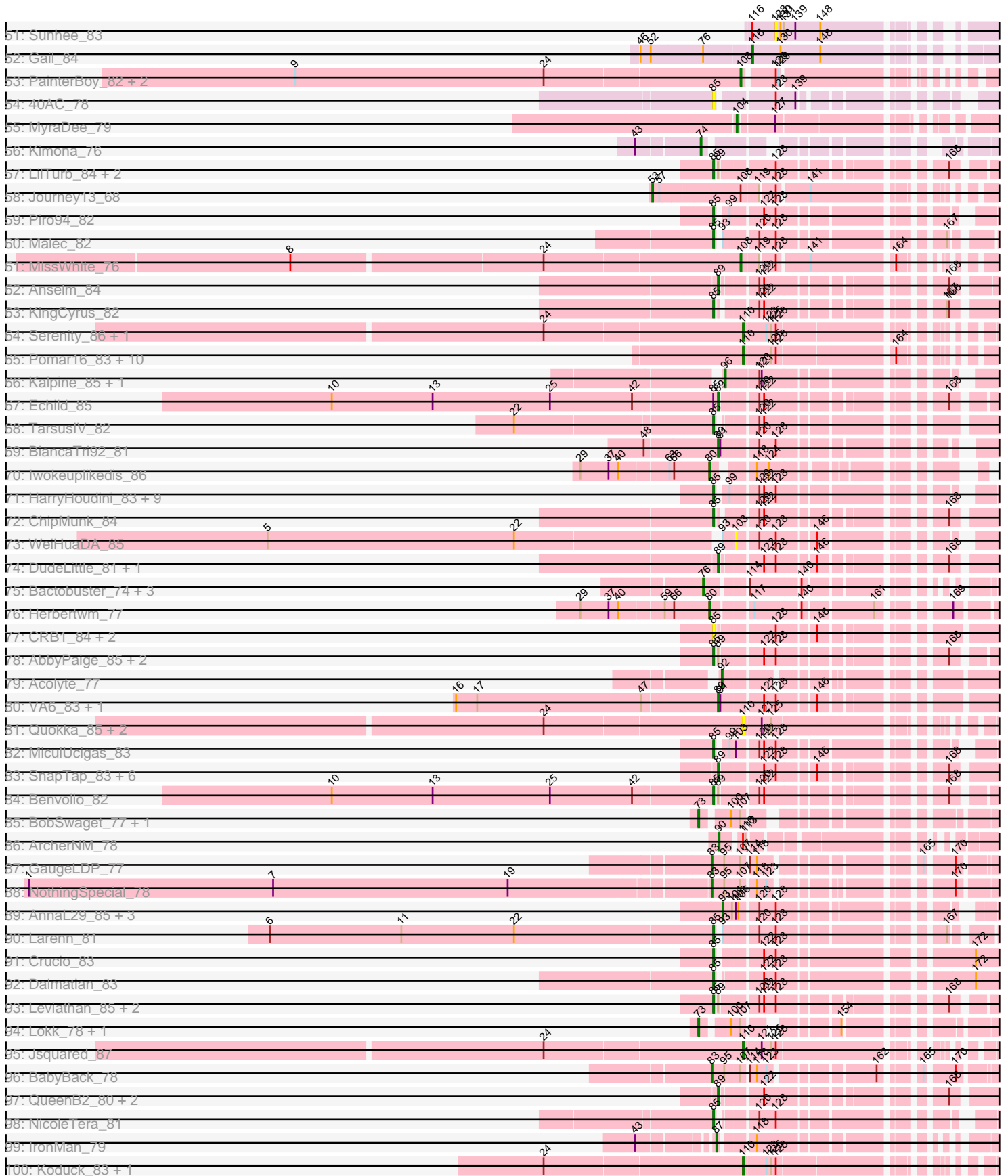


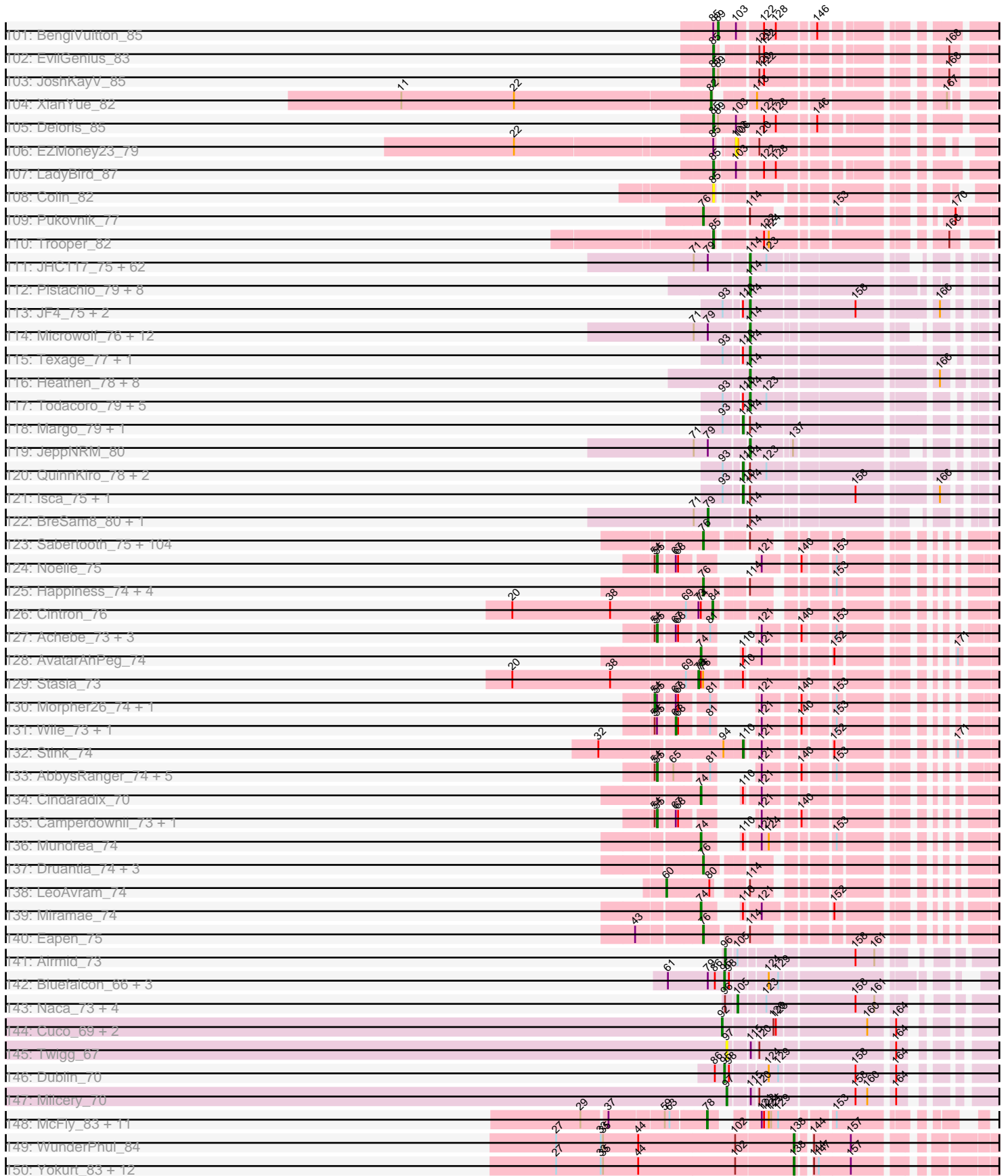
Pham 202539



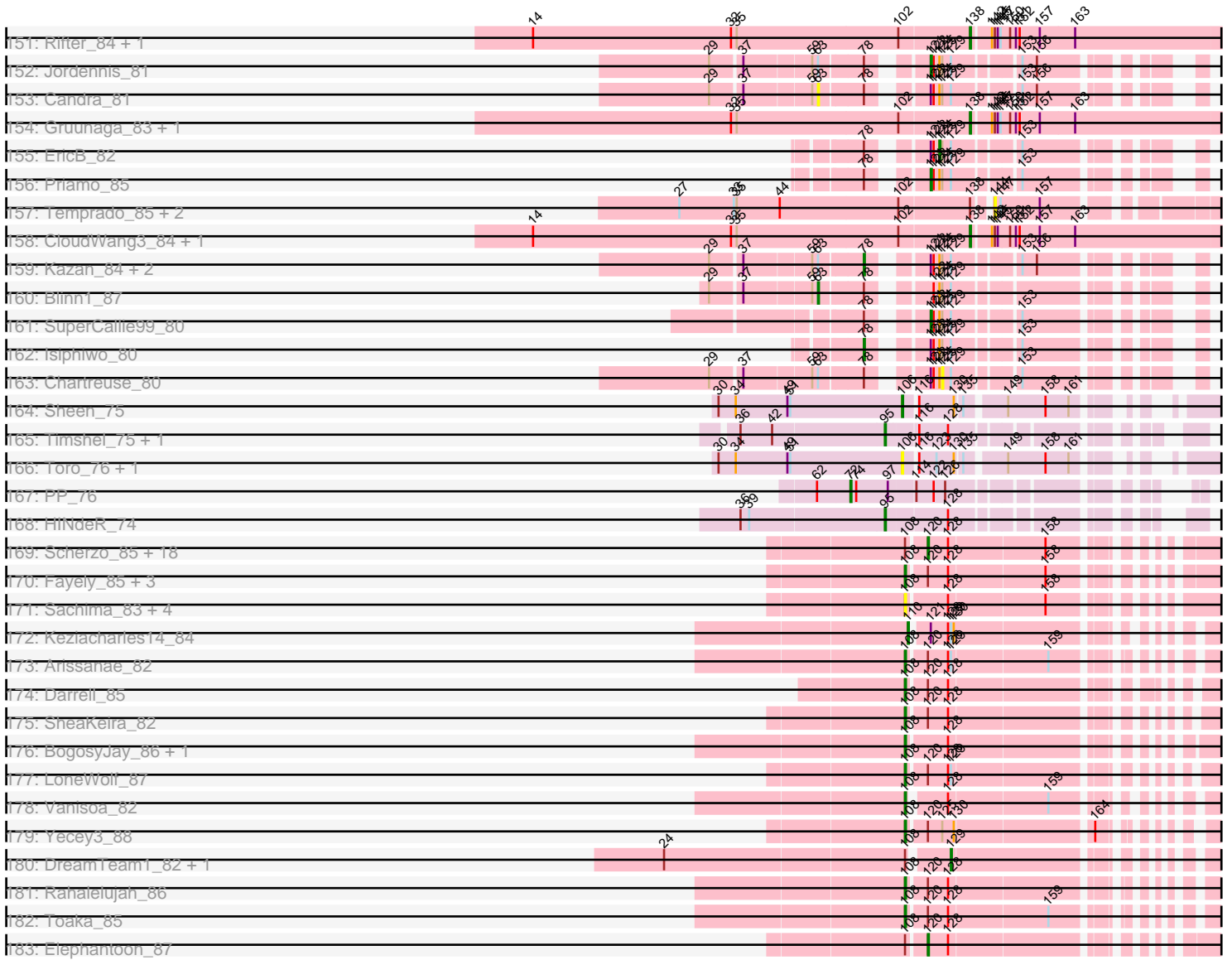
Pham 202539



Pham 202539



Pham 202539



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 202539 Report

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

Pham number 202539 has 742 members, 58 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower\_83
- Track 2 : McGuire\_76, Alsfro\_83, Adahisdi\_72, Rufus\_79, PinkPlastic\_72, Dreamboat\_76, Arcanine\_80, Snazzy\_77, Ichabod\_79, StrongArm\_72, Crispicous1\_71, GageAP\_79, Dynamix\_76, Bexan\_71, Bob3\_77, Teodoridan\_74, Fushigi\_70, DD5\_74, Bones\_72, Rubeus\_77, Traft412\_76, Ciao\_73, Gyzlar\_69, Monet\_80, Maroc7\_78, Slagathor\_77, Peterson\_75, Anglerfish\_78, Ajay\_73, BillKnuckles\_70, Marcell\_69, Petp2012\_77, Fascinus\_72, BigMau\_79, Hami1\_69, Bigfoot\_71, SarFire\_80, Briton15\_79, GMonster\_72, Paraselene\_74, Jerm2\_78, Jasper\_75, Inyanga\_68, Rohr\_79, Seabiscuit\_77, BeesKnees\_77, Oogway\_75, Fenn\_79, Treddle\_78, Francis47\_78, Agaliana\_74, Marchy\_68, Bircsak\_77, CactusRose\_79, Norz\_72, Pippin\_77, PherrisBueller\_75, DreamCatcher\_80, Gompeii16\_77, Papez\_78, ILeeKay\_74, Brunns\_79, ShortQueendom\_69, PacerPaul\_81, Wilkins\_73, Topgun\_72, Lamina13\_80, Seanderson\_76, Zephyr\_78, Solon\_72, Beatrix\_73, Thor\_80, Rajelicia\_78, HermioneGrange\_80, Pepe\_70, Blue\_73, HanShotFirst\_74, Kugel\_78, Edtherson\_75, Squee\_77, Violet\_71, SkiPole\_85, Chanagan\_73, TheloniousMonk\_78, Switzer\_75, Naira\_78, Scowl\_77, Sagefire\_73, Carlyle\_77
- Track 3 : Rhynn\_72
- Track 4 : JackSparrow\_77
- Track 5 : Marsha\_76, Sunshine924\_77, Petruchio\_76, Tripl3t\_79, BK1\_70, Bxb1\_70, KSSJEB\_73, Magnito\_75, A6\_70, Raid\_74, LilBib\_73, Graduation\_79
- Track 6 : Rutherford\_78
- Track 7 : BPBiebs31\_81, NEHalo\_72, Arlo\_76, Magnar\_72, Mryolo\_71, Moose\_78, Pelly\_79, Perseus\_76, AFIS\_73, Museum\_76, PhrostyMug\_78, MaryBeth\_74, Bethlehem\_79, Forsytheast\_78, Paphu\_71, BluSpix\_74, JuliaChild\_77, Lockley\_73, Zeeculate\_72, KyMonks1A\_82, Ohno789\_79, Sibs6\_76, HarryOW\_77, Swole\_77, STLscum\_82, Fajezeel\_79, MPlant7149\_76, Eyeball\_75, SpikeBT\_73, Molly\_76, Greg\_79, Aeneas\_81, Espresso\_70, Tote\_72, Dulcie\_77, Acme\_80, Sumter\_73, PSullivan\_74, Abbysshoes\_76, Dussy\_75, Parliament\_77, Gandalf20\_75, Sorpresa\_75, Lopton\_75, Pita2\_77, MetalQZJ\_73, Makemake\_79, Pari\_81, PattyP\_76, Kenmech\_78, Niza\_76, U2\_70, Burton\_77, DrFeelGood\_72, Mule\_75, PascalRango\_74, SwissCheese\_80, Corvo\_78, Tasp14\_75, Smairt\_80, Gwendoluna\_80, Watermelon\_79, Lesedi\_73, Sandaddy\_74
- Track 8 : Ashballer\_78
- Track 9 : JC27\_77, Jorgensen\_83, Zeuska\_78
- Track 10 : Hermia\_71, QTRlifeCrisis\_75, Buttons\_73
- Track 11 : Killigrew\_73

- Track 12 : GrecoEtereo\_80, Manatee\_74, Euphoria\_77, BaconJack\_78
- Track 13 : Mkhuseleli\_73
- Track 14 : Kanely\_78, ConceptII\_81, Altman\_79, Licorice\_77, Atkinbua\_82
- Track 15 : Sanya\_71
- Track 16 : Ruotula\_80
- Track 17 : Nerujay\_80
- Track 18 : IgnatiusPatJac\_76, StewieG\_72
- Track 19 : Nhonho\_72, Ringer\_76
- Track 20 : Applejack\_75, Barriga\_83, Dexes\_77, Hope4ever\_77
- Track 21 : KBG\_74, BigPaolini\_74
- Track 22 : Pinto\_76
- Track 23 : Turj99\_72
- Track 24 : Big3\_77, MrGordo\_77
- Track 25 : TwoPeat\_76
- Track 26 : Trouble\_76
- Track 27 : Kykar\_76
- Track 28 : Marge\_73, Target\_76
- Track 29 : Homines\_64
- Track 30 : Wheeler\_81
- Track 31 : Abrogate\_730
- Track 32 : Eaglepride\_86
- Track 33 : Goose\_84, Chupacabra\_80, OKCentral2016\_82
- Track 34 : KittenMittens\_78, Severus\_81, PeaceMeal1\_80, Drake94\_80
- Track 35 : WalterMcMickey\_83, Topanga\_73, Twister\_84
- Track 36 : RhynO\_71, DustyMartin\_86, Shapes\_86, Rowdy\_86
- Track 37 : Poompha\_80
- Track 38 : Kristoff\_81
- Track 39 : Rebeuca\_84
- Track 40 : DontArgue\_78
- Track 41 : Lucivia\_85, Timothy\_84, Aneem\_85, Joselito\_83, Petersenfast\_78, Bowtie\_81, Mabel\_84, Bud\_79, Munch\_84, MaCh\_84, Orange\_84, TinyTimmy\_82, Flaverint\_85
- Track 42 : Et2Brutus\_83, Gilberta\_81, Sham4\_80, Fibonacci\_83, Bachome\_82, Ebony\_84, Insomnia\_83, Hutc2\_80, Mulciber\_82, Salz\_79, Snape\_84, Jabith\_83
- Track 43 : Pharaoh\_77
- Track 44 : DARTHPhader\_78
- Track 45 : Steamy\_75
- Track 46 : Refuge\_80
- Track 47 : Zimmer\_79
- Track 48 : Luchador\_82
- Track 49 : SororFago\_82
- Track 50 : Jeeves\_84
- Track 51 : Sunhee\_83
- Track 52 : Gail\_84
- Track 53 : PainterBoy\_82, Lucyedi\_82, EagleEye\_83
- Track 54 : 40AC\_78
- Track 55 : MyraDee\_79
- Track 56 : Kimona\_76
- Track 57 : LilTurb\_84, Jerm\_85, Agape74\_85
- Track 58 : Journey13\_68
- Track 59 : Piro94\_82
- Track 60 : Malec\_82
- Track 61 : MissWhite\_76

- Track 62 : Anselm\_84
- Track 63 : KingCyrus\_82
- Track 64 : Serenity\_86, TipsytheTRex\_82
- Track 65 : Pomar16\_83, AN9\_82, VC3\_81, AN18\_82, Travvers\_83, StarStuff\_83, Tomathan\_83, Duplo\_84, Kerberos\_83, DBQu4n\_83, C3\_75
- Track 66 : Kalpine\_85, Trixie\_83
- Track 67 : Echild\_85
- Track 68 : TarsusIV\_82
- Track 69 : BiancaTri92\_81
- Track 70 : Iwokeuplikedis\_86
- Track 71 : HarryHoudini\_83, Updawg\_84, Sknot\_83, Drake55\_84, WideWale\_84, Baehexic\_82, Centaur\_83, NaSiaTalie\_84, Flare16\_83, Equemioh13\_83
- Track 72 : ChipMunk\_84
- Track 73 : WeiHuaDA\_85
- Track 74 : DudeLittle\_81, Retro23\_83
- Track 75 : Bactobuster\_74, Landor\_80, Phaded\_76, Jaan\_80
- Track 76 : Herbertwm\_77
- Track 77 : CRB1\_84, First\_0084, 20ES\_85
- Track 78 : AbbyPaige\_85, Dignity\_85, Whabigail7\_83
- Track 79 : Acolyte\_77
- Track 80 : VA6\_83, AN3\_83
- Track 81 : Quokka\_85, MajorMajor\_80, Bradman\_86
- Track 82 : MiculUcigas\_83
- Track 83 : SnapTap\_83, FiringLine\_83, QueenBeesly\_83, Georgie2\_85, SweetiePie\_83, SemperFi\_83, Power\_83
- Track 84 : Benvolio\_82
- Track 85 : BobSwaget\_77, Miko\_78
- Track 86 : ArcherNM\_78
- Track 87 : GaugeLDP\_77
- Track 88 : NothingSpecial\_78
- Track 89 : AnnaL29\_85, Changeling\_82, Loser\_86, RedRock\_83
- Track 90 : Larenn\_81
- Track 91 : Crucio\_83
- Track 92 : Dalmatian\_83
- Track 93 : Leviathan\_85, Turbido\_84, Smeagan\_86
- Track 94 : Lokk\_78, Rachaly\_80
- Track 95 : Jsquared\_87
- Track 96 : BabyBack\_78
- Track 97 : QueenB2\_80, Heffalump\_80, Fameo\_81
- Track 98 : NicoleTera\_81
- Track 99 : IronMan\_79
- Track 100 : Koduck\_83, L5\_76
- Track 101 : BengiVuitton\_85
- Track 102 : EvilGenius\_83
- Track 103 : JoshKayV\_85
- Track 104 : XianYue\_82
- Track 105 : Deloris\_85
- Track 106 : EZMoney23\_79
- Track 107 : LadyBird\_87
- Track 108 : Colin\_82
- Track 109 : Pukovnik\_77
- Track 110 : Trooper\_82

- Track 111 : JHC117\_75, LugYA\_83, Beauxregard13\_79, LBerry\_81, Kalnoky\_80, Gemma\_77, Daishi\_79, SoilDragon\_80, Penny1\_80, Grif\_78, EpicPhail\_81, Dieselweasel\_81, Taurus\_81, Kalb97\_80, MarQuardt\_80, Colbster\_76, Aglet\_81, GingkoMaracino\_80, PurpleHaze\_79, Pawn\_78, Groupthink\_80, Soshari\_82, GtownJaz\_80, Marius\_80, Grum1\_80, Tiffany\_79, MadMarie\_78, Wooldri\_82, Rummer\_79, Jobu08\_76, JenCasNa\_81, Manu\_79, Louie6\_79, Snickers\_76, Cullens\_81, Hercules11\_80, Sabinator\_78, Fernando\_81, Bxz2\_75, LarryKay\_80, TinyPebbles\_76, PotatoSplit\_81, Phoxy\_80, Anubis\_84, P28Green\_80, BuzzBuzz\_74, Heliosoles\_77, SoYo\_77, HaveUMetTed\_80, Ollie\_80, Methuselah\_73, MoneyMay\_80, PhishRPhriends\_76, Marie\_78, OlanP\_78, Spike509\_80, Vix\_76, Reba\_75, KADY\_77, Farber\_80, Calvinny\_77, HashRod\_81, Phoebe\_81
- Track 112 : Pistachio\_79, TNguyen7\_80, SaturnRing\_79, BlueBird\_81, Bugatti\_79, Giroux\_77, Idleandcovert\_79, Phantastic\_80, Puppy\_80
- Track 113 : JF4\_75, JF2\_75, B1\_69
- Track 114 : Microwolf\_76, Pembroke\_80, AugsMagnumOpus\_83, Stagni\_77, Mainiac\_79, Grub\_78, Malinsilva\_83, Sabia\_78, Lilith\_78, PGHhamlin\_82, MuchMore\_83, StepMih\_80, DaHudson\_79
- Track 115 : Texage\_77, Noella\_80
- Track 116 : Heathen\_78, DropBear\_77, MA5\_77, Fred313\_76, Marchesa\_78, Kachowdy\_76, BabyRay\_78, HelDan\_79, Scout\_78
- Track 117 : Todacoro\_79, Pocahontas\_78, Panamaxus\_76, ResDef\_77, Popcicle\_79, Hookmount\_79
- Track 118 : Margo\_79, Norbert\_75
- Track 119 : JeppNRM\_80
- Track 120 : QuinnKiro\_78, Veracruz\_76, Lambert1\_79
- Track 121 : Isca\_75, MK4\_72
- Track 122 : BreSam8\_80, Watson\_79
- Track 123 : Sabertooth\_75, OKaNui\_74, Phacado\_75, Morrow\_77, JoongJeon\_74, Mazhar510\_75, Burger\_73, PeterPeter\_75, Iracema64\_75, Houdini22\_74, Millski\_74, Avle17\_75, Holli\_74, Bartimeaus\_75, Ruin\_75, Pumbaa\_75, YoSam321\_75, Albee\_75, Bruiser\_74, Relief\_74, Wander\_75, Maxo\_77, Flux\_76, Nemo27\_74, Bombshell\_75, Eris\_74, TiroTheta9\_74, Kingmustik0402\_75, Jaykayelowell\_72, Romney\_74, Sparxx\_76, Eurydice\_76, Broseidon\_75, Abdiel\_74, Cocoaberry\_75, SheldonCooper\_75, Alberto7\_76, ICleared\_74, Kyee\_75, CentreCat\_75, Scamp\_75, Baby16\_75, LappelDuVide\_75, LittleB\_75, Ulysses\_74, Chaph\_75, Phelipe\_76, Kratark\_74, DirtyDunning\_74, Caelakin\_73, Skipitt\_74, Kampy\_74, Iceman\_73, BubbleTrouble\_74, Spino\_74, SeniorClean\_70, Roosevelt\_73, Nyxis\_74, JetBlade\_76, TroyPia\_76, Florean\_75, Taquarus\_74, Dhanush\_75, Pipcraft\_71, Thanksgivukkah\_74, Commander\_73, Citius\_75, Rosa24\_71, LochMonster\_76, BellusTerra\_76, Eros\_75, Lemur\_75, Tinybot\_74, MeeZee\_74, Maverick\_74, Koan\_70, Melvin\_77, Blackmoor\_74, TinaFeyge\_73, Clarenza\_74, Peaches\_73, Shaka\_73, Deano\_72, NorthStar\_72, Ohfah\_76, KFPoly\_74, Palestino\_74, Connomayer\_75, HamSlice\_71, BangNhom\_72, Phighter1804\_75, Wilbur\_75, Arturo\_72, TygerBlood\_75, LittleGuy\_75, Koreni\_74, Gadost\_75, Lunsford\_75, NotAPhaseMom\_74, Phontbonne\_75, Nebs\_76, Medusa\_74, Annyong\_74, Funston\_74, Cerulean\_77
- Track 124 : Noelle\_75
- Track 125 : Happiness\_74, ChampagnePapi\_78, Shygu2\_74, Obama12\_76, LHTSCC\_77
- Track 126 : Cintron\_76
- Track 127 : Achebe\_73, Katalie136\_74, Wizard007\_74, Cici\_74
- Track 128 : AvatarAhPeg\_74



- Track 129 : Stasia\_73
- Track 130 : Morpher26\_74, Bumblebee11\_73
- Track 131 : Wile\_73, Badger\_73
- Track 132 : Stink\_74
- Track 133 : AbbysRanger\_74, Perplexer\_74, Backyardigan\_72, Xena\_73, Datway\_74, PetiteSangsue\_74
- Track 134 : Cindaradix\_70
- Track 135 : Camperdownii\_73, Kremtemulon\_74
- Track 136 : Mundrea\_74
- Track 137 : Druantia\_74, Eagle\_74, Lorenzo\_75, Polymorphads\_76
- Track 138 : LeoAvram\_74
- Track 139 : Miramae\_74
- Track 140 : Eapen\_75
- Track 141 : Airmid\_73
- Track 142 : Bluefalcon\_66, Archetta\_68, Ghoulboy\_70, SydNat\_70
- Track 143 : Naca\_73, EITiger69\_76, PetterN\_78, Chadwick\_74, Benedict\_74
- Track 144 : Cuco\_69, Coog\_67, Midas2\_67
- Track 145 : Twigg\_67
- Track 146 : Dublin\_70
- Track 147 : Milcery\_70
- Track 148 : McFly\_83, DaVinci\_81, Neeharika16\_82, Hoot\_78, Cookiedough\_83, SuperAwesome\_83, GreedyLawyer\_77, Dorothea\_83, Kipper29\_83, Pmask\_82, BABullseye\_76, Newrala\_82
- Track 149 : WunderPhul\_84
- Track 150 : Yokurt\_83, ToneTone\_81, Wiks\_83, Artemis2UCLA\_83, BlessJoy\_83, Zulu\_85, Lilbunny\_83, Blue7\_85, Roksolana\_84, Zaka\_84, Indra\_87, Koko\_85, Tucker\_84
- Track 151 : Rifter\_84, Hammer\_84
- Track 152 : Jordennis\_81
- Track 153 : Candra\_81
- Track 154 : Gruunaga\_83, Gladiator\_80
- Track 155 : EricB\_82
- Track 156 : Priamo\_85
- Track 157 : Temprado\_85, Helmet\_85, Garak\_85
- Track 158 : CloudWang3\_84, Hexamo\_83
- Track 159 : Kazan\_84, VohminGhazi\_83, SmellyB\_83
- Track 160 : Blinn1\_87
- Track 161 : SuperCallie99\_80
- Track 162 : Isiphiwo\_80
- Track 163 : Chartreuse\_80
- Track 164 : Sheen\_75
- Track 165 : Timshel\_75, DroogsArmy\_74
- Track 166 : Toro\_76, FlyCatcher\_78
- Track 167 : PP\_76
- Track 168 : HINdeR\_74
- Track 169 : Scherzo\_85, Qobbit\_85, Pioneer\_87, Holec\_86, Phaeder\_87, Aliter\_80, Ugenie5\_74, Lilleskat\_84, Beemo\_87, ExplosioNervosa\_85, Phonnegut\_87, Eidsmoe\_85, HortumSL17\_88, Onglai\_85, Conquerage\_85, Alma\_85, Catalina\_89, Priya\_85, Myxus\_87
- Track 170 : Fayely\_85, Spouty\_85, Tubs\_87, EmyBug\_84
- Track 171 : Sachima\_83, RyeScarlet\_88, Hanray\_85, EdogawaKiddo\_86, Jiawan\_85
- Track 172 : Keziacharles14\_84

- Track 173 : Arissanae\_82
- Track 174 : Darrell\_85
- Track 175 : SheaKeira\_82
- Track 176 : BogosyJay\_86, Maminiaina\_86
- Track 177 : LoneWolf\_87
- Track 178 : Vanisoa\_82
- Track 179 : Yecey3\_88
- Track 180 : DreamTeam1\_82, Charm\_82
- Track 181 : Rahalelujah\_86
- Track 182 : Toaka\_85
- Track 183 : Elephantoon\_87

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

The start number called the most often in the published annotations is 92, it was called in 199 of the 684 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A6\_70, AFIS\_73, Abbyshoes\_76, Abrogate\_730, Acme\_80, Acolyte\_77, Adahisdi\_72, Aeneas\_81, Agaliana\_74, Ajay\_73, Alsfro\_83, Altman\_79, Anglerfish\_78, Applejack\_75, Arcanine\_80, Arlo\_76, Ashballer\_78, Atkinbua\_82, BK1\_70, BPBiebs31\_81, BaconJack\_78, Barriga\_83, Beatrix\_73, BeesKnees\_77, Bethlehem\_79, Bexan\_71, Big3\_77, BigMau\_79, Bigfoot\_71, BillKnuckles\_70, Bircsak\_77, BluSpix\_74, Blue\_73, Bob3\_77, Bones\_72, Briton15\_79, Bruns\_79, Burton\_77, Buttons\_73, Bxb1\_70, CactusRose\_79, Carlyle\_77, Chanagan\_73, Ciao\_73, Conceptll\_81, Coog\_67, Corvo\_78, Crispicous1\_71, Cuco\_69, DD5\_74, Dexes\_77, DrFeelGood\_72, DreamCatcher\_80, Dreamboat\_76, Dulcie\_77, Dussy\_75, Dynamix\_76, Edtherson\_75, Espresso\_70, Euphoria\_77, Eyeball\_75, Fajezeel\_79, Fascinus\_72, Fenn\_79, Forsytheast\_78, Francis47\_78, Fushigi\_70, GMonster\_72, GageAP\_79, Gandalf20\_75, Gompeii16\_77, Graduation\_79, GrecoEtereo\_80, Greg\_79, Gwendoluna\_80, Gyzlar\_69, Hami1\_69, HanShotFirst\_74, HarryOW\_77, Hermia\_71, HermioneGrange\_80, Homines\_64, Hope4ever\_77, ILeeKay\_74, Ichabod\_79, Inyanga\_68, JackSparrow\_77, Jasper\_75, Jerm2\_78, JuliaChild\_77, KSSJEB\_73, Kanely\_78, Kenmech\_78, Killigrew\_73, Kugel\_78, KyMonks1A\_82, Kykar\_76, Lamina13\_80, Lesedi\_73, Licorice\_77, LilBib\_73, Lockley\_73, Lopton\_75, MPlant7149\_76, Magnar\_72, Magnito\_75, Makemake\_79, Manatee\_74, Marcell\_69, Marchy\_68, Marge\_73, Maroc7\_78, Marsha\_76, MaryBeth\_74, McGuire\_76, MetalQZJ\_73, Midas2\_67, Mkhuseleli\_73, Molly\_76, Monet\_80, Moose\_78, MrGordo\_77, Mryolo\_71, Mule\_75, Museum\_76, NEHalo\_72, Naira\_78, Nerujay\_80, Nhonho\_72, Niza\_76, Norz\_72, Ohno789\_79, Oogway\_75, PSullivan\_74, PacerPaul\_81, Papez\_78, Paphu\_71, Paraselene\_74, Pari\_81, Parliament\_77, PascalRango\_74, PattyP\_76, Pelly\_79, Pepe\_70, Perseus\_76, Peterson\_75, Petp2012\_77, Petruchio\_76, PherrisBueller\_75, PhrostyMug\_78, PinkPlastic\_72, Pinto\_76, Pippin\_77, Pita2\_77, QTRlifeCrisis\_75, Raid\_74, Rajelicia\_78, Rhynn\_72, Ringer\_76, Rohr\_79, Rubeus\_77, Rufus\_79, Ruotula\_80, Rutherford\_78, STLscum\_82, Sagefire\_73, Sandaddy\_74, Sanya\_71, SarFire\_80, Scowl\_77, Seabiscuit\_77, Seanderson\_76, ShortQueendom\_69, Sibs6\_76, SkiPole\_85, Slagathor\_77, Smairt\_80, Snazzy\_77, Solon\_72, Sorpresa\_75, SpikeBT\_73, Squee\_77, StrongArm\_72, Sumter\_73, Sunshine924\_77, SwissCheese\_80, Switzer\_75, Swole\_77, Target\_76, Tasp14\_75, Teodoridan\_74,

TheloniousMonk\_78, Thor\_80, Topgun\_72, Tote\_72, Trafft412\_76, Treddle\_78, Tripl3t\_79, Trouble\_76, Turj99\_72, TwoPeat\_76, U2\_70, Violet\_71, Watermelon\_79, Wheeler\_81, Wilkins\_73, Zeeculate\_72, Zephyr\_78,

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

• BigPaolini\_74, IgnatiusPatJac\_76, KBG\_74, StewieG\_72,

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

• 20ES\_85, 40AC\_78, AN3\_83, AN9\_82, ANI8\_82, AbbyPaige\_85, AbbysRanger\_74, Abdiel\_74, Achebe\_73, Agape74\_85, Aglet\_81, Airmid\_73, Albee\_75, Alberto7\_76, Aliter\_80, Alma\_85, Aneem\_85, AnnaL29\_85, Annyong\_74, Anselm\_84, Anubis\_84, ArcherNM\_78, Archetta\_68, Arissanae\_82, Artemis2UCLA\_83, Arturo\_72, AugsMagnumOpus\_83, AvatarAhPeg\_74, Avle17\_75, B1\_69, BABullseye\_76, Baby16\_75, BabyBack\_78, BabyRay\_78, Bachome\_82, Backyardigan\_72, Bactobuster\_74, Badger\_73, Baehexic\_82, BangNhom\_72, Bartimeaus\_75, Beauxregard13\_79, Beemo\_87, BellusTerra\_76, Benedict\_74, BengiVuitton\_85, Benvolio\_82, BiancaTri92\_81, Blackmoor\_74, BlessJoy\_83, Blinn1\_87, Blue7\_85, BlueBird\_81, Bluefalcon\_66, BobSwaget\_77, BogosyJay\_86, Bombshell\_75, Bowtie\_81, Bradman\_86, BreSam8\_80, Broseidon\_75, Bruiser\_74, BubbleTrouble\_74, Bud\_79, Bugatti\_79, Bumblebee11\_73, Burger\_73, BuzzBuzz\_74, Bxz2\_75, C3\_75, CRB1\_84, Caelakin\_73, Calvinny\_77, Camperdownii\_73, Candra\_81, Catalina\_89, Centaur\_83, CentreCat\_75, Cerulean\_77, Chadwick\_74, ChampagnePapi\_78, Changeling\_82, Chaph\_75, Chargerpower\_83, Charm\_82, Chartreuse\_80, ChipMunk\_84, Chupacabra\_80, Cici\_74, Cindaradix\_70, Cintron\_76, Citius\_75, Clarenza\_74, CloudWang3\_84, Cocoberry\_75, Colbster\_76, Colin\_82, Commander\_73, Connomayer\_75, Conquerage\_85, Cookiedough\_83, Crucio\_83, Cullens\_81, DBQu4n\_83, DaHudson\_79, DaVinci\_81, Daishi\_79, Dalmatian\_83, Darrell\_85, DarthPhader\_78, Datway\_74, Deano\_72, Deloris\_85, Dhanush\_75, Dieselweasel\_81, Dignity\_85, DirtyDunning\_74, DontArgue\_78, Dorothea\_83, Drake55\_84, Drake94\_80, DreamTeam1\_82, DroogsArmy\_74, DropBear\_77, Druantia\_74, Dublin\_70, DudeLittle\_81, Duplo\_84, DustyMartin\_86, EZMoney23\_79, EagleEye\_83, Eagle\_74, Eaglepride\_86, Eapen\_75, Ebony\_84, Echild\_85, EdogawaKiddo\_86, Eidsmoe\_85, ElTiger69\_76, Elephantoon\_87, EmyBug\_84, EpicPhail\_81, Equemioh13\_83, EricB\_82, Eris\_74, Eros\_75, Et2Brutus\_83, Eurydice\_76, EvilGenius\_83, ExplosioNervosa\_85, Fameo\_81, Farber\_80, Fayely\_85, Fernando\_81, Fibonacci\_83, FiringLine\_83, First\_0084, Flare16\_83, Flaverint\_85, Florean\_75, Flux\_76, FlyCatcher\_78, Fred313\_76, Funston\_74, Gadost\_75, Gail\_84, Garak\_85, GaugeLDP\_77, Gemma\_77, Georgie2\_85, Ghoulboy\_70, Gilberta\_81, GingkoMaracino\_80, Giroux\_77, Gladiator\_80, Goose\_84, GreedyLawyer\_77, Grif\_78, Groupthink\_80, Grub\_78, Grum1\_80, Gruunaga\_83, GtownJaz\_80, HINdeR\_74, HamSlice\_71, Hammer\_84, Hanray\_85, Happiness\_74, HarryHoudini\_83, HashRod\_81, HaveUMetTed\_80, Heathen\_78, Heffalump\_80, HelDan\_79, Heliosoles\_77, Helmet\_85, Herbertwm\_77, Hercules11\_80, Hexamo\_83, Horex\_86, Holli\_74, Hookmount\_79, Hoot\_78, HortumSL17\_88, Houdini22\_74, Hutc2\_80, ICleared\_74, Iceman\_73, Idleandcovert\_79, Indra\_87, Insomnia\_83, Iracema64\_75, IronMan\_79, Isca\_75, Isiphiwo\_80, Iwokeuplikedis\_86, JC27\_77, JF2\_75, JF4\_75, JHC117\_75, Jaan\_80, Jabith\_83, Jaykayelowell\_72, Jeeves\_84, JenCasNa\_81, JeppNRM\_80, Jerm\_85, JetBlade\_76, Jiawan\_85, Jobu08\_76, JoongJeon\_74, Jordennis\_81, Jorgensen\_83, Joselito\_83, JoshKayV\_85, Journey13\_68, Jsquared\_87, KADY\_77, KFPoly\_74, Kachowdy\_76, Kalb97\_80, Kalnoky\_80, Kalpine\_85, Kampy\_74, Katalie136\_74, Kazan\_84, Kerberos\_83, Keziacharles14\_84, Kimona\_76, KingCyrus\_82, Kingmustik0402\_75, Kipper29\_83,

KittenMittens\_78, Koan\_70, Koduck\_83, Koko\_85, Koreni\_74, Kratark\_74, Kremtemulon\_74, Kristoff\_81, Kyee\_75, L5\_76, LBerry\_81, LHTSCC\_77, LadyBird\_87, Lambert1\_79, Landor\_80, LappelDuVide\_75, Larenn\_81, LarryKay\_80, Lemur\_75, LeoAvram\_74, Leviathan\_85, LilTurb\_84, Lilbunny\_83, Lilith\_78, Lilleskat\_84, LittleB\_75, LittleGuy\_75, LochMonster\_76, Lokk\_78, LoneWolf\_87, Lorenzo\_75, Loser\_86, Louie6\_79, Luchador\_82, Lucivia\_85, Lucyedi\_82, LugYA\_83, Lunsford\_75, MA5\_77, MK4\_72, MaCh\_84, Mabel\_84, MadMarie\_78, Mainiac\_79, MajorMajor\_80, Malec\_82, Malinsilva\_83, Maminiaina\_86, Manu\_79, MarQuardt\_80, Marchesa\_78, Margo\_79, Marie\_78, Marius\_80, Maverick\_74, Maxo\_77, Mazhar510\_75, McFly\_83, Medusa\_74, MeeZee\_74, Melvin\_77, Methuselah\_73, Microwolf\_76, MiculUcigas\_83, Miko\_78, Milcery\_70, Millski\_74, Miramae\_74, MissWhite\_76, MoneyMay\_80, Morpher26\_74, Morrow\_77, MuchMore\_83, Mulciber\_82, Munch\_84, Mundrea\_74, MyraDee\_79, Myxus\_87, NaSiaTalie\_84, Naca\_73, Nebs\_76, Neeharika16\_82, Nemo27\_74, Newrala\_82, NicoleTera\_81, Noella\_80, Noelle\_75, Norbert\_75, NorthStar\_72, NotAPhaseMom\_74, NothingSpecial\_78, Nyxis\_74, OKCentral2016\_82, OKaNui\_74, Obama12\_76, Ohfah\_76, OlanP\_78, Ollie\_80, Onglai\_85, Orange\_84, P28Green\_80, PGHhamlin\_82, PP\_76, PainterBoy\_82, Palestino\_74, Panamaxus\_76, Pawn\_78, PeaceMeal1\_80, Peaches\_73, Pembroke\_80, Penny1\_80, Perplexer\_74, PeterPeter\_75, Petersenfast\_78, PetiteSangsue\_74, PetterN\_78, Phacado\_75, Phaded\_76, Phaeder\_87, Phantastic\_80, Pharaoh\_77, Felipe\_76, Phighter1804\_75, PhishRPhriends\_76, Phoebe\_81, Phonnegut\_87, Phontbonne\_75, Phoxy\_80, Pioneer\_87, Pipcraft\_71, Piro94\_82, Pistachio\_79, Pmask\_82, Pocahontas\_78, Polymorphads\_76, Pomar16\_83, Poompha\_80, Popcicle\_79, PotatoSplit\_81, Power\_83, Priamo\_85, Priya\_85, Pukovnik\_77, Pumbaa\_75, Puppy\_80, PurpleHaze\_79, Qobbit\_85, QueenB2\_80, QueenBeesly\_83, QuinnKiro\_78, Quokka\_85, Rachaly\_80, Rahalelujah\_86, Reba\_75, Rebeuca\_84, RedRock\_83, Refuge\_80, Relief\_74, ResDef\_77, Retro23\_83, RhynO\_71, Rifter\_84, Roksolana\_84, Romney\_74, Roosevelt\_73, Rosa24\_71, Rowdy\_86, Ruin\_75, Rummer\_79, RyeScarlet\_88, Sabertooth\_75, Sabia\_78, Sabinator\_78, Sachima\_83, Salz\_79, SaturnRing\_79, Scamp\_75, Scherzo\_85, Scout\_78, SemperFi\_83, SenorClean\_70, Serenity\_86, Severus\_81, Shaka\_73, Sham4\_80, Shapes\_86, SheaKeira\_82, Sheen\_75, SheldonCooper\_75, Shygu2\_74, Skipitt\_74, Sknot\_83, Smeagan\_86, SmellyB\_83, SnapTap\_83, Snape\_84, Snickers\_76, SoYo\_77, SoilDragon\_80, SororFago\_82, Soshari\_82, Sparxx\_76, Spike509\_80, Spino\_74, Spouty\_85, Stagni\_77, StarStuff\_83, Stasia\_73, Steamy\_75, StepMih\_80, Stink\_74, Sunhee\_83, SuperAwesome\_83, SuperCallie99\_80, SweetiePie\_83, SydNat\_70, TNguyen7\_80, Taquarus\_74, TarsusIV\_82, Taurus\_81, Temprado\_85, Texage\_77, Thanksgivukkah\_74, Tiffany\_79, Timothy\_84, Timshel\_75, TinaFeyge\_73, TinyPebbles\_76, TinyTimmy\_82, Tinybot\_74, TipsytheTRex\_82, TiroTheta9\_74, Toaka\_85, Todacoro\_79, Tomathan\_83, ToneTone\_81, Topanga\_73, Toro\_76, Travvers\_83, Trixie\_83, Trooper\_82, TroyPia\_76, Tubs\_87, Tucker\_84, Turbido\_84, Twigg\_67, Twister\_84, TygerBlood\_75, Ugenie5\_74, Ulysses\_74, Updawg\_84, VA6\_83, VC3\_81, Vanisoa\_82, Veracruz\_76, Vix\_76, VohminGhazi\_83, WalterMcMickey\_83, Wander\_75, Watson\_79, WeiHuaDA\_85, Whabigail7\_83, WideWale\_84, Wiks\_83, Wilbur\_75, Wile\_73, Wizard007\_74, Wooldri\_82, WunderPhul\_84, Xena\_73, XianYue\_82, Yecy3\_88, YoSam321\_75, Yokurt\_83, Zaka\_84, Zeuska\_78, Zimmer\_79, Zulu\_85,

### Summary by start number:

Start 53:

- Found in 1 of 742 ( 0.1% ) of genes in pham

- Manual Annotations of this start: 1 of 684
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Journey13\_68 (A2),

#### Start 54:

- Found in 17 of 742 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 2 of 684
- Called 11.8% of time when present
- Phage (with cluster) where this start called: Bumblebee11\_73 (A4), Morpher26\_74 (A4),

#### Start 55:

- Found in 17 of 742 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 13 of 684
- Called 76.5% of time when present
- Phage (with cluster) where this start called: AbbysRanger\_74 (A4), Achebe\_73 (A4), Backyardigan\_72 (A4), Camperdownii\_73 (A4), Cici\_74 (A4), Datway\_74 (A4), Katalie136\_74 (A4), Kremtemulon\_74 (A4), Noelle\_75 (A4), Perplexer\_74 (A4), PetiteSangsue\_74 (A4), Wizard007\_74 (A4), Xena\_73 (A4),

#### Start 60:

- Found in 1 of 742 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 684
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LeoAvram\_74 (A4),

#### Start 63:

- Found in 20 of 742 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 1 of 684
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Blinn1\_87 (A6), Candra\_81 (A6),

#### Start 67:

- Found in 11 of 742 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 2 of 684
- Called 18.2% of time when present
- Phage (with cluster) where this start called: Badger\_73 (A4), Wile\_73 (A4),

#### Start 70:

- Found in 71 of 742 ( 9.6% ) of genes in pham
- Manual Annotations of this start: 1 of 684
- Called 2.8% of time when present
- Phage (with cluster) where this start called: IgnatiusPatJac\_76 (A1), StewieG\_72 (A1),

#### Start 72:

- Found in 1 of 742 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 684
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PP\_76 (A7),

#### Start 73:

- Found in 6 of 742 ( 0.8% ) of genes in pham

- Manual Annotations of this start: 5 of 684
- Called 83.3% of time when present
- Phage (with cluster) where this start called: BobSwaget\_77 (A2), Lokk\_78 (A2), Miko\_78 (A2), Rachaly\_80 (A2), Stasia\_73 (A4),

#### Start 74:

- Found in 8 of 742 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 5 of 684
- Called 62.5% of time when present
- Phage (with cluster) where this start called: AvatarAhPeg\_74 (A4), Cindaradix\_70 (A4), Kimona\_76 (A19), Miramae\_74 (A4), Mundrea\_74 (A4),

#### Start 76:

- Found in 124 of 742 ( 16.7% ) of genes in pham
- Manual Annotations of this start: 117 of 684
- Called 96.8% of time when present
- Phage (with cluster) where this start called: Abdiel\_74 (A4), Albee\_75 (A4), Alberto7\_76 (A4), Annyong\_74 (A4), Arturo\_72 (A4), Avle17\_75 (A4), Baby16\_75 (A4), Bactobuster\_74 (A2), BangNhom\_72 (A4), Bartimeaus\_75 (A4), BellusTerra\_76 (A4), Blackmoor\_74 (A4), Bombshell\_75 (A4), Broseidon\_75 (A4), Bruiser\_74 (A4), BubbleTrouble\_74 (A4), Burger\_73 (A4), Caelakin\_73 (A4), CentreCat\_75 (A4), Cerulean\_77 (A4), ChampagnePapi\_78 (A4), Chaph\_75 (A4), Citius\_75 (A4), Clarenza\_74 (A4), Cocoaberry\_75 (A4), Commander\_73 (A4), Connomayer\_75 (A4), Deano\_72 (A4), Dhanush\_75 (A4), DirtyDunning\_74 (A4), Druantia\_74 (A4), Eagle\_74 (A4), Eapen\_75 (A4), Eris\_74 (A4), Eros\_75 (A4), Eurydice\_76 (A4), Florean\_75 (A4), Flux\_76 (A4), Funston\_74 (A4), Gadost\_75 (A4), HamSlice\_71 (A4), Happiness\_74 (A4), Holli\_74 (A4), Houdini22\_74 (A4), ICleared\_74 (A4), Iceman\_73 (A4), Iracema64\_75 (A4), Jaan\_80 (A2), Jaykayelowell\_72 (A4), JetBlade\_76 (A4), JoongJeon\_74 (A4), KFPoly\_74 (A4), Kamy\_74 (A4), Kingmustik0402\_75 (A4), Koan\_70 (A4), Koreni\_74 (A4), Kratak\_74 (A4), Kyee\_75 (A4), LHTSCC\_77 (A4), Landor\_80 (A2), LappelDuVide\_75 (A4), Lemur\_75 (A4), LittleB\_75 (A4), LittleGuy\_75 (A4), LochMonster\_76 (A4), Lorenzo\_75 (A4), Lunsford\_75 (A4), Maverick\_74 (A4), Maxo\_77 (A4), Mazhar510\_75 (A4), Medusa\_74 (A4), MeeZee\_74 (A4), Melvin\_77 (A4), Millski\_74 (A4), Morrow\_77 (A4), Nebs\_76 (A4), Nemo27\_74 (A4), NorthStar\_72 (A4), NotAPhaseMom\_74 (A4), Nyxis\_74 (A4), OKaNui\_74 (A4), Obama12\_76 (A4), Ohfah\_76 (A4), Palestino\_74 (A4), Peaches\_73 (A4), PeterPeter\_75 (A4), Phacado\_75 (A4), Phaded\_76 (A2), Felipe\_76 (A4), Phighter1804\_75 (A4), Phontbonne\_75 (A4), Pipcraft\_71 (A4), Polymorphads\_76 (A4), Pukovnik\_77 (A2), Pumbaa\_75 (A4), Relief\_74 (A4), Romney\_74 (A4), Roosevelt\_73 (A4), Rosa24\_71 (A4), Ruin\_75 (A4), Sabertooth\_75 (A4), Scamp\_75 (A4), SeniorClean\_70 (A4), Shaka\_73 (A4), SheldonCooper\_75 (A4), Shygu2\_74 (A4), Skipitt\_74 (A4), Sparxx\_76 (A4), Spino\_74 (A4), Taquarus\_74 (A4), Thanksgivukkah\_74 (A4), TinaFeyge\_73 (A4), Tinybot\_74 (A4), TiroTheta9\_74 (A4), TroyPia\_76 (A4), TygerBlood\_75 (A4), Ulysses\_74 (A4), Wander\_75 (A4), Wilbur\_75 (A4), YoSam321\_75 (A4),

#### Start 78:

- Found in 23 of 742 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 16 of 684
- Called 69.6% of time when present
- Phage (with cluster) where this start called: BABullseye\_76 (A6), Cookiedough\_83 (A6), DaVinci\_81 (A6), Dorothea\_83 (A6), GreedyLawyer\_77 (A6), Hoot\_78 (A6), Isiphiwo\_80 (A6), Kazan\_84 (A6), Kipper29\_83 (A6), McFly\_83 (A6), Neeharika16\_82

(A6), Newrala\_82 (A6), Pmask\_82 (A6), SmellyB\_83 (A6), SuperAwesome\_83 (A6), VohminGhazi\_83 (A6),

Start 79:

- Found in 84 of 742 ( 11.3% ) of genes in pham
- Manual Annotations of this start: 2 of 684
- Called 2.4% of time when present
- Phage (with cluster) where this start called: BreSam8\_80 (A3), Watson\_79 (A3),

Start 80:

- Found in 3 of 742 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 684
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Herbertwm\_77 (A2), Iwokeuplikedis\_86 (A2),

Start 82:

- Found in 1 of 742 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 684
- Called 100.0% of time when present
- Phage (with cluster) where this start called: XianYue\_82 (A2),

Start 83:

- Found in 3 of 742 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 3 of 684
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabyBack\_78 (A2), GaugeLDP\_77 (A2), NothingSpecial\_78 (A2),

Start 84:

- Found in 5 of 742 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 684
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Cintron\_76 (A4),

Start 85:

- Found in 43 of 742 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 34 of 684
- Called 93.0% of time when present
- Phage (with cluster) where this start called: 20ES\_85 (A2), 40AC\_78 (A17), AbbyPaige\_85 (A2), Agape74\_85 (A2), Baehexic\_82 (A2), Benvolio\_82 (A2), CRB1\_84 (A2), Centaur\_83 (A2), ChipMunk\_84 (A2), Colin\_82 (A2), Crucio\_83 (A2), Dalmatian\_83 (A2), Deloris\_85 (A2), Dignity\_85 (A2), Drake55\_84 (A2), Equemioh13\_83 (A2), EvilGenius\_83 (A2), First\_0084 (A2), Flare16\_83 (A2), HarryHoudini\_83 (A2), Jerm\_85 (A2), JoshKayV\_85 (A2), KingCyrus\_82 (A2), LadyBird\_87 (A2), Larenn\_81 (A2), Leviathan\_85 (A2), LilTurb\_84 (A2), Malec\_82 (A2), MiculUcigas\_83 (A2), NaSiaTalie\_84 (A2), NicoleTera\_81 (A2), Piro94\_82 (A2), Sknot\_83 (A2), Smeagan\_86 (A2), TarsusIV\_82 (A2), Trooper\_82 (A2), Turbido\_84 (A2), Updawg\_84 (A2), Whabigail7\_83 (A2), WideWale\_84 (A2),

Start 87:

- Found in 1 of 742 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 684

- Called 100.0% of time when present
- Phage (with cluster) where this start called: IronMan\_79 (A2),

#### Start 88:

- Found in 7 of 742 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 684
- Called 28.6% of time when present
- Phage (with cluster) where this start called: BigPaolini\_74 (A1), KBG\_74 (A1),

#### Start 89:

- Found in 30 of 742 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 18 of 684
- Called 60.0% of time when present
- Phage (with cluster) where this start called: AN3\_83 (A2), Anselm\_84 (A2), BengiVuitton\_85 (A2), BiancaTri92\_81 (A2), DudeLittle\_81 (A2), Echid\_85 (A2), Fameo\_81 (A2), FiringLine\_83 (A2), Georgie2\_85 (A2), Heffalump\_80 (A2), Power\_83 (A2), QueenB2\_80 (A2), QueenBeesly\_83 (A2), Retro23\_83 (A2), SemperFi\_83 (A2), SnapTap\_83 (A2), SweetiePie\_83 (A2), VA6\_83 (A2),

#### Start 90:

- Found in 1 of 742 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 684
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ArcherNM\_78 (A2),

#### Start 92:

- Found in 212 of 742 ( 28.6% ) of genes in pham
- Manual Annotations of this start: 199 of 684
- Called 98.1% of time when present
- Phage (with cluster) where this start called: A6\_70 (A1), AFIS\_73 (A1), Abbyshoes\_76 (A1), Abrogate\_730 (A1), Acme\_80 (A1), Acolyte\_77 (A2), Adahisdi\_72 (A1), Aeneas\_81 (A1), Agaliana\_74 (A1), Ajay\_73 (A1), Alsfro\_83 (A1), Altman\_79 (A1), Anglerfish\_78 (A1), Applejack\_75 (A1), Arcanine\_80 (A1), Arlo\_76 (A1), Ashballer\_78 (A1), Atkinbua\_82 (A1), BK1\_70 (A1), BPBiebs31\_81 (A1), BaconJack\_78 (A1), Barriga\_83 (A1), Beatrix\_73 (A1), BeesKnees\_77 (A1), Bethlehem\_79 (A1), Bexan\_71 (A1), Big3\_77 (A1), BigMau\_79 (A1), Bigfoot\_71 (A1), BillKnuckles\_70 (A1), Bircsak\_77 (A1), BluSpix\_74 (A1), Blue\_73 (A1), Bob3\_77 (A1), Bones\_72 (A1), Briton15\_79 (A1), Bruns\_79 (A1), Burton\_77 (A1), Buttons\_73 (A1), Bxb1\_70 (A1), CactusRose\_79 (A1), Carlyle\_77 (A1), Chanagan\_73 (A1), Ciao\_73 (A1), Conceptll\_81 (A1), Coog\_67 (A5), Corvo\_78 (A1), Crispicous1\_71 (A1), Cuco\_69 (A5), DD5\_74 (A1), Dexes\_77 (A1), DrFeelGood\_72 (A1), DreamCatcher\_80 (A1), Dreamboat\_76 (A1), Dulcie\_77 (A1), Dussy\_75 (A1), Dynamix\_76 (A1), Edtherson\_75 (A1), Espresso\_70 (A1), Euphoria\_77 (A1), Eyeball\_75 (A1), Fajezeel\_79 (A1), Fascinus\_72 (A1), Fenn\_79 (A1), Forsytheast\_78 (A1), Francis47\_78 (A1), Fushigi\_70 (A1), GMonster\_72 (A1), GageAP\_79 (A1), Gandalf20\_75 (A1), Gompeii16\_77 (A1), Graduation\_79 (A1), GrecoEtereo\_80 (A1), Greg\_79 (A1), Gwendoluna\_80 (A1), Gyzlar\_69 (A1), Hami1\_69 (A1), HanShotFirst\_74 (A1), HarryOW\_77 (A1), Hermia\_71 (A1), HermioneGrange\_80 (A1), Homines\_64 (A1), Hope4ever\_77 (A1), ILeeKay\_74 (A1), IChabod\_79 (A1), Inyanga\_68 (A1), JackSparrow\_77 (A1), Jasper\_75 (A1), Jerm2\_78 (A1), JuliaChild\_77 (A1), KSSJEB\_73 (A1), Kanely\_78 (A1), Kenmech\_78 (A1), Killigrew\_73 (A1), Kugel\_78 (A1), KyMonks1A\_82 (A1), Kykar\_76 (A1), Lamina13\_80 (A1), Lesedi\_73 (A1), Licorice\_77 (A1), LilBib\_73 (A1), Lockley\_73 (A1), Lopton\_75



(A1), MPlant7149\_76 (A1), Magnar\_72 (A1), Magnito\_75 (A1), Makemake\_79 (A1), Manatee\_74 (A1), Marcell\_69 (A1), Marchy\_68 (A1), Marge\_73 (A1), Maroc7\_78 (A1), Marsha\_76 (A1), MaryBeth\_74 (A1), McGuire\_76 (A1), MetalQZJ\_73 (A1), Midas2\_67 (A5), Mkhuseli\_73 (A1), Molly\_76 (A1), Monet\_80 (A1), Moose\_78 (A1), MrGordo\_77 (A1), Mryolo\_71 (A1), Mule\_75 (A1), Museum\_76 (A1), NEHalo\_72 (A1), Naira\_78 (A1), Nerujay\_80 (A1), Nhonho\_72 (A1), Niza\_76 (A1), Norz\_72 (A1), Ohno789\_79 (A1), Oogway\_75 (A1), PSullivan\_74 (A1), PacerPaul\_81 (A1), Papez\_78 (A1), Paphu\_71 (A1), Paraselene\_74 (A1), Pari\_81 (A1), Parliament\_77 (A1), PascalRango\_74 (A1), PattyP\_76 (A1), Pelly\_79 (A1), Pepe\_70 (A1), Perseus\_76 (A1), Peterson\_75 (A1), Petp2012\_77 (A1), Petruccio\_76 (A1), PherrisBueller\_75 (A1), PhrostyMug\_78 (A1), PinkPlastic\_72 (A1), Pinto\_76 (A1), Pippin\_77 (A1), Pita2\_77 (A1), QTRlifeCrisis\_75 (A1), Raid\_74 (A1), Rajelicia\_78 (A1), Rhynn\_72 (A1), Ringer\_76 (A1), Rohr\_79 (A1), Rubeus\_77 (A1), Rufus\_79 (A1), Ruotula\_80 (A1), Rutherford\_78 (A1), STLscum\_82 (A1), Sagefire\_73 (A1), Sandaddy\_74 (A1), Sanya\_71 (A1), SarFire\_80 (A1), Scowl\_77 (A1), Seabiscuit\_77 (A1), Seanderson\_76 (A1), ShortQueendom\_69 (A1), Sibs6\_76 (A1), SkiPole\_85 (A1), Slagathor\_77 (A1), Smairt\_80 (A1), Snazzy\_77 (A1), Solon\_72 (A1), Sorpresa\_75 (A1), SpikeBT\_73 (A1), Squee\_77 (A1), StrongArm\_72 (A1), Sumter\_73 (A1), Sunshine924\_77 (A1), SwissCheese\_80 (A1), Switzer\_75 (A1), Swole\_77 (A1), Target\_76 (A1), Tasp14\_75 (A1), Teodoridan\_74 (A1), TheloniousMonk\_78 (A1), Thor\_80 (A1), Topgun\_72 (A1), Tote\_72 (A1), Traft412\_76 (A1), Treddle\_78 (A1), Tripl3t\_79 (A1), Trouble\_76 (A1), Turj99\_72 (A1), TwoPeat\_76 (A1), U2\_70 (A1), Violet\_71 (A1), Watermelon\_79 (A1), Wheeler\_81 (A1), Wilkins\_73 (A1), Zeeculate\_72 (A1), Zephyr\_78 (A1),

#### Start 93:

- Found in 25 of 742 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 4 of 684
- Called 16.0% of time when present
- Phage (with cluster) where this start called: AnnaL29\_85 (A2), Changeling\_82 (A2), Loser\_86 (A2), RedRock\_83 (A2),

#### Start 95:

- Found in 11 of 742 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 8 of 684
- Called 72.7% of time when present
- Phage (with cluster) where this start called: Archetta\_68 (A5), Bluefalcon\_66 (A5), DroogsArmy\_74 (A7), Dublin\_70 (A5), Ghoulboy\_70 (A5), HINdeR\_74 (A7), SydNat\_70 (A5), Timshel\_75 (A7),

#### Start 96:

- Found in 8 of 742 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 3 of 684
- Called 37.5% of time when present
- Phage (with cluster) where this start called: Airmid\_73 (A5), Kalpine\_85 (A2), Trixie\_83 (A2),

#### Start 97:

- Found in 3 of 742 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 684
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Milcery\_70 (A5), Twigg\_67 (A5),

Start 98:

- Found in 30 of 742 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 24 of 684
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Aneem\_85 (A11), Bachome\_82 (A11), Bowtie\_81 (A11), Bud\_79 (A11), Ebony\_84 (A11), Et2Brutus\_83 (A11), Fibonacci\_83 (A11), Flaverint\_85 (A11), Gilberta\_81 (A11), Hutc2\_80 (A11), Insomnia\_83 (A11), Jabith\_83 (A11), Joselito\_83 (A11), Lucivia\_85 (A11), MaCh\_84 (A11), Mabel\_84 (A11), Mulciber\_82 (A11), Munch\_84 (A11), Orange\_84 (A11), Petersenfast\_78 (A11), Salz\_79 (A11), Sham4\_80 (A11), Snape\_84 (A11), Timothy\_84 (A11), TinyTimmy\_82 (A11),

Start 103:

- Found in 13 of 742 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 3 of 684
- Called 38.5% of time when present
- Phage (with cluster) where this start called: EZMoney23\_79 (A2), JC27\_77 (A1), Jorgensen\_83 (A1), WeiHuaDA\_85 (A2), Zeuska\_78 (A1),

Start 104:

- Found in 1 of 742 ( 0.1% ) of genes in pham
- Manual Annotations of this start: 1 of 684
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MyraDee\_79 (A18),

Start 105:

- Found in 6 of 742 ( 0.8% ) of genes in pham
- Manual Annotations of this start: 5 of 684
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Benedict\_74 (A5), Chadwick\_74 (A5), EITiger69\_76 (A5), Naca\_73 (A5), PetterN\_78 (A5),

Start 106:

- Found in 25 of 742 ( 3.4% ) of genes in pham
- Manual Annotations of this start: 13 of 684
- Called 76.0% of time when present
- Phage (with cluster) where this start called: Chupacabra\_80 (A10), DontArgue\_78 (A10), Drake94\_80 (A10), DustyMartin\_86 (A10), Eaglepride\_86 (A10), FlyCatcher\_78 (A7), Goose\_84 (A10), KittenMittens\_78 (A10), Kristoff\_81 (A10), OKCentral2016\_82 (A10), PeaceMeal1\_80 (A10), Poompha\_80 (A10), Rebeuca\_84 (A10), RhynO\_71 (A10), Rowdy\_86 (A10), Severus\_81 (A10), Shapes\_86 (A10), Sheen\_75 (A7), Toro\_76 (A7),

Start 108:

- Found in 46 of 742 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 18 of 684
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Arissanae\_82 (A9), BogosyJay\_86 (A9), Darrell\_85 (A9), EagleEye\_83 (A16), EdogawaKiddo\_86 (A9), EmyBug\_84 (A9), Fayely\_85 (A9), Hanray\_85 (A9), Jiawan\_85 (A9), LoneWolf\_87 (A9), Lucyedi\_82 (A16), Maminiaina\_86 (A9), MissWhite\_76 (A2), PainterBoy\_82 (A16), Rahalelujah\_86 (A9), RyeScarlet\_88 (A9), Sachima\_83 (A9), SheaKeira\_82 (A9), Spouty\_85 (A9), Toaka\_85 (A9), Tubs\_87 (A9), Vanisoa\_82 (A9), Yecy3\_88 (A9),

Start 110:

- Found in 46 of 742 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 24 of 684
- Called 63.0% of time when present
- Phage (with cluster) where this start called: AN9\_82 (A2), ANI8\_82 (A2), Bradman\_86 (A2), C3\_75 (A2), Chargerpower\_83 (A), DBQu4n\_83 (A2), Duplo\_84 (A2), Isca\_75 (A3), Jsquared\_87 (A2), Kerberos\_83 (A2), Keziacharles14\_84 (A9), Koduck\_83 (A2), L5\_76 (A2), Lambert1\_79 (A3), MK4\_72 (A3), MajorMajor\_80 (A2), Margo\_79 (A3), Norbert\_75 (A3), Pomar16\_83 (A2), QuinnKiro\_78 (A3), Quokka\_85 (A2), Serenity\_86 (A2), StarStuff\_83 (A2), Stink\_74 (A4), TopsytheTRex\_82 (A2), Tomathan\_83 (A2), Travvers\_83 (A2), VC3\_81 (A2), Veracruz\_76 (A3),

Start 111:

- Found in 5 of 742 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 5 of 684
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DARTHPhader\_78 (A12), Pharaoh\_77 (A12), Refuge\_80 (A12), Steamy\_75 (A12), Zimmer\_79 (A12),

Start 113:

- Found in 7 of 742 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 3 of 684
- Called 42.9% of time when present
- Phage (with cluster) where this start called: Topanga\_73 (A10), Twister\_84 (A10), WalterMcMickey\_83 (A10),

Start 114:

- Found in 235 of 742 ( 31.7% ) of genes in pham
- Manual Annotations of this start: 97 of 684
- Called 45.1% of time when present
- Phage (with cluster) where this start called: Aglet\_81 (A3), Anubis\_84 (A3), AugsMagnumOpus\_83 (A3), B1\_69 (A3), BabyRay\_78 (A3), Beauxregard13\_79 (A3), BlueBird\_81 (A3), Bugatti\_79 (A3), BuzzBuzz\_74 (A3), Bxz2\_75 (A3), Calvinny\_77 (A3), Colbster\_76 (A3), Cullens\_81 (A3), DaHudson\_79 (A3), Daishi\_79 (A3), Dieselweasel\_81 (A3), DropBear\_77 (A3), EpicPhail\_81 (A3), Farber\_80 (A3), Fernando\_81 (A3), Fred313\_76 (A3), Gemma\_77 (A3), GingkoMaracino\_80 (A3), Giroux\_77 (A3), Grif\_78 (A3), Groupthink\_80 (A3), Grub\_78 (A3), Grum1\_80 (A3), GtownJaz\_80 (A3), HashRod\_81 (A3), HaveUMetTed\_80 (A3), Heathen\_78 (A3), HelDan\_79 (A3), Heliosoles\_77 (A3), Hercules11\_80 (A3), Hookmount\_79 (A3), Idleandcovert\_79 (A3), JF2\_75 (A3), JF4\_75 (A3), JHC117\_75 (A3), JenCasNa\_81 (A3), JeppNRM\_80 (A3), Jobu08\_76 (A3), KADY\_77 (A3), Kachowdy\_76 (A3), Kalb97\_80 (A3), Kalnoky\_80 (A3), LBerry\_81 (A3), LarryKay\_80 (A3), Lilith\_78 (A3), Louie6\_79 (A3), LugYA\_83 (A3), MA5\_77 (A3), MadMarie\_78 (A3), Mainiac\_79 (A3), Malinsilva\_83 (A3), Manu\_79 (A3), MarQuardt\_80 (A3), Marchesa\_78 (A3), Marie\_78 (A3), Marius\_80 (A3), Methuselah\_73 (A3), Microwolf\_76 (A3), MoneyMay\_80 (A3), MuchMore\_83 (A3), Noella\_80 (A3), OlanP\_78 (A3), Ollie\_80 (A3), P28Green\_80 (A3), PGHhamlin\_82 (A3), Panamaxus\_76 (A3), Pawn\_78 (A3), Pembroke\_80 (A3), Penny1\_80 (A3), Phantastic\_80 (A3), PhishRPhriends\_76 (A3), Phoebe\_81 (A3), Phoxy\_80 (A3), Pistachio\_79 (A3), Pocahontas\_78 (A3), Popcicle\_79 (A3), PotatoSplit\_81 (A3), Puppy\_80 (A3), PurpleHaze\_79 (A3), Reba\_75 (A3), ResDef\_77 (A3), Rummer\_79 (A3), Sabia\_78 (A3), Sabinator\_78 (A3), SaturnRing\_79 (A3), Scout\_78 (A3), Snickers\_76 (A3), SoYo\_77 (A3), SoilDragon\_80 (A3), Soshari\_82

(A3), Spike509\_80 (A3), Stagni\_77 (A3), StepMih\_80 (A3), TNguyen7\_80 (A3), Taurus\_81 (A3), Texage\_77 (A3), Tiffany\_79 (A3), TinyPebbles\_76 (A3), Todacoro\_79 (A3), Vix\_76 (A3), Wooldri\_82 (A3),

Start 116:

- Found in 10 of 742 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 4 of 684
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Gail\_84 (A14), Jeeves\_84 (A14), Luchador\_82 (A14), SororFago\_82 (A14),

Start 120:

- Found in 67 of 742 ( 9.0% ) of genes in pham
- Manual Annotations of this start: 17 of 684
- Called 29.9% of time when present
- Phage (with cluster) where this start called: Aliter\_80 (A9), Alma\_85 (A9), Beemo\_87 (A9), Catalina\_89 (A9), Conquerage\_85 (A9), Eidsmoe\_85 (A9), Elephantoon\_87 (A9), ExplosioNervosa\_85 (A9), Halex\_86 (A9), HortumSL17\_88 (A9), Lilleskat\_84 (A9), Myxus\_87 (A9), Onglai\_85 (A9), Phaeder\_87 (A9), Phonnegut\_87 (A9), Pioneer\_87 (A9), Priya\_85 (A9), Qobbit\_85 (A9), Scherzo\_85 (A9), Ugenie5\_74 (A9),

Start 121:

- Found in 54 of 742 ( 7.3% ) of genes in pham
- Manual Annotations of this start: 3 of 684
- Called 5.6% of time when present
- Phage (with cluster) where this start called: Jordennis\_81 (A6), Priamo\_85 (A6), SuperCallie99\_80 (A6),

Start 124:

- Found in 31 of 742 ( 4.2% ) of genes in pham
- Manual Annotations of this start: 1 of 684
- Called 3.2% of time when present
- Phage (with cluster) where this start called: EricB\_82 (A6),

Start 125:

- Found in 68 of 742 ( 9.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 1.5% of time when present
- Phage (with cluster) where this start called: Chartreuse\_80 (A6),

Start 128:

- Found in 120 of 742 ( 16.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 0.8% of time when present
- Phage (with cluster) where this start called: Sunhee\_83 (A14),

Start 129:

- Found in 61 of 742 ( 8.2% ) of genes in pham
- Manual Annotations of this start: 2 of 684
- Called 3.3% of time when present
- Phage (with cluster) where this start called: Charm\_82 (A9), DreamTeam1\_82 (A9),

Start 138:

- Found in 23 of 742 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 19 of 684
- Called 87.0% of time when present
- Phage (with cluster) where this start called: Artemis2UCLA\_83 (A6), BlessJoy\_83 (A6), Blue7\_85 (A6), CloudWang3\_84 (A6), Gladiator\_80 (A6), Gruunaga\_83 (A6), Hammer\_84 (A6), Hexamo\_83 (A6), Indra\_87 (A6), Koko\_85 (A6), Lilbunny\_83 (A6), Rifter\_84 (A6), Roksolana\_84 (A6), ToneTone\_81 (A6), Tucker\_84 (A6), Wiks\_83 (A6), WunderPhul\_84 (A6), Yokurt\_83 (A6), Zaka\_84 (A6), Zulu\_85 (A6),

Start 144:

- Found in 23 of 742 ( 3.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 13.0% of time when present
- Phage (with cluster) where this start called: Garak\_85 (A6), Helmet\_85 (A6), Temprado\_85 (A6),

### Summary by clusters:

There are 17 clusters represented in this pham: A, A14, A17, A16, A11, A10, A12, A19, A18, A1, A3, A2, A5, A4, A7, A6, A9,

Info for manual annotations of cluster A:

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

Info for manual annotations of cluster A1:

- Start number 70 was manually annotated 1 time for cluster A1.
- Start number 88 was manually annotated 2 times for cluster A1.
- Start number 92 was manually annotated 195 times for cluster A1.
- Start number 103 was manually annotated 3 times for cluster A1.

Info for manual annotations of cluster A10:

- Start number 106 was manually annotated 12 times for cluster A10.
- Start number 113 was manually annotated 3 times for cluster A10.

Info for manual annotations of cluster A11:

- Start number 98 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 111 was manually annotated 5 times for cluster A12.

Info for manual annotations of cluster A14:

- Start number 116 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A16:

- Start number 108 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:

- Start number 104 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A19:

- Start number 74 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 53 was manually annotated 1 time for cluster A2.
- Start number 73 was manually annotated 4 times for cluster A2.
- Start number 76 was manually annotated 5 times for cluster A2.
- Start number 80 was manually annotated 2 times for cluster A2.
- Start number 82 was manually annotated 1 time for cluster A2.
- Start number 83 was manually annotated 3 times for cluster A2.
- Start number 85 was manually annotated 34 times for cluster A2.
- Start number 87 was manually annotated 1 time for cluster A2.
- Start number 89 was manually annotated 18 times for cluster A2.
- Start number 90 was manually annotated 1 time for cluster A2.
- Start number 92 was manually annotated 1 time for cluster A2.
- Start number 93 was manually annotated 4 times for cluster A2.
- Start number 96 was manually annotated 2 times for cluster A2.
- Start number 108 was manually annotated 1 time for cluster A2.
- Start number 110 was manually annotated 14 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 79 was manually annotated 2 times for cluster A3.
- Start number 110 was manually annotated 7 times for cluster A3.
- Start number 114 was manually annotated 97 times for cluster A3.

Info for manual annotations of cluster A4:

- Start number 54 was manually annotated 2 times for cluster A4.
- Start number 55 was manually annotated 13 times for cluster A4.
- Start number 60 was manually annotated 1 time for cluster A4.
- Start number 67 was manually annotated 2 times for cluster A4.
- Start number 73 was manually annotated 1 time for cluster A4.
- Start number 74 was manually annotated 4 times for cluster A4.
- Start number 76 was manually annotated 112 times for cluster A4.
- Start number 84 was manually annotated 1 time for cluster A4.
- Start number 110 was manually annotated 1 time for cluster A4.

Info for manual annotations of cluster A5:

- Start number 92 was manually annotated 3 times for cluster A5.
- Start number 95 was manually annotated 5 times for cluster A5.
- Start number 96 was manually annotated 1 time for cluster A5.
- Start number 97 was manually annotated 1 time for cluster A5.
- Start number 105 was manually annotated 5 times for cluster A5.

Info for manual annotations of cluster A6:

- Start number 63 was manually annotated 1 time for cluster A6.
- Start number 78 was manually annotated 16 times for cluster A6.
- Start number 121 was manually annotated 3 times for cluster A6.
- Start number 124 was manually annotated 1 time for cluster A6.
- Start number 138 was manually annotated 19 times for cluster A6.

Info for manual annotations of cluster A7:

- Start number 72 was manually annotated 1 time for cluster A7.
- Start number 95 was manually annotated 3 times for cluster A7.
- Start number 106 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster A9:

- Start number 108 was manually annotated 14 times for cluster A9.
- Start number 110 was manually annotated 1 time for cluster A9.
- Start number 120 was manually annotated 17 times for cluster A9.
- Start number 129 was manually annotated 2 times for cluster A9.

### **Gene Information:**

Gene: 20ES\_85 Start: 47721, Stop: 47398, Start Num: 85

Candidate Starts for 20ES\_85:

(Start: 85 @47721 has 34 MA's), (128, 47655), (146, 47613),

Gene: 40AC\_78 Start: 47105, Stop: 46806, Start Num: 85

Candidate Starts for 40AC\_78:

(Start: 85 @47105 has 34 MA's), (128, 47042), (139, 47018),

Gene: A6\_70 Start: 44506, Stop: 44207, Start Num: 92

Candidate Starts for A6\_70:

(Start: 92 @44506 has 199 MA's), (122, 44461), (123, 44458), (152, 44389), (161, 44338),

Gene: AFIS\_73 Start: 47515, Stop: 47216, Start Num: 92

Candidate Starts for AFIS\_73:

(Start: 70 @47545 has 1 MA's), (Start: 92 @47515 has 199 MA's), (122, 47470), (123, 47467), (152, 47398), (161, 47347),

Gene: AN3\_83 Start: 45926, Stop: 45603, Start Num: 89

Candidate Starts for AN3\_83:

(16, 46256), (17, 46229), (47, 46019), (Start: 89 @45926 has 18 MA's), (91, 45923), (122, 45875), (128, 45860), (146, 45818),

Gene: AN9\_82 Start: 46132, Stop: 45854, Start Num: 110

Candidate Starts for AN9\_82:

(Start: 110 @46132 has 24 MA's), (125, 46099), (128, 46093), (164, 45958),

Gene: ANI8\_82 Start: 46132, Stop: 45854, Start Num: 110

Candidate Starts for ANI8\_82:

(Start: 110 @46132 has 24 MA's), (125, 46099), (128, 46093), (164, 45958),

Gene: AbbyPaige\_85 Start: 47978, Stop: 47670, Start Num: 85

Candidate Starts for AbbyPaige\_85:

(Start: 85 @47978 has 34 MA's), (Start: 89 @47975 has 18 MA's), (122, 47927), (128, 47912), (168, 47753),

Gene: AbbysRanger\_74 Start: 45728, Stop: 45411, Start Num: 55

Candidate Starts for AbbysRanger\_74:

(Start: 54 @45731 has 2 MA's), (Start: 55 @45728 has 13 MA's), (65, 45713), (81, 45677), (Start: 121 @45662 has 3 MA's), (140, 45623), (153, 45590),

Gene: Abbysshoes\_76 Start: 46768, Stop: 46469, Start Num: 92

Candidate Starts for Abbysshoes\_76:

(Start: 70 @46798 has 1 MA's), (Start: 92 @46768 has 199 MA's), (122, 46723), (123, 46720), (152, 46651), (161, 46600),

Gene: Abdiel\_74 Start: 45659, Stop: 45360, Start Num: 76  
Candidate Starts for Abdiel\_74:  
(Start: 76 @45659 has 117 MA's), (Start: 114 @45617 has 97 MA's),

Gene: Abrogate\_730 Start: 47383, Stop: 47084, Start Num: 92  
Candidate Starts for Abrogate\_730:  
(Start: 92 @47383 has 199 MA's), (122, 47338), (123, 47335), (152, 47266), (161, 47215),

Gene: Achebe\_73 Start: 45705, Stop: 45394, Start Num: 55  
Candidate Starts for Achebe\_73:  
(Start: 54 @45708 has 2 MA's), (Start: 55 @45705 has 13 MA's), (Start: 67 @45687 has 2 MA's), (68, 45684), (81, 45654), (Start: 121 @45642 has 3 MA's), (140, 45603), (153, 45570),

Gene: Acme\_80 Start: 48839, Stop: 48540, Start Num: 92  
Candidate Starts for Acme\_80:  
(Start: 70 @48869 has 1 MA's), (Start: 92 @48839 has 199 MA's), (122, 48794), (123, 48791), (152, 48722), (161, 48671),

Gene: Acolyte\_77 Start: 46676, Stop: 46365, Start Num: 92  
Candidate Starts for Acolyte\_77:  
(Start: 92 @46676 has 199 MA's),

Gene: Adahisdi\_72 Start: 46838, Stop: 46539, Start Num: 92  
Candidate Starts for Adahisdi\_72:  
(65, 46898), (Start: 92 @46838 has 199 MA's), (122, 46793), (123, 46790), (152, 46721), (161, 46670),

Gene: Aeneas\_81 Start: 49127, Stop: 48828, Start Num: 92  
Candidate Starts for Aeneas\_81:  
(Start: 70 @49157 has 1 MA's), (Start: 92 @49127 has 199 MA's), (122, 49082), (123, 49079), (152, 49010), (161, 48959),

Gene: Agaliana\_74 Start: 45656, Stop: 45357, Start Num: 92  
Candidate Starts for Agaliana\_74:  
(65, 45716), (Start: 92 @45656 has 199 MA's), (122, 45611), (123, 45608), (152, 45539), (161, 45488),

Gene: Agape74\_85 Start: 47954, Stop: 47646, Start Num: 85  
Candidate Starts for Agape74\_85:  
(Start: 85 @47954 has 34 MA's), (Start: 89 @47951 has 18 MA's), (128, 47888), (168, 47729),

Gene: Aglet\_81 Start: 45628, Stop: 45365, Start Num: 114  
Candidate Starts for Aglet\_81:  
(71, 45691), (Start: 79 @45673 has 2 MA's), (Start: 114 @45628 has 97 MA's), (123, 45607),

Gene: Airmid\_73 Start: 44940, Stop: 44644, Start Num: 96  
Candidate Starts for Airmid\_73:  
(Start: 96 @44940 has 3 MA's), (Start: 105 @44928 has 5 MA's), (158, 44796), (161, 44772),

Gene: Ajay\_73 Start: 46039, Stop: 45740, Start Num: 92  
Candidate Starts for Ajay\_73:  
(65, 46099), (Start: 92 @46039 has 199 MA's), (122, 45994), (123, 45991), (152, 45922), (161, 45871),

Gene: Albee\_75 Start: 45647, Stop: 45348, Start Num: 76



Candidate Starts for Albee\_75:  
(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: Alberto7\_76 Start: 45984, Stop: 45685, Start Num: 76  
Candidate Starts for Alberto7\_76:  
(Start: 76 @45984 has 117 MA's), (Start: 114 @45942 has 97 MA's),

Gene: Aliter\_80 Start: 45087, Stop: 44821, Start Num: 120  
Candidate Starts for Aliter\_80:  
(Start: 108 @45105 has 18 MA's), (Start: 120 @45087 has 17 MA's), (128, 45066), (158, 44970),

Gene: Alma\_85 Start: 47927, Stop: 47664, Start Num: 120  
Candidate Starts for Alma\_85:  
(Start: 108 @47945 has 18 MA's), (Start: 120 @47927 has 17 MA's), (128, 47906), (158, 47810),

Gene: Alsfro\_83 Start: 47402, Stop: 47103, Start Num: 92  
Candidate Starts for Alsfro\_83:  
(65, 47462), (Start: 92 @47402 has 199 MA's), (122, 47357), (123, 47354), (152, 47285), (161, 47234),

Gene: Altman\_79 Start: 47847, Stop: 47548, Start Num: 92  
Candidate Starts for Altman\_79:  
(Start: 88 @47853 has 2 MA's), (Start: 92 @47847 has 199 MA's), (122, 47802), (123, 47799), (152, 47730), (161, 47679),

Gene: Aneem\_85 Start: 46838, Stop: 46542, Start Num: 98  
Candidate Starts for Aneem\_85:  
(Start: 98 @46838 has 24 MA's), (109, 46829), (112, 46826), (125, 46799), (Start: 129 @46790 has 2 MA's), (158, 46700),

Gene: Anglerfish\_78 Start: 48170, Stop: 47871, Start Num: 92  
Candidate Starts for Anglerfish\_78:  
(65, 48230), (Start: 92 @48170 has 199 MA's), (122, 48125), (123, 48122), (152, 48053), (161, 48002),

Gene: AnnaL29\_85 Start: 48114, Stop: 47815, Start Num: 93  
Candidate Starts for AnnaL29\_85:  
(Start: 93 @48114 has 4 MA's), (101, 48102), (Start: 103 @48099 has 3 MA's), (Start: 106 @48096 has 13 MA's), (Start: 120 @48075 has 17 MA's), (128, 48054),

Gene: Annyong\_74 Start: 45692, Stop: 45393, Start Num: 76  
Candidate Starts for Annyong\_74:  
(Start: 76 @45692 has 117 MA's), (Start: 114 @45650 has 97 MA's),

Gene: Anselm\_84 Start: 47862, Stop: 47560, Start Num: 89  
Candidate Starts for Anselm\_84:  
(Start: 89 @47862 has 18 MA's), (Start: 120 @47823 has 17 MA's), (122, 47817), (168, 47643),

Gene: Anubis\_84 Start: 45514, Stop: 45251, Start Num: 114  
Candidate Starts for Anubis\_84:  
(71, 45577), (Start: 79 @45559 has 2 MA's), (Start: 114 @45514 has 97 MA's), (123, 45493),

Gene: Applejack\_75 Start: 45021, Stop: 44722, Start Num: 92  
Candidate Starts for Applejack\_75:

(26, 45228), (28, 45201), (36, 45159), (37, 45156), (41, 45129), (45, 45117), (50, 45108), (56, 45093), (77, 45039), (Start: 92 @45021 has 199 MA's), (122, 44976), (123, 44973), (152, 44904), (161, 44853),

Gene: Arcanine\_80 Start: 48772, Stop: 48473, Start Num: 92

Candidate Starts for Arcanine\_80:

(65, 48832), (Start: 92 @48772 has 199 MA's), (122, 48727), (123, 48724), (152, 48655), (161, 48604),

Gene: ArcherNM\_78 Start: 47236, Stop: 46946, Start Num: 90

Candidate Starts for ArcherNM\_78:

(Start: 90 @47236 has 1 MA's), (Start: 110 @47215 has 24 MA's), (Start: 113 @47212 has 3 MA's),

Gene: Archetta\_68 Start: 44079, Stop: 43762, Start Num: 95

Candidate Starts for Archetta\_68:

(61, 44151), (Start: 79 @44100 has 2 MA's), (86, 44091), (Start: 95 @44079 has 8 MA's), (Start: 98 @44073 has 24 MA's), (Start: 124 @44037 has 1 MA's), (Start: 129 @44025 has 2 MA's),

Gene: Arissanae\_82 Start: 47825, Stop: 47556, Start Num: 108

Candidate Starts for Arissanae\_82:

(Start: 108 @47825 has 18 MA's), (Start: 120 @47807 has 17 MA's), (128, 47786), (Start: 129 @47783 has 2 MA's), (159, 47687),

Gene: Arlo\_76 Start: 47562, Stop: 47263, Start Num: 92

Candidate Starts for Arlo\_76:

(Start: 70 @47592 has 1 MA's), (Start: 92 @47562 has 199 MA's), (122, 47517), (123, 47514), (152, 47445), (161, 47394),

Gene: Artemis2UCLA\_83 Start: 45479, Stop: 45216, Start Num: 138

Candidate Starts for Artemis2UCLA\_83:

(27, 45779), (33, 45722), (35, 45719), (44, 45674), (102, 45551), (Start: 138 @45479 has 19 MA's), (144, 45467), (147, 45461), (157, 45422),

Gene: Arturo\_72 Start: 45775, Stop: 45476, Start Num: 76

Candidate Starts for Arturo\_72:

(Start: 76 @45775 has 117 MA's), (Start: 114 @45733 has 97 MA's),

Gene: Ashballer\_78 Start: 47615, Stop: 47316, Start Num: 92

Candidate Starts for Ashballer\_78:

(Start: 92 @47615 has 199 MA's), (122, 47570), (123, 47567), (152, 47498), (155, 47486), (161, 47447),

Gene: Atkinbua\_82 Start: 48174, Stop: 47875, Start Num: 92

Candidate Starts for Atkinbua\_82:

(Start: 88 @48180 has 2 MA's), (Start: 92 @48174 has 199 MA's), (122, 48129), (123, 48126), (152, 48057), (161, 48006),

Gene: AugsMagnumOpus\_83 Start: 45616, Stop: 45353, Start Num: 114

Candidate Starts for AugsMagnumOpus\_83:

(71, 45679), (Start: 79 @45661 has 2 MA's), (Start: 114 @45616 has 97 MA's),

Gene: AvatarAhPeg\_74 Start: 45580, Stop: 45284, Start Num: 74

Candidate Starts for AvatarAhPeg\_74:

(Start: 74 @45580 has 5 MA's), (Start: 110 @45559 has 24 MA's), (Start: 121 @45541 has 3 MA's), (152, 45472), (171, 45373),

Gene: Avle17\_75 Start: 45641, Stop: 45342, Start Num: 76  
Candidate Starts for Avle17\_75:  
(Start: 76 @45641 has 117 MA's), (Start: 114 @45599 has 97 MA's),

Gene: B1\_69 Start: 43846, Stop: 43562, Start Num: 114  
Candidate Starts for B1\_69:  
(Start: 93 @43867 has 4 MA's), (Start: 110 @43849 has 24 MA's), (Start: 114 @43846 has 97 MA's),  
(158, 43726), (166, 43642),

Gene: BABullseye\_76 Start: 43895, Stop: 43605, Start Num: 78  
Candidate Starts for BABullseye\_76:  
(29, 44039), (37, 44009), (59, 43943), (Start: 63 @43937 has 1 MA's), (Start: 78 @43895 has 16 MA's),  
(Start: 121 @43853 has 3 MA's), (122, 43850), (Start: 124 @43844 has 1 MA's), (125, 43841), (Start:  
129 @43832 has 2 MA's), (153, 43775),

Gene: BK1\_70 Start: 44506, Stop: 44207, Start Num: 92  
Candidate Starts for BK1\_70:  
(Start: 92 @44506 has 199 MA's), (122, 44461), (123, 44458), (152, 44389), (161, 44338),

Gene: BPBiebs31\_81 Start: 48674, Stop: 48375, Start Num: 92  
Candidate Starts for BPBiebs31\_81:  
(Start: 70 @48704 has 1 MA's), (Start: 92 @48674 has 199 MA's), (122, 48629), (123, 48626), (152,  
48557), (161, 48506),

Gene: Baby16\_75 Start: 45658, Stop: 45359, Start Num: 76  
Candidate Starts for Baby16\_75:  
(Start: 76 @45658 has 117 MA's), (Start: 114 @45616 has 97 MA's),

Gene: BabyBack\_78 Start: 47102, Stop: 46782, Start Num: 83  
Candidate Starts for BabyBack\_78:  
(Start: 83 @47102 has 3 MA's), (Start: 95 @47087 has 8 MA's), (107, 47069), (Start: 114 @47063 has  
97 MA's), (118, 47054), (123, 47042), (162, 46934), (165, 46898), (170, 46868),

Gene: BabyRay\_78 Start: 45607, Stop: 45326, Start Num: 114  
Candidate Starts for BabyRay\_78:  
(Start: 114 @45607 has 97 MA's), (166, 45406),

Gene: Bachome\_82 Start: 45718, Stop: 45422, Start Num: 98  
Candidate Starts for Bachome\_82:  
(Start: 98 @45718 has 24 MA's), (109, 45709), (125, 45679), (Start: 129 @45670 has 2 MA's), (158,  
45580),

Gene: Backyardigan\_72 Start: 45744, Stop: 45427, Start Num: 55  
Candidate Starts for Backyardigan\_72:  
(Start: 54 @45747 has 2 MA's), (Start: 55 @45744 has 13 MA's), (65, 45729), (81, 45693), (Start: 121  
@45678 has 3 MA's), (140, 45639), (153, 45606),

Gene: BaconJack\_78 Start: 48829, Stop: 48530, Start Num: 92  
Candidate Starts for BaconJack\_78:  
(Start: 70 @48859 has 1 MA's), (Start: 92 @48829 has 199 MA's), (122, 48784), (123, 48781), (152,  
48712),

Gene: Bactobuster\_74 Start: 46579, Stop: 46271, Start Num: 76  
Candidate Starts for Bactobuster\_74:  
(Start: 76 @46579 has 117 MA's), (Start: 114 @46537 has 97 MA's), (140, 46477),

Gene: Badger\_73 Start: 45691, Stop: 45395, Start Num: 67  
Candidate Starts for Badger\_73:  
(Start: 54 @45712 has 2 MA's), (Start: 55 @45709 has 13 MA's), (Start: 67 @45691 has 2 MA's), (68, 45688), (81, 45658), (Start: 121 @45646 has 3 MA's), (140, 45607), (153, 45574),

Gene: Baehexic\_82 Start: 47345, Stop: 47034, Start Num: 85  
Candidate Starts for Baehexic\_82:  
(Start: 85 @47345 has 34 MA's), (99, 47333), (Start: 120 @47303 has 17 MA's), (122, 47297), (128, 47282),

Gene: BangNhom\_72 Start: 46084, Stop: 45785, Start Num: 76  
Candidate Starts for BangNhom\_72:  
(Start: 76 @46084 has 117 MA's), (Start: 114 @46042 has 97 MA's),

Gene: Barriga\_83 Start: 47568, Stop: 47269, Start Num: 92  
Candidate Starts for Barriga\_83:  
(26, 47775), (28, 47748), (36, 47706), (37, 47703), (41, 47676), (45, 47664), (50, 47655), (56, 47640), (77, 47586), (Start: 92 @47568 has 199 MA's), (122, 47523), (123, 47520), (152, 47451), (161, 47400),

Gene: Bartimeaus\_75 Start: 45649, Stop: 45350, Start Num: 76  
Candidate Starts for Bartimeaus\_75:  
(Start: 76 @45649 has 117 MA's), (Start: 114 @45607 has 97 MA's),

Gene: Beatrix\_73 Start: 46834, Stop: 46535, Start Num: 92  
Candidate Starts for Beatrix\_73:  
(65, 46894), (Start: 92 @46834 has 199 MA's), (122, 46789), (123, 46786), (152, 46717), (161, 46666),

Gene: Beauxregard13\_79 Start: 45631, Stop: 45368, Start Num: 114  
Candidate Starts for Beauxregard13\_79:  
(71, 45694), (Start: 79 @45676 has 2 MA's), (Start: 114 @45631 has 97 MA's), (123, 45610),

Gene: Beemo\_87 Start: 47921, Stop: 47658, Start Num: 120  
Candidate Starts for Beemo\_87:  
(Start: 108 @47939 has 18 MA's), (Start: 120 @47921 has 17 MA's), (128, 47900), (158, 47804),

Gene: BeesKnees\_77 Start: 45937, Stop: 45638, Start Num: 92  
Candidate Starts for BeesKnees\_77:  
(65, 45997), (Start: 92 @45937 has 199 MA's), (122, 45892), (123, 45889), (152, 45820), (161, 45769),

Gene: BellusTerra\_76 Start: 45688, Stop: 45389, Start Num: 76  
Candidate Starts for BellusTerra\_76:  
(Start: 76 @45688 has 117 MA's), (Start: 114 @45646 has 97 MA's),

Gene: Benedict\_74 Start: 44660, Stop: 44376, Start Num: 105  
Candidate Starts for Benedict\_74:  
(Start: 96 @44672 has 3 MA's), (Start: 105 @44660 has 5 MA's), (123, 44633), (158, 44528), (161, 44504),

Gene: BengiVuitton\_85 Start: 47823, Stop: 47497, Start Num: 89

Candidate Starts for BengiVuitton\_85:

(Start: 85 @47826 has 34 MA's), (Start: 89 @47823 has 18 MA's), (Start: 103 @47802 has 3 MA's), (122, 47772), (128, 47757), (146, 47715),

Gene: Benvolio\_82 Start: 47539, Stop: 47231, Start Num: 85

Candidate Starts for Benvolio\_82:

(10, 48016), (13, 47887), (25, 47737), (42, 47632), (Start: 85 @47539 has 34 MA's), (Start: 89 @47536 has 18 MA's), (Start: 120 @47494 has 17 MA's), (122, 47488), (168, 47314),

Gene: Bethlehem\_79 Start: 49714, Stop: 49415, Start Num: 92

Candidate Starts for Bethlehem\_79:

(Start: 70 @49744 has 1 MA's), (Start: 92 @49714 has 199 MA's), (122, 49669), (123, 49666), (152, 49597), (161, 49546),

Gene: Bexan\_71 Start: 46608, Stop: 46309, Start Num: 92

Candidate Starts for Bexan\_71:

(65, 46668), (Start: 92 @46608 has 199 MA's), (122, 46563), (123, 46560), (152, 46491), (161, 46440),

Gene: BiancaTri92\_81 Start: 47402, Stop: 47094, Start Num: 89

Candidate Starts for BiancaTri92\_81:

(48, 47492), (Start: 89 @47402 has 18 MA's), (91, 47399), (Start: 120 @47357 has 17 MA's), (128, 47336),

Gene: Big3\_77 Start: 48641, Stop: 48342, Start Num: 92

Candidate Starts for Big3\_77:

(77, 48659), (Start: 92 @48641 has 199 MA's), (122, 48596), (123, 48593), (152, 48524), (161, 48473),

Gene: BigMau\_79 Start: 48424, Stop: 48125, Start Num: 92

Candidate Starts for BigMau\_79:

(65, 48484), (Start: 92 @48424 has 199 MA's), (122, 48379), (123, 48376), (152, 48307), (161, 48256),

Gene: BigPaolini\_74 Start: 45813, Stop: 45508, Start Num: 88

Candidate Starts for BigPaolini\_74:

(Start: 88 @45813 has 2 MA's), (Start: 92 @45807 has 199 MA's), (122, 45762), (123, 45759), (152, 45690), (161, 45639),

Gene: Bigfoot\_71 Start: 46904, Stop: 46605, Start Num: 92

Candidate Starts for Bigfoot\_71:

(65, 46964), (Start: 92 @46904 has 199 MA's), (122, 46859), (123, 46856), (152, 46787), (161, 46736),

Gene: BillKnuckles\_70 Start: 46811, Stop: 46512, Start Num: 92

Candidate Starts for BillKnuckles\_70:

(65, 46871), (Start: 92 @46811 has 199 MA's), (122, 46766), (123, 46763), (152, 46694), (161, 46643),

Gene: Bircsak\_77 Start: 49499, Stop: 49200, Start Num: 92

Candidate Starts for Bircsak\_77:

(65, 49559), (Start: 92 @49499 has 199 MA's), (122, 49454), (123, 49451), (152, 49382), (161, 49331),

Gene: Blackmoor\_74 Start: 45649, Stop: 45350, Start Num: 76

Candidate Starts for Blackmoor\_74:

(Start: 76 @45649 has 117 MA's), (Start: 114 @45607 has 97 MA's),

Gene: BlessJoy\_83 Start: 46000, Stop: 45737, Start Num: 138

Candidate Starts for BlessJoy\_83:

(27, 46300), (33, 46243), (35, 46240), (44, 46195), (102, 46072), (Start: 138 @46000 has 19 MA's),  
(144, 45988), (147, 45982), (157, 45943),

Gene: Blinn1\_87 Start: 46595, Stop: 46263, Start Num: 63

Candidate Starts for Blinn1\_87:

(29, 46697), (37, 46667), (59, 46601), (Start: 63 @46595 has 1 MA's), (Start: 78 @46553 has 16 MA's),  
(122, 46508), (Start: 124 @46502 has 1 MA's), (125, 46499), (Start: 129 @46490 has 2 MA's),

Gene: BluSpix\_74 Start: 42363, Stop: 42064, Start Num: 92

Candidate Starts for BluSpix\_74:

(Start: 70 @42393 has 1 MA's), (Start: 92 @42363 has 199 MA's), (122, 42318), (123, 42315), (152,  
42246), (161, 42195),

Gene: Blue\_73 Start: 46715, Stop: 46416, Start Num: 92

Candidate Starts for Blue\_73:

(65, 46775), (Start: 92 @46715 has 199 MA's), (122, 46670), (123, 46667), (152, 46598), (161, 46547),

Gene: Blue7\_85 Start: 45698, Stop: 45435, Start Num: 138

Candidate Starts for Blue7\_85:

(27, 45998), (33, 45941), (35, 45938), (44, 45893), (102, 45770), (Start: 138 @45698 has 19 MA's),  
(144, 45686), (147, 45680), (157, 45641),

Gene: BlueBird\_81 Start: 46036, Stop: 45764, Start Num: 114

Candidate Starts for BlueBird\_81:

(Start: 114 @46036 has 97 MA's),

Gene: Bluefalcon\_66 Start: 44078, Stop: 43782, Start Num: 95

Candidate Starts for Bluefalcon\_66:

(61, 44150), (Start: 79 @44099 has 2 MA's), (86, 44090), (Start: 95 @44078 has 8 MA's), (Start: 98  
@44072 has 24 MA's), (Start: 124 @44036 has 1 MA's), (Start: 129 @44024 has 2 MA's),

Gene: Bob3\_77 Start: 47691, Stop: 47392, Start Num: 92

Candidate Starts for Bob3\_77:

(65, 47751), (Start: 92 @47691 has 199 MA's), (122, 47646), (123, 47643), (152, 47574), (161, 47523),

Gene: BobSwaget\_77 Start: 45351, Stop: 45037, Start Num: 73

Candidate Starts for BobSwaget\_77:

(Start: 73 @45351 has 5 MA's), (100, 45324), (107, 45315),

Gene: BogosyJay\_86 Start: 47989, Stop: 47711, Start Num: 108

Candidate Starts for BogosyJay\_86:

(Start: 108 @47989 has 18 MA's), (128, 47950),

Gene: Bombshell\_75 Start: 45644, Stop: 45345, Start Num: 76

Candidate Starts for Bombshell\_75:

(Start: 76 @45644 has 117 MA's), (Start: 114 @45602 has 97 MA's),

Gene: Bones\_72 Start: 46997, Stop: 46698, Start Num: 92

Candidate Starts for Bones\_72:

(65, 47057), (Start: 92 @46997 has 199 MA's), (122, 46952), (123, 46949), (152, 46880), (161, 46829),

Gene: Bowtie\_81 Start: 45445, Stop: 45149, Start Num: 98

Candidate Starts for Bowtie\_81:

(Start: 98 @45445 has 24 MA's), (109, 45436), (112, 45433), (125, 45406), (Start: 129 @45397 has 2 MA's), (158, 45307),

Gene: Bradman\_86 Start: 46814, Stop: 46539, Start Num: 110

Candidate Starts for Bradman\_86:

(24, 47063), (Start: 110 @46814 has 24 MA's), (Start: 121 @46793 has 3 MA's), (125, 46781),

Gene: BreSam8\_80 Start: 45666, Stop: 45358, Start Num: 79

Candidate Starts for BreSam8\_80:

(71, 45684), (Start: 79 @45666 has 2 MA's), (Start: 114 @45621 has 97 MA's),

Gene: Briton15\_79 Start: 48077, Stop: 47778, Start Num: 92

Candidate Starts for Briton15\_79:

(65, 48137), (Start: 92 @48077 has 199 MA's), (122, 48032), (123, 48029), (152, 47960), (161, 47909),

Gene: Broseidon\_75 Start: 45650, Stop: 45351, Start Num: 76

Candidate Starts for Broseidon\_75:

(Start: 76 @45650 has 117 MA's), (Start: 114 @45608 has 97 MA's),

Gene: Bruiser\_74 Start: 45647, Stop: 45348, Start Num: 76

Candidate Starts for Bruiser\_74:

(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: Bruns\_79 Start: 46940, Stop: 46641, Start Num: 92

Candidate Starts for Bruns\_79:

(65, 47000), (Start: 92 @46940 has 199 MA's), (122, 46895), (123, 46892), (152, 46823), (161, 46772),

Gene: BubbleTrouble\_74 Start: 45674, Stop: 45375, Start Num: 76

Candidate Starts for BubbleTrouble\_74:

(Start: 76 @45674 has 117 MA's), (Start: 114 @45632 has 97 MA's),

Gene: Bud\_79 Start: 45275, Stop: 44979, Start Num: 98

Candidate Starts for Bud\_79:

(Start: 98 @45275 has 24 MA's), (109, 45266), (112, 45263), (125, 45236), (Start: 129 @45227 has 2 MA's), (158, 45137),

Gene: Bugatti\_79 Start: 46036, Stop: 45764, Start Num: 114

Candidate Starts for Bugatti\_79:

(Start: 114 @46036 has 97 MA's),

Gene: Bumblebee11\_73 Start: 45711, Stop: 45397, Start Num: 54

Candidate Starts for Bumblebee11\_73:

(Start: 54 @45711 has 2 MA's), (Start: 55 @45708 has 13 MA's), (Start: 67 @45690 has 2 MA's), (68, 45687), (81, 45657), (Start: 121 @45645 has 3 MA's), (140, 45606), (153, 45573),

Gene: Burger\_73 Start: 45647, Stop: 45348, Start Num: 76

Candidate Starts for Burger\_73:

(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: Burton\_77 Start: 49106, Stop: 48807, Start Num: 92

Candidate Starts for Burton\_77:

(Start: 70 @49136 has 1 MA's), (Start: 92 @49106 has 199 MA's), (122, 49061), (123, 49058), (152, 48989), (161, 48938),

Gene: Buttons\_73 Start: 45207, Stop: 44908, Start Num: 92

Candidate Starts for Buttons\_73:

(Start: 92 @45207 has 199 MA's), (122, 45162), (123, 45159), (152, 45090), (161, 45039),

Gene: BuzzBuzz\_74 Start: 45656, Stop: 45393, Start Num: 114

Candidate Starts for BuzzBuzz\_74:

(71, 45719), (Start: 79 @45701 has 2 MA's), (Start: 114 @45656 has 97 MA's), (123, 45635),

Gene: Bxb1\_70 Start: 45323, Stop: 45024, Start Num: 92

Candidate Starts for Bxb1\_70:

(Start: 92 @45323 has 199 MA's), (122, 45278), (123, 45275), (152, 45206), (161, 45155),

Gene: Bxz2\_75 Start: 45663, Stop: 45400, Start Num: 114

Candidate Starts for Bxz2\_75:

(71, 45726), (Start: 79 @45708 has 2 MA's), (Start: 114 @45663 has 97 MA's), (123, 45642),

Gene: C3\_75 Start: 46132, Stop: 45854, Start Num: 110

Candidate Starts for C3\_75:

(Start: 110 @46132 has 24 MA's), (125, 46099), (128, 46093), (164, 45958),

Gene: CRB1\_84 Start: 47974, Stop: 47651, Start Num: 85

Candidate Starts for CRB1\_84:

(Start: 85 @47974 has 34 MA's), (128, 47908), (146, 47866),

Gene: CactusRose\_79 Start: 47921, Stop: 47622, Start Num: 92

Candidate Starts for CactusRose\_79:

(65, 47981), (Start: 92 @47921 has 199 MA's), (122, 47876), (123, 47873), (152, 47804), (161, 47753),

Gene: Caelakin\_73 Start: 45647, Stop: 45348, Start Num: 76

Candidate Starts for Caelakin\_73:

(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: Calvinny\_77 Start: 45439, Stop: 45176, Start Num: 114

Candidate Starts for Calvinny\_77:

(71, 45502), (Start: 79 @45484 has 2 MA's), (Start: 114 @45439 has 97 MA's), (123, 45418),

Gene: Camperdownii\_73 Start: 45334, Stop: 45020, Start Num: 55

Candidate Starts for Camperdownii\_73:

(Start: 54 @45337 has 2 MA's), (Start: 55 @45334 has 13 MA's), (Start: 67 @45316 has 2 MA's), (68, 45313), (Start: 121 @45271 has 3 MA's), (140, 45232),

Gene: Candra\_81 Start: 45632, Stop: 45300, Start Num: 63

Candidate Starts for Candra\_81:

(29, 45734), (37, 45704), (59, 45638), (Start: 63 @45632 has 1 MA's), (Start: 78 @45590 has 16 MA's), (Start: 121 @45548 has 3 MA's), (122, 45545), (Start: 124 @45539 has 1 MA's), (125, 45536), (Start: 129 @45527 has 2 MA's), (153, 45470), (156, 45455),

Gene: Carlyle\_77 Start: 46395, Stop: 46096, Start Num: 92

Candidate Starts for Carlyle\_77:

(65, 46455), (Start: 92 @46395 has 199 MA's), (122, 46350), (123, 46347), (152, 46278), (161, 46227),



Gene: Catalina\_89 Start: 48034, Stop: 47768, Start Num: 120

Candidate Starts for Catalina\_89:

(Start: 108 @48052 has 18 MA's), (Start: 120 @48034 has 17 MA's), (128, 48013), (158, 47917),

Gene: Centaur\_83 Start: 47223, Stop: 46912, Start Num: 85

Candidate Starts for Centaur\_83:

(Start: 85 @47223 has 34 MA's), (99, 47211), (Start: 120 @47181 has 17 MA's), (122, 47175), (128, 47160),

Gene: CentreCat\_75 Start: 45687, Stop: 45388, Start Num: 76

Candidate Starts for CentreCat\_75:

(Start: 76 @45687 has 117 MA's), (Start: 114 @45645 has 97 MA's),

Gene: Cerulean\_77 Start: 46085, Stop: 45786, Start Num: 76

Candidate Starts for Cerulean\_77:

(Start: 76 @46085 has 117 MA's), (Start: 114 @46043 has 97 MA's),

Gene: Chadwick\_74 Start: 44404, Stop: 44120, Start Num: 105

Candidate Starts for Chadwick\_74:

(Start: 96 @44416 has 3 MA's), (Start: 105 @44404 has 5 MA's), (123, 44377), (158, 44272), (161, 44248),

Gene: ChampagnePapi\_78 Start: 46087, Stop: 45785, Start Num: 76

Candidate Starts for ChampagnePapi\_78:

(Start: 76 @46087 has 117 MA's), (Start: 114 @46045 has 97 MA's), (153, 45967),

Gene: Chanagan\_73 Start: 45356, Stop: 45057, Start Num: 92

Candidate Starts for Chanagan\_73:

(65, 45416), (Start: 92 @45356 has 199 MA's), (122, 45311), (123, 45308), (152, 45239), (161, 45188),

Gene: Changeling\_82 Start: 47917, Stop: 47612, Start Num: 93

Candidate Starts for Changeling\_82:

(Start: 93 @47917 has 4 MA's), (101, 47905), (Start: 103 @47902 has 3 MA's), (Start: 106 @47899 has 13 MA's), (Start: 120 @47878 has 17 MA's), (128, 47857),

Gene: Chaph\_75 Start: 45658, Stop: 45359, Start Num: 76

Candidate Starts for Chaph\_75:

(Start: 76 @45658 has 117 MA's), (Start: 114 @45616 has 97 MA's),

Gene: Chargerpower\_83 Start: 45994, Stop: 45686, Start Num: 110

Candidate Starts for Chargerpower\_83:

(24, 46240), (Start: 110 @45994 has 24 MA's), (130, 45949), (131, 45946), (158, 45856),

Gene: Charm\_82 Start: 47297, Stop: 47064, Start Num: 129

Candidate Starts for Charm\_82:

(24, 47579), (Start: 108 @47333 has 18 MA's), (Start: 129 @47297 has 2 MA's),

Gene: Chartreuse\_80 Start: 44847, Stop: 44611, Start Num: 125

Candidate Starts for Chartreuse\_80:

(29, 45045), (37, 45015), (59, 44949), (Start: 63 @44943 has 1 MA's), (Start: 78 @44901 has 16 MA's), (Start: 121 @44859 has 3 MA's), (122, 44856), (Start: 124 @44850 has 1 MA's), (125, 44847), (Start: 129 @44838 has 2 MA's), (153, 44781),

Gene: ChipMunk\_84 Start: 48884, Stop: 48579, Start Num: 85

Candidate Starts for ChipMunk\_84:

(Start: 85 @48884 has 34 MA's), (Start: 120 @48845 has 17 MA's), (122, 48839), (168, 48665),

Gene: Chupacabra\_80 Start: 48379, Stop: 48086, Start Num: 106

Candidate Starts for Chupacabra\_80:

(15, 48739), (23, 48643), (Start: 106 @48379 has 13 MA's), (134, 48325),

Gene: Ciao\_73 Start: 45516, Stop: 45217, Start Num: 92

Candidate Starts for Ciao\_73:

(65, 45576), (Start: 92 @45516 has 199 MA's), (122, 45471), (123, 45468), (152, 45399), (161, 45348),

Gene: Cici\_74 Start: 45723, Stop: 45412, Start Num: 55

Candidate Starts for Cici\_74:

(Start: 54 @45726 has 2 MA's), (Start: 55 @45723 has 13 MA's), (Start: 67 @45705 has 2 MA's), (68, 45702), (81, 45672), (Start: 121 @45660 has 3 MA's), (140, 45621), (153, 45588),

Gene: Cindaradix\_70 Start: 45542, Stop: 45246, Start Num: 74

Candidate Starts for Cindaradix\_70:

(Start: 74 @45542 has 5 MA's), (Start: 110 @45521 has 24 MA's), (Start: 121 @45503 has 3 MA's),

Gene: Cintron\_76 Start: 45786, Stop: 45499, Start Num: 84

Candidate Starts for Cintron\_76:

(20, 46035), (38, 45912), (69, 45819), (Start: 73 @45804 has 5 MA's), (Start: 74 @45801 has 5 MA's), (Start: 84 @45786 has 1 MA's),

Gene: Citius\_75 Start: 45668, Stop: 45369, Start Num: 76

Candidate Starts for Citius\_75:

(Start: 76 @45668 has 117 MA's), (Start: 114 @45626 has 97 MA's),

Gene: Clarenza\_74 Start: 45644, Stop: 45345, Start Num: 76

Candidate Starts for Clarenza\_74:

(Start: 76 @45644 has 117 MA's), (Start: 114 @45602 has 97 MA's),

Gene: CloudWang3\_84 Start: 46008, Stop: 45697, Start Num: 138

Candidate Starts for CloudWang3\_84:

(14, 46461), (32, 46254), (35, 46248), (102, 46080), (Start: 138 @46008 has 19 MA's), (142, 45990), (144, 45987), (145, 45984), (150, 45972), (151, 45966), (152, 45963), (157, 45942), (163, 45906),

Gene: Cocoaberry\_75 Start: 45648, Stop: 45349, Start Num: 76

Candidate Starts for Cocoaberry\_75:

(Start: 76 @45648 has 117 MA's), (Start: 114 @45606 has 97 MA's),

Gene: Colbster\_76 Start: 45631, Stop: 45368, Start Num: 114

Candidate Starts for Colbster\_76:

(71, 45694), (Start: 79 @45676 has 2 MA's), (Start: 114 @45631 has 97 MA's), (123, 45610),

Gene: Colin\_82 Start: 48298, Stop: 47996, Start Num: 85

Candidate Starts for Colin\_82:

(Start: 85 @48298 has 34 MA's),

Gene: Commander\_73 Start: 45645, Stop: 45346, Start Num: 76

Candidate Starts for Commander\_73:  
(Start: 76 @45645 has 117 MA's), (Start: 114 @45603 has 97 MA's),

Gene: ConceptII\_81 Start: 48948, Stop: 48649, Start Num: 92  
Candidate Starts for ConceptII\_81:  
(Start: 88 @48954 has 2 MA's), (Start: 92 @48948 has 199 MA's), (122, 48903), (123, 48900), (152, 48831), (161, 48780),

Gene: Connomayer\_75 Start: 45647, Stop: 45348, Start Num: 76  
Candidate Starts for Connomayer\_75:  
(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: Conquerage\_85 Start: 47696, Stop: 47433, Start Num: 120  
Candidate Starts for Conquerage\_85:  
(Start: 108 @47714 has 18 MA's), (Start: 120 @47696 has 17 MA's), (128, 47675), (158, 47579),

Gene: Coog\_67 Start: 44122, Stop: 43820, Start Num: 92  
Candidate Starts for Coog\_67:  
(Start: 92 @44122 has 199 MA's), (126, 44071), (128, 44068), (160, 43960), (164, 43936),

Gene: Cookiedough\_83 Start: 46208, Stop: 45918, Start Num: 78  
Candidate Starts for Cookiedough\_83:  
(29, 46352), (37, 46322), (59, 46256), (Start: 63 @46250 has 1 MA's), (Start: 78 @46208 has 16 MA's),  
(Start: 121 @46166 has 3 MA's), (122, 46163), (Start: 124 @46157 has 1 MA's), (125, 46154), (Start:  
129 @46145 has 2 MA's), (153, 46088),

Gene: Corvo\_78 Start: 48597, Stop: 48298, Start Num: 92  
Candidate Starts for Corvo\_78:  
(Start: 70 @48627 has 1 MA's), (Start: 92 @48597 has 199 MA's), (122, 48552), (123, 48549), (152, 48480), (161, 48429),

Gene: Crispicous1\_71 Start: 45038, Stop: 44739, Start Num: 92  
Candidate Starts for Crispicous1\_71:  
(65, 45098), (Start: 92 @45038 has 199 MA's), (122, 44993), (123, 44990), (152, 44921), (161, 44870),

Gene: Crucio\_83 Start: 47825, Stop: 47466, Start Num: 85  
Candidate Starts for Crucio\_83:  
(Start: 85 @47825 has 34 MA's), (122, 47777), (128, 47762), (172, 47552),

Gene: Cuco\_69 Start: 43982, Stop: 43680, Start Num: 92  
Candidate Starts for Cuco\_69:  
(Start: 92 @43982 has 199 MA's), (126, 43931), (128, 43928), (160, 43820), (164, 43796),

Gene: Cullens\_81 Start: 45630, Stop: 45367, Start Num: 114  
Candidate Starts for Cullens\_81:  
(71, 45693), (Start: 79 @45675 has 2 MA's), (Start: 114 @45630 has 97 MA's), (123, 45609),

Gene: DBQu4n\_83 Start: 47177, Stop: 46899, Start Num: 110  
Candidate Starts for DBQu4n\_83:  
(Start: 110 @47177 has 24 MA's), (125, 47144), (128, 47138), (164, 47003),

Gene: DD5\_74 Start: 47123, Stop: 46824, Start Num: 92  
Candidate Starts for DD5\_74:

(65, 47183), (Start: 92 @47123 has 199 MA's), (122, 47078), (123, 47075), (152, 47006), (161, 46955),

Gene: DaHudson\_79 Start: 45620, Stop: 45357, Start Num: 114

Candidate Starts for DaHudson\_79:

(71, 45683), (Start: 79 @45665 has 2 MA's), (Start: 114 @45620 has 97 MA's),

Gene: DaVinci\_81 Start: 44955, Stop: 44665, Start Num: 78

Candidate Starts for DaVinci\_81:

(29, 45099), (37, 45069), (59, 45003), (Start: 63 @44997 has 1 MA's), (Start: 78 @44955 has 16 MA's), (Start: 121 @44913 has 3 MA's), (122, 44910), (Start: 124 @44904 has 1 MA's), (125, 44901), (Start: 129 @44892 has 2 MA's), (153, 44835),

Gene: Daishi\_79 Start: 44497, Stop: 44234, Start Num: 114

Candidate Starts for Daishi\_79:

(71, 44560), (Start: 79 @44542 has 2 MA's), (Start: 114 @44497 has 97 MA's), (123, 44476),

Gene: Dalmatian\_83 Start: 47647, Stop: 47291, Start Num: 85

Candidate Starts for Dalmatian\_83:

(Start: 85 @47647 has 34 MA's), (122, 47602), (128, 47587), (172, 47377),

Gene: Darrell\_85 Start: 47142, Stop: 46864, Start Num: 108

Candidate Starts for Darrell\_85:

(Start: 108 @47142 has 18 MA's), (Start: 120 @47124 has 17 MA's), (128, 47103),

Gene: DARTHPhader\_78 Start: 46974, Stop: 46699, Start Num: 111

Candidate Starts for DARTHPhader\_78:

(44, 47103), (58, 47070), (64, 47061), (Start: 111 @46974 has 5 MA's), (Start: 121 @46953 has 3 MA's), (130, 46929), (136, 46917),

Gene: Datway\_74 Start: 45727, Stop: 45410, Start Num: 55

Candidate Starts for Datway\_74:

(Start: 54 @45730 has 2 MA's), (Start: 55 @45727 has 13 MA's), (65, 45712), (81, 45676), (Start: 121 @45661 has 3 MA's), (140, 45622), (153, 45589),

Gene: Deano\_72 Start: 45655, Stop: 45356, Start Num: 76

Candidate Starts for Deano\_72:

(Start: 76 @45655 has 117 MA's), (Start: 114 @45613 has 97 MA's),

Gene: Deloris\_85 Start: 47519, Stop: 47190, Start Num: 85

Candidate Starts for Deloris\_85:

(Start: 85 @47519 has 34 MA's), (Start: 89 @47516 has 18 MA's), (Start: 103 @47495 has 3 MA's), (122, 47465), (128, 47450), (146, 47408),

Gene: Dexes\_77 Start: 49539, Stop: 49240, Start Num: 92

Candidate Starts for Dexes\_77:

(26, 49746), (28, 49719), (36, 49677), (37, 49674), (41, 49647), (45, 49635), (50, 49626), (56, 49611), (77, 49557), (Start: 92 @49539 has 199 MA's), (122, 49494), (123, 49491), (152, 49422), (161, 49371),

Gene: Dhanush\_75 Start: 45650, Stop: 45351, Start Num: 76

Candidate Starts for Dhanush\_75:

(Start: 76 @45650 has 117 MA's), (Start: 114 @45608 has 97 MA's),

Gene: Dieselweasel\_81 Start: 45629, Stop: 45366, Start Num: 114

Candidate Starts for Dieselweasel\_81:

(71, 45692), (Start: 79 @45674 has 2 MA's), (Start: 114 @45629 has 97 MA's), (123, 45608),

Gene: Dignity\_85 Start: 48061, Stop: 47753, Start Num: 85

Candidate Starts for Dignity\_85:

(Start: 85 @48061 has 34 MA's), (Start: 89 @48058 has 18 MA's), (122, 48010), (128, 47995), (168, 47836),

Gene: DirtyDunning\_74 Start: 45659, Stop: 45360, Start Num: 76

Candidate Starts for DirtyDunning\_74:

(Start: 76 @45659 has 117 MA's), (Start: 114 @45617 has 97 MA's),

Gene: DontArgue\_78 Start: 47236, Stop: 46952, Start Num: 106

Candidate Starts for DontArgue\_78:

(Start: 106 @47236 has 13 MA's),

Gene: Dorothea\_83 Start: 46201, Stop: 45911, Start Num: 78

Candidate Starts for Dorothea\_83:

(29, 46345), (37, 46315), (59, 46249), (Start: 63 @46243 has 1 MA's), (Start: 78 @46201 has 16 MA's), (Start: 121 @46159 has 3 MA's), (122, 46156), (Start: 124 @46150 has 1 MA's), (125, 46147), (Start: 129 @46138 has 2 MA's), (153, 46081),

Gene: DrFeelGood\_72 Start: 45126, Stop: 44827, Start Num: 92

Candidate Starts for DrFeelGood\_72:

(Start: 70 @45156 has 1 MA's), (Start: 92 @45126 has 199 MA's), (122, 45081), (123, 45078), (152, 45009), (161, 44958),

Gene: Drake55\_84 Start: 47474, Stop: 47163, Start Num: 85

Candidate Starts for Drake55\_84:

(Start: 85 @47474 has 34 MA's), (99, 47462), (Start: 120 @47432 has 17 MA's), (122, 47426), (128, 47411),

Gene: Drake94\_80 Start: 47533, Stop: 47246, Start Num: 106

Candidate Starts for Drake94\_80:

(2, 48340), (3, 48319), (4, 48307), (15, 47893), (23, 47797), (Start: 106 @47533 has 13 MA's), (117, 47518), (126, 47500),

Gene: DreamCatcher\_80 Start: 47927, Stop: 47628, Start Num: 92

Candidate Starts for DreamCatcher\_80:

(65, 47987), (Start: 92 @47927 has 199 MA's), (122, 47882), (123, 47879), (152, 47810), (161, 47759),

Gene: DreamTeam1\_82 Start: 47145, Stop: 46912, Start Num: 129

Candidate Starts for DreamTeam1\_82:

(24, 47427), (Start: 108 @47181 has 18 MA's), (Start: 129 @47145 has 2 MA's),

Gene: Dreamboat\_76 Start: 45409, Stop: 45110, Start Num: 92

Candidate Starts for Dreamboat\_76:

(65, 45469), (Start: 92 @45409 has 199 MA's), (122, 45364), (123, 45361), (152, 45292), (161, 45241),

Gene: DroogsArmy\_74 Start: 48703, Stop: 48410, Start Num: 95

Candidate Starts for DroogsArmy\_74:

(36, 48850), (42, 48817), (Start: 95 @48703 has 8 MA's), (Start: 116 @48673 has 4 MA's), (128, 48643),

Gene: DropBear\_77 Start: 45965, Stop: 45681, Start Num: 114

Candidate Starts for DropBear\_77:

(Start: 114 @45965 has 97 MA's), (166, 45761),

Gene: Druantia\_74 Start: 45650, Stop: 45351, Start Num: 76

Candidate Starts for Druantia\_74:

(Start: 76 @45650 has 117 MA's),

Gene: Dublin\_70 Start: 44258, Stop: 43959, Start Num: 95

Candidate Starts for Dublin\_70:

(86, 44270), (Start: 95 @44258 has 8 MA's), (Start: 98 @44252 has 24 MA's), (Start: 124 @44216 has 1 MA's), (Start: 129 @44204 has 2 MA's), (158, 44114), (164, 44075),

Gene: DudeLittle\_81 Start: 47365, Stop: 47060, Start Num: 89

Candidate Starts for DudeLittle\_81:

(Start: 89 @47365 has 18 MA's), (122, 47320), (128, 47305), (146, 47263), (168, 47146),

Gene: Dulcie\_77 Start: 49203, Stop: 48904, Start Num: 92

Candidate Starts for Dulcie\_77:

(Start: 70 @49233 has 1 MA's), (Start: 92 @49203 has 199 MA's), (122, 49158), (123, 49155), (152, 49086), (161, 49035),

Gene: Duplo\_84 Start: 47234, Stop: 46956, Start Num: 110

Candidate Starts for Duplo\_84:

(Start: 110 @47234 has 24 MA's), (125, 47201), (128, 47195), (164, 47060),

Gene: Dussy\_75 Start: 46788, Stop: 46489, Start Num: 92

Candidate Starts for Dussy\_75:

(Start: 70 @46818 has 1 MA's), (Start: 92 @46788 has 199 MA's), (122, 46743), (123, 46740), (152, 46671), (161, 46620),

Gene: DustyMartin\_86 Start: 48631, Stop: 48341, Start Num: 106

Candidate Starts for DustyMartin\_86:

(Start: 106 @48631 has 13 MA's),

Gene: Dynamix\_76 Start: 45843, Stop: 45544, Start Num: 92

Candidate Starts for Dynamix\_76:

(65, 45903), (Start: 92 @45843 has 199 MA's), (122, 45798), (123, 45795), (152, 45726), (161, 45675),

Gene: EZMoney23\_79 Start: 46912, Stop: 46625, Start Num: 103

Candidate Starts for EZMoney23\_79:

(22, 47167), (Start: 85 @46927 has 34 MA's), (Start: 103 @46912 has 3 MA's), (Start: 106 @46909 has 13 MA's), (Start: 120 @46888 has 17 MA's),

Gene: Eagle\_74 Start: 45709, Stop: 45410, Start Num: 76

Candidate Starts for Eagle\_74:

(Start: 76 @45709 has 117 MA's),

Gene: EagleEye\_83 Start: 46835, Stop: 46572, Start Num: 108

Candidate Starts for EagleEye\_83:

(9, 47399), (24, 47081), (Start: 108 @46835 has 18 MA's), (128, 46799), (Start: 129 @46796 has 2 MA's),

Gene: Eaglepride\_86 Start: 48465, Stop: 48175, Start Num: 106

Candidate Starts for Eaglepride\_86:

(Start: 106 @48465 has 13 MA's),

Gene: Eapen\_75 Start: 45642, Stop: 45343, Start Num: 76

Candidate Starts for Eapen\_75:

(43, 45714), (Start: 76 @45642 has 117 MA's), (Start: 114 @45600 has 97 MA's),

Gene: Ebony\_84 Start: 46409, Stop: 46113, Start Num: 98

Candidate Starts for Ebony\_84:

(Start: 98 @46409 has 24 MA's), (109, 46400), (125, 46370), (Start: 129 @46361 has 2 MA's), (158, 46271),

Gene: Echild\_85 Start: 47560, Stop: 47255, Start Num: 89

Candidate Starts for Echild\_85:

(10, 48040), (13, 47911), (25, 47761), (42, 47656), (Start: 85 @47563 has 34 MA's), (Start: 89 @47560 has 18 MA's), (Start: 120 @47518 has 17 MA's), (122, 47512), (168, 47338),

Gene: EdogawaKiddo\_86 Start: 48016, Stop: 47735, Start Num: 108

Candidate Starts for EdogawaKiddo\_86:

(Start: 108 @48016 has 18 MA's), (128, 47977), (158, 47881),

Gene: Edtherson\_75 Start: 47019, Stop: 46720, Start Num: 92

Candidate Starts for Edtherson\_75:

(65, 47079), (Start: 92 @47019 has 199 MA's), (122, 46974), (123, 46971), (152, 46902), (161, 46851),

Gene: Eidsmoe\_85 Start: 47688, Stop: 47425, Start Num: 120

Candidate Starts for Eidsmoe\_85:

(Start: 108 @47706 has 18 MA's), (Start: 120 @47688 has 17 MA's), (128, 47667), (158, 47571),

Gene: EITiger69\_76 Start: 45331, Stop: 45047, Start Num: 105

Candidate Starts for EITiger69\_76:

(Start: 96 @45343 has 3 MA's), (Start: 105 @45331 has 5 MA's), (123, 45304), (158, 45199), (161, 45175),

Gene: Elephantoon\_87 Start: 47851, Stop: 47588, Start Num: 120

Candidate Starts for Elephantoon\_87:

(Start: 108 @47869 has 18 MA's), (Start: 120 @47851 has 17 MA's), (128, 47830),

Gene: EmyBug\_84 Start: 47708, Stop: 47427, Start Num: 108

Candidate Starts for EmyBug\_84:

(Start: 108 @47708 has 18 MA's), (Start: 120 @47690 has 17 MA's), (128, 47669), (158, 47573),

Gene: EpicPhail\_81 Start: 45631, Stop: 45368, Start Num: 114

Candidate Starts for EpicPhail\_81:

(71, 45694), (Start: 79 @45676 has 2 MA's), (Start: 114 @45631 has 97 MA's), (123, 45610),

Gene: Equemioh13\_83 Start: 47452, Stop: 47141, Start Num: 85

Candidate Starts for Equemioh13\_83:

(Start: 85 @47452 has 34 MA's), (99, 47440), (Start: 120 @47410 has 17 MA's), (122, 47404), (128, 47389),

Gene: EricB\_82 Start: 45496, Stop: 45257, Start Num: 124  
Candidate Starts for EricB\_82:  
(Start: 78 @45547 has 16 MA's), (Start: 121 @45505 has 3 MA's), (122, 45502), (Start: 124 @45496 has 1 MA's), (125, 45493), (Start: 129 @45484 has 2 MA's), (153, 45427),

Gene: Eris\_74 Start: 45659, Stop: 45360, Start Num: 76  
Candidate Starts for Eris\_74:  
(Start: 76 @45659 has 117 MA's), (Start: 114 @45617 has 97 MA's),

Gene: Eros\_75 Start: 45649, Stop: 45350, Start Num: 76  
Candidate Starts for Eros\_75:  
(Start: 76 @45649 has 117 MA's), (Start: 114 @45607 has 97 MA's),

Gene: Espresso\_70 Start: 45691, Stop: 45392, Start Num: 92  
Candidate Starts for Espresso\_70:  
(Start: 70 @45721 has 1 MA's), (Start: 92 @45691 has 199 MA's), (122, 45646), (123, 45643), (152, 45574), (161, 45523),

Gene: Et2Brutus\_83 Start: 46372, Stop: 46076, Start Num: 98  
Candidate Starts for Et2Brutus\_83:  
(Start: 98 @46372 has 24 MA's), (109, 46363), (125, 46333), (Start: 129 @46324 has 2 MA's), (158, 46234),

Gene: Euphoria\_77 Start: 47608, Stop: 47309, Start Num: 92  
Candidate Starts for Euphoria\_77:  
(Start: 70 @47638 has 1 MA's), (Start: 92 @47608 has 199 MA's), (122, 47563), (123, 47560), (152, 47491),

Gene: Eurydice\_76 Start: 45684, Stop: 45385, Start Num: 76  
Candidate Starts for Eurydice\_76:  
(Start: 76 @45684 has 117 MA's), (Start: 114 @45642 has 97 MA's),

Gene: EvilGenius\_83 Start: 48885, Stop: 48580, Start Num: 85  
Candidate Starts for EvilGenius\_83:  
(Start: 85 @48885 has 34 MA's), (Start: 120 @48846 has 17 MA's), (122, 48840), (168, 48666),

Gene: ExplosioNervosa\_85 Start: 47756, Stop: 47493, Start Num: 120  
Candidate Starts for ExplosioNervosa\_85:  
(Start: 108 @47774 has 18 MA's), (Start: 120 @47756 has 17 MA's), (128, 47735), (158, 47639),

Gene: Eyeball\_75 Start: 46893, Stop: 46594, Start Num: 92  
Candidate Starts for Eyeball\_75:  
(Start: 70 @46923 has 1 MA's), (Start: 92 @46893 has 199 MA's), (122, 46848), (123, 46845), (152, 46776), (161, 46725),

Gene: Fajezeel\_79 Start: 48129, Stop: 47830, Start Num: 92  
Candidate Starts for Fajezeel\_79:  
(Start: 70 @48159 has 1 MA's), (Start: 92 @48129 has 199 MA's), (122, 48084), (123, 48081), (152, 48012), (161, 47961),

Gene: Fameo\_81 Start: 47377, Stop: 47072, Start Num: 89  
Candidate Starts for Fameo\_81:  
(Start: 89 @47377 has 18 MA's), (122, 47332), (168, 47158),



Gene: Farber\_80 Start: 45617, Stop: 45354, Start Num: 114

Candidate Starts for Farber\_80:

(71, 45680), (Start: 79 @45662 has 2 MA's), (Start: 114 @45617 has 97 MA's), (123, 45596),

Gene: Fascinus\_72 Start: 47417, Stop: 47118, Start Num: 92

Candidate Starts for Fascinus\_72:

(65, 47477), (Start: 92 @47417 has 199 MA's), (122, 47372), (123, 47369), (152, 47300), (161, 47249),

Gene: Fayely\_85 Start: 47682, Stop: 47401, Start Num: 108

Candidate Starts for Fayely\_85:

(Start: 108 @47682 has 18 MA's), (Start: 120 @47664 has 17 MA's), (128, 47643), (158, 47547),

Gene: Fenn\_79 Start: 47948, Stop: 47649, Start Num: 92

Candidate Starts for Fenn\_79:

(65, 48008), (Start: 92 @47948 has 199 MA's), (122, 47903), (123, 47900), (152, 47831), (161, 47780),

Gene: Fernando\_81 Start: 45630, Stop: 45367, Start Num: 114

Candidate Starts for Fernando\_81:

(71, 45693), (Start: 79 @45675 has 2 MA's), (Start: 114 @45630 has 97 MA's), (123, 45609),

Gene: Fibonacci\_83 Start: 46378, Stop: 46082, Start Num: 98

Candidate Starts for Fibonacci\_83:

(Start: 98 @46378 has 24 MA's), (109, 46369), (125, 46339), (Start: 129 @46330 has 2 MA's), (158, 46240),

Gene: FiringLine\_83 Start: 47765, Stop: 47457, Start Num: 89

Candidate Starts for FiringLine\_83:

(Start: 89 @47765 has 18 MA's), (122, 47717), (128, 47702), (146, 47660), (168, 47543),

Gene: First\_0084 Start: 47621, Stop: 47298, Start Num: 85

Candidate Starts for First\_0084:

(Start: 85 @47621 has 34 MA's), (128, 47555), (146, 47513),

Gene: Flare16\_83 Start: 47267, Stop: 46956, Start Num: 85

Candidate Starts for Flare16\_83:

(Start: 85 @47267 has 34 MA's), (99, 47255), (Start: 120 @47225 has 17 MA's), (122, 47219), (128, 47204),

Gene: Flaverint\_85 Start: 46836, Stop: 46540, Start Num: 98

Candidate Starts for Flaverint\_85:

(Start: 98 @46836 has 24 MA's), (109, 46827), (112, 46824), (125, 46797), (Start: 129 @46788 has 2 MA's), (158, 46698),

Gene: Florean\_75 Start: 45646, Stop: 45347, Start Num: 76

Candidate Starts for Florean\_75:

(Start: 76 @45646 has 117 MA's), (Start: 114 @45604 has 97 MA's),

Gene: Flux\_76 Start: 45645, Stop: 45346, Start Num: 76

Candidate Starts for Flux\_76:

(Start: 76 @45645 has 117 MA's), (Start: 114 @45603 has 97 MA's),

Gene: FlyCatcher\_78 Start: 49217, Stop: 48948, Start Num: 106

Candidate Starts for FlyCatcher\_78:

(30, 49409), (34, 49391), (49, 49337), (51, 49334), (Start: 106 @49217 has 13 MA's), (Start: 116 @49205 has 4 MA's), (123, 49187), (130, 49169), (135, 49163), (149, 49127), (158, 49088), (161, 49064),

Gene: Forsytheast\_78 Start: 47631, Stop: 47332, Start Num: 92

Candidate Starts for Forsytheast\_78:

(Start: 70 @47661 has 1 MA's), (Start: 92 @47631 has 199 MA's), (122, 47586), (123, 47583), (152, 47514), (161, 47463),

Gene: Francis47\_78 Start: 49500, Stop: 49201, Start Num: 92

Candidate Starts for Francis47\_78:

(65, 49560), (Start: 92 @49500 has 199 MA's), (122, 49455), (123, 49452), (152, 49383), (161, 49332),

Gene: Fred313\_76 Start: 45666, Stop: 45382, Start Num: 114

Candidate Starts for Fred313\_76:

(Start: 114 @45666 has 97 MA's), (166, 45462),

Gene: Funston\_74 Start: 45644, Stop: 45345, Start Num: 76

Candidate Starts for Funston\_74:

(Start: 76 @45644 has 117 MA's), (Start: 114 @45602 has 97 MA's),

Gene: Fushigi\_70 Start: 43949, Stop: 43650, Start Num: 92

Candidate Starts for Fushigi\_70:

(65, 44009), (Start: 92 @43949 has 199 MA's), (122, 43904), (123, 43901), (152, 43832), (161, 43781),

Gene: GMonster\_72 Start: 46795, Stop: 46496, Start Num: 92

Candidate Starts for GMonster\_72:

(65, 46855), (Start: 92 @46795 has 199 MA's), (122, 46750), (123, 46747), (152, 46678), (161, 46627),

Gene: Gadost\_75 Start: 45648, Stop: 45349, Start Num: 76

Candidate Starts for Gadost\_75:

(Start: 76 @45648 has 117 MA's), (Start: 114 @45606 has 97 MA's),

Gene: GageAP\_79 Start: 48853, Stop: 48554, Start Num: 92

Candidate Starts for GageAP\_79:

(65, 48913), (Start: 92 @48853 has 199 MA's), (122, 48808), (123, 48805), (152, 48736), (161, 48685),

Gene: Gail\_84 Start: 47375, Stop: 47103, Start Num: 116

Candidate Starts for Gail\_84:

(46, 47507), (52, 47495), (Start: 76 @47432 has 117 MA's), (Start: 116 @47375 has 4 MA's), (130, 47339), (148, 47291),

Gene: Gandalf20\_75 Start: 46976, Stop: 46677, Start Num: 92

Candidate Starts for Gandalf20\_75:

(Start: 70 @47006 has 1 MA's), (Start: 92 @46976 has 199 MA's), (122, 46931), (123, 46928), (152, 46859), (161, 46808),

Gene: Garak\_85 Start: 45929, Stop: 45678, Start Num: 144

Candidate Starts for Garak\_85:

(27, 46241), (33, 46184), (35, 46181), (44, 46136), (102, 46013), (Start: 138 @45941 has 19 MA's), (144, 45929), (147, 45923), (157, 45884),

Gene: GaugeLDP\_77 Start: 46661, Stop: 46341, Start Num: 83  
Candidate Starts for GaugeLDP\_77:  
(Start: 83 @46661 has 3 MA's), (Start: 95 @46646 has 8 MA's), (107, 46628), (Start: 114 @46622 has 97 MA's), (118, 46613), (165, 46457), (170, 46430),

Gene: Gemma\_77 Start: 45437, Stop: 45174, Start Num: 114  
Candidate Starts for Gemma\_77:  
(71, 45500), (Start: 79 @45482 has 2 MA's), (Start: 114 @45437 has 97 MA's), (123, 45416),

Gene: Georgie2\_85 Start: 47969, Stop: 47661, Start Num: 89  
Candidate Starts for Georgie2\_85:  
(Start: 89 @47969 has 18 MA's), (122, 47921), (128, 47906), (146, 47864), (168, 47747),

Gene: Ghouboy\_70 Start: 44353, Stop: 44036, Start Num: 95  
Candidate Starts for Ghouboy\_70:  
(61, 44425), (Start: 79 @44374 has 2 MA's), (86, 44365), (Start: 95 @44353 has 8 MA's), (Start: 98 @44347 has 24 MA's), (Start: 124 @44311 has 1 MA's), (Start: 129 @44299 has 2 MA's),

Gene: Gilberta\_81 Start: 45712, Stop: 45416, Start Num: 98  
Candidate Starts for Gilberta\_81:  
(Start: 98 @45712 has 24 MA's), (109, 45703), (125, 45673), (Start: 129 @45664 has 2 MA's), (158, 45574),

Gene: GingkoMaracino\_80 Start: 45513, Stop: 45250, Start Num: 114  
Candidate Starts for GingkoMaracino\_80:  
(71, 45576), (Start: 79 @45558 has 2 MA's), (Start: 114 @45513 has 97 MA's), (123, 45492),

Gene: Giroux\_77 Start: 46035, Stop: 45763, Start Num: 114  
Candidate Starts for Giroux\_77:  
(Start: 114 @46035 has 97 MA's),

Gene: Gladiator\_80 Start: 45664, Stop: 45353, Start Num: 138  
Candidate Starts for Gladiator\_80:  
(32, 45910), (35, 45904), (102, 45736), (Start: 138 @45664 has 19 MA's), (142, 45646), (144, 45643), (145, 45640), (147, 45637), (150, 45628), (151, 45622), (152, 45619), (157, 45598), (163, 45562),

Gene: Gompeii16\_77 Start: 49500, Stop: 49201, Start Num: 92  
Candidate Starts for Gompeii16\_77:  
(65, 49560), (Start: 92 @49500 has 199 MA's), (122, 49455), (123, 49452), (152, 49383), (161, 49332),

Gene: Goose\_84 Start: 48190, Stop: 47897, Start Num: 106  
Candidate Starts for Goose\_84:  
(15, 48550), (23, 48454), (Start: 106 @48190 has 13 MA's), (134, 48136),

Gene: Graduation\_79 Start: 47476, Stop: 47177, Start Num: 92  
Candidate Starts for Graduation\_79:  
(Start: 92 @47476 has 199 MA's), (122, 47431), (123, 47428), (152, 47359), (161, 47308),

Gene: GrecoEtereo\_80 Start: 48605, Stop: 48306, Start Num: 92  
Candidate Starts for GrecoEtereo\_80:  
(Start: 70 @48635 has 1 MA's), (Start: 92 @48605 has 199 MA's), (122, 48560), (123, 48557), (152, 48488),

Gene: GreedyLawyer\_77 Start: 45520, Stop: 45230, Start Num: 78

Candidate Starts for GreedyLawyer\_77:

(29, 45664), (37, 45634), (59, 45568), (Start: 63 @45562 has 1 MA's), (Start: 78 @45520 has 16 MA's), (Start: 121 @45478 has 3 MA's), (122, 45475), (Start: 124 @45469 has 1 MA's), (125, 45466), (Start: 129 @45457 has 2 MA's), (153, 45400),

Gene: Greg\_79 Start: 48129, Stop: 47830, Start Num: 92

Candidate Starts for Greg\_79:

(Start: 70 @48159 has 1 MA's), (Start: 92 @48129 has 199 MA's), (122, 48084), (123, 48081), (152, 48012), (161, 47961),

Gene: Grif\_78 Start: 45704, Stop: 45441, Start Num: 114

Candidate Starts for Grif\_78:

(71, 45767), (Start: 79 @45749 has 2 MA's), (Start: 114 @45704 has 97 MA's), (123, 45683),

Gene: Groupthink\_80 Start: 45438, Stop: 45175, Start Num: 114

Candidate Starts for Groupthink\_80:

(71, 45501), (Start: 79 @45483 has 2 MA's), (Start: 114 @45438 has 97 MA's), (123, 45417),

Gene: Grub\_78 Start: 45620, Stop: 45357, Start Num: 114

Candidate Starts for Grub\_78:

(71, 45683), (Start: 79 @45665 has 2 MA's), (Start: 114 @45620 has 97 MA's),

Gene: Grum1\_80 Start: 45630, Stop: 45367, Start Num: 114

Candidate Starts for Grum1\_80:

(71, 45693), (Start: 79 @45675 has 2 MA's), (Start: 114 @45630 has 97 MA's), (123, 45609),

Gene: Gruunaga\_83 Start: 45619, Stop: 45308, Start Num: 138

Candidate Starts for Gruunaga\_83:

(32, 45865), (35, 45859), (102, 45691), (Start: 138 @45619 has 19 MA's), (142, 45601), (144, 45598), (145, 45595), (147, 45592), (150, 45583), (151, 45577), (152, 45574), (157, 45553), (163, 45517),

Gene: GtownJaz\_80 Start: 45628, Stop: 45365, Start Num: 114

Candidate Starts for GtownJaz\_80:

(71, 45691), (Start: 79 @45673 has 2 MA's), (Start: 114 @45628 has 97 MA's), (123, 45607),

Gene: Gwendoluna\_80 Start: 48442, Stop: 48143, Start Num: 92

Candidate Starts for Gwendoluna\_80:

(Start: 70 @48472 has 1 MA's), (Start: 92 @48442 has 199 MA's), (122, 48397), (123, 48394), (152, 48325), (161, 48274),

Gene: Gyzlar\_69 Start: 43801, Stop: 43514, Start Num: 92

Candidate Starts for Gyzlar\_69:

(65, 43861), (Start: 92 @43801 has 199 MA's), (122, 43768), (123, 43765), (152, 43696), (161, 43645),

Gene: HINdeR\_74 Start: 48078, Stop: 47791, Start Num: 95

Candidate Starts for HINdeR\_74:

(36, 48225), (39, 48216), (Start: 95 @48078 has 8 MA's), (128, 48018),

Gene: HamSlice\_71 Start: 45646, Stop: 45347, Start Num: 76

Candidate Starts for HamSlice\_71:

(Start: 76 @45646 has 117 MA's), (Start: 114 @45604 has 97 MA's),

Gene: Hami1\_69 Start: 41842, Stop: 41543, Start Num: 92

Candidate Starts for Hami1\_69:

(65, 41902), (Start: 92 @41842 has 199 MA's), (122, 41797), (123, 41794), (152, 41725), (161, 41674),

Gene: Hammer\_84 Start: 45326, Stop: 45015, Start Num: 138

Candidate Starts for Hammer\_84:

(14, 45779), (32, 45572), (35, 45566), (102, 45398), (Start: 138 @45326 has 19 MA's), (142, 45308), (144, 45305), (145, 45302), (147, 45299), (150, 45290), (151, 45284), (152, 45281), (157, 45260), (163, 45224),

Gene: HanShotFirst\_74 Start: 47407, Stop: 47108, Start Num: 92

Candidate Starts for HanShotFirst\_74:

(65, 47467), (Start: 92 @47407 has 199 MA's), (122, 47362), (123, 47359), (152, 47290), (161, 47239),

Gene: Hanray\_85 Start: 47995, Stop: 47711, Start Num: 108

Candidate Starts for Hanray\_85:

(Start: 108 @47995 has 18 MA's), (128, 47956), (158, 47860),

Gene: Happiness\_74 Start: 45670, Stop: 45368, Start Num: 76

Candidate Starts for Happiness\_74:

(Start: 76 @45670 has 117 MA's), (Start: 114 @45628 has 97 MA's), (153, 45550),

Gene: HarryHoudini\_83 Start: 47477, Stop: 47166, Start Num: 85

Candidate Starts for HarryHoudini\_83:

(Start: 85 @47477 has 34 MA's), (99, 47465), (Start: 120 @47435 has 17 MA's), (122, 47429), (128, 47414),

Gene: HarryOW\_77 Start: 48653, Stop: 48354, Start Num: 92

Candidate Starts for HarryOW\_77:

(Start: 70 @48683 has 1 MA's), (Start: 92 @48653 has 199 MA's), (122, 48608), (123, 48605), (152, 48536), (161, 48485),

Gene: HashRod\_81 Start: 45657, Stop: 45394, Start Num: 114

Candidate Starts for HashRod\_81:

(71, 45720), (Start: 79 @45702 has 2 MA's), (Start: 114 @45657 has 97 MA's), (123, 45636),

Gene: HaveUMetTed\_80 Start: 45426, Stop: 45163, Start Num: 114

Candidate Starts for HaveUMetTed\_80:

(71, 45489), (Start: 79 @45471 has 2 MA's), (Start: 114 @45426 has 97 MA's), (123, 45405),

Gene: Heathen\_78 Start: 45754, Stop: 45470, Start Num: 114

Candidate Starts for Heathen\_78:

(Start: 114 @45754 has 97 MA's), (166, 45550),

Gene: Heffalump\_80 Start: 47845, Stop: 47540, Start Num: 89

Candidate Starts for Heffalump\_80:

(Start: 89 @47845 has 18 MA's), (122, 47800), (168, 47626),

Gene: HelDan\_79 Start: 45977, Stop: 45693, Start Num: 114

Candidate Starts for HelDan\_79:

(Start: 114 @45977 has 97 MA's), (166, 45773),

Gene: Heliosoles\_77 Start: 45442, Stop: 45179, Start Num: 114

Candidate Starts for Heliosoles\_77:

(71, 45505), (Start: 79 @45487 has 2 MA's), (Start: 114 @45442 has 97 MA's), (123, 45421),

Gene: Helmet\_85 Start: 45929, Stop: 45678, Start Num: 144

Candidate Starts for Helmet\_85:

(27, 46241), (33, 46184), (35, 46181), (44, 46136), (102, 46013), (Start: 138 @45941 has 19 MA's), (144, 45929), (147, 45923), (157, 45884),

Gene: Herbertwm\_77 Start: 46431, Stop: 46096, Start Num: 80

Candidate Starts for Herbertwm\_77:

(29, 46587), (37, 46551), (40, 46539), (59, 46485), (66, 46473), (Start: 80 @46431 has 2 MA's), (117, 46386), (140, 46332), (161, 46251), (169, 46188),

Gene: Hercules11\_80 Start: 45639, Stop: 45376, Start Num: 114

Candidate Starts for Hercules11\_80:

(71, 45702), (Start: 79 @45684 has 2 MA's), (Start: 114 @45639 has 97 MA's), (123, 45618),

Gene: Hermia\_71 Start: 45532, Stop: 45233, Start Num: 92

Candidate Starts for Hermia\_71:

(Start: 92 @45532 has 199 MA's), (122, 45487), (123, 45484), (152, 45415), (161, 45364),

Gene: HermioneGrange\_80 Start: 48918, Stop: 48619, Start Num: 92

Candidate Starts for HermioneGrange\_80:

(65, 48978), (Start: 92 @48918 has 199 MA's), (122, 48873), (123, 48870), (152, 48801), (161, 48750),

Gene: Hexamo\_83 Start: 45494, Stop: 45183, Start Num: 138

Candidate Starts for Hexamo\_83:

(14, 45947), (32, 45740), (35, 45734), (102, 45566), (Start: 138 @45494 has 19 MA's), (142, 45476), (144, 45473), (145, 45470), (150, 45458), (151, 45452), (152, 45449), (157, 45428), (163, 45392),

Gene: Horex\_86 Start: 47990, Stop: 47727, Start Num: 120

Candidate Starts for Horex\_86:

(Start: 108 @48008 has 18 MA's), (Start: 120 @47990 has 17 MA's), (128, 47969), (158, 47873),

Gene: Holli\_74 Start: 45437, Stop: 45138, Start Num: 76

Candidate Starts for Holli\_74:

(Start: 76 @45437 has 117 MA's), (Start: 114 @45395 has 97 MA's),

Gene: Homines\_64 Start: 41862, Stop: 41563, Start Num: 92

Candidate Starts for Homines\_64:

(Start: 92 @41862 has 199 MA's), (122, 41817), (123, 41814), (152, 41745), (158, 41718), (161, 41694),

Gene: Hookmount\_79 Start: 45998, Stop: 45720, Start Num: 114

Candidate Starts for Hookmount\_79:

(Start: 93 @46019 has 4 MA's), (Start: 110 @46001 has 24 MA's), (Start: 114 @45998 has 97 MA's), (123, 45980),

Gene: Hoot\_78 Start: 43405, Stop: 43115, Start Num: 78

Candidate Starts for Hoot\_78:

(29, 43549), (37, 43519), (59, 43453), (Start: 63 @43447 has 1 MA's), (Start: 78 @43405 has 16 MA's), (Start: 121 @43363 has 3 MA's), (122, 43360), (Start: 124 @43354 has 1 MA's), (125, 43351), (Start: 129 @43342 has 2 MA's), (153, 43285),

Gene: Hope4ever\_77 Start: 47133, Stop: 46834, Start Num: 92  
Candidate Starts for Hope4ever\_77:  
(26, 47340), (28, 47313), (36, 47271), (37, 47268), (41, 47241), (45, 47229), (50, 47220), (56, 47205),  
(77, 47151), (Start: 92 @47133 has 199 MA's), (122, 47088), (123, 47085), (152, 47016), (161, 46965),

Gene: HortumSL17\_88 Start: 48032, Stop: 47766, Start Num: 120  
Candidate Starts for HortumSL17\_88:  
(Start: 108 @48050 has 18 MA's), (Start: 120 @48032 has 17 MA's), (128, 48011), (158, 47915),

Gene: Houdini22\_74 Start: 45648, Stop: 45349, Start Num: 76  
Candidate Starts for Houdini22\_74:  
(Start: 76 @45648 has 117 MA's), (Start: 114 @45606 has 97 MA's),

Gene: Hutc2\_80 Start: 45262, Stop: 44966, Start Num: 98  
Candidate Starts for Hutc2\_80:  
(Start: 98 @45262 has 24 MA's), (109, 45253), (125, 45223), (Start: 129 @45214 has 2 MA's), (158,  
45124),

Gene: ICleared\_74 Start: 45715, Stop: 45416, Start Num: 76  
Candidate Starts for ICleared\_74:  
(Start: 76 @45715 has 117 MA's), (Start: 114 @45673 has 97 MA's),

Gene: ILeeKay\_74 Start: 45443, Stop: 45144, Start Num: 92  
Candidate Starts for ILeeKay\_74:  
(65, 45503), (Start: 92 @45443 has 199 MA's), (122, 45398), (123, 45395), (152, 45326), (161, 45275),

Gene: Iceman\_73 Start: 45937, Stop: 45638, Start Num: 76  
Candidate Starts for Iceman\_73:  
(Start: 76 @45937 has 117 MA's), (Start: 114 @45895 has 97 MA's),

Gene: Ichabod\_79 Start: 47690, Stop: 47391, Start Num: 92  
Candidate Starts for Ichabod\_79:  
(65, 47750), (Start: 92 @47690 has 199 MA's), (122, 47645), (123, 47642), (152, 47573), (161, 47522),

Gene: Idleandcovert\_79 Start: 46036, Stop: 45764, Start Num: 114  
Candidate Starts for Idleandcovert\_79:  
(Start: 114 @46036 has 97 MA's),

Gene: IgnatiusPatJac\_76 Start: 46338, Stop: 46009, Start Num: 70  
Candidate Starts for IgnatiusPatJac\_76:  
(Start: 70 @46338 has 1 MA's), (Start: 92 @46308 has 199 MA's), (122, 46263), (123, 46260), (152,  
46191), (161, 46140),

Gene: Indra\_87 Start: 45942, Stop: 45679, Start Num: 138  
Candidate Starts for Indra\_87:  
(27, 46242), (33, 46185), (35, 46182), (44, 46137), (102, 46014), (Start: 138 @45942 has 19 MA's),  
(144, 45930), (147, 45924), (157, 45885),

Gene: Insomnia\_83 Start: 46556, Stop: 46257, Start Num: 98  
Candidate Starts for Insomnia\_83:  
(Start: 98 @46556 has 24 MA's), (109, 46547), (125, 46517), (Start: 129 @46508 has 2 MA's), (158,  
46418),

Gene: Inyanga\_68 Start: 45636, Stop: 45337, Start Num: 92  
Candidate Starts for Inyanga\_68:  
(65, 45696), (Start: 92 @45636 has 199 MA's), (122, 45591), (123, 45588), (152, 45519), (161, 45468),

Gene: Iracema64\_75 Start: 45911, Stop: 45612, Start Num: 76  
Candidate Starts for Iracema64\_75:  
(Start: 76 @45911 has 117 MA's), (Start: 114 @45869 has 97 MA's),

Gene: IronMan\_79 Start: 48100, Stop: 47804, Start Num: 87  
Candidate Starts for IronMan\_79:  
(43, 48175), (Start: 87 @48100 has 1 MA's), (118, 48064),

Gene: Isca\_75 Start: 45153, Stop: 44866, Start Num: 110  
Candidate Starts for Isca\_75:  
(Start: 93 @45171 has 4 MA's), (Start: 110 @45153 has 24 MA's), (Start: 114 @45150 has 97 MA's),  
(158, 45030), (166, 44946),

Gene: Isiphiwo\_80 Start: 45575, Stop: 45285, Start Num: 78  
Candidate Starts for Isiphiwo\_80:  
(Start: 78 @45575 has 16 MA's), (Start: 121 @45533 has 3 MA's), (122, 45530), (Start: 124 @45524  
has 1 MA's), (125, 45521), (Start: 129 @45512 has 2 MA's), (153, 45455),

Gene: Iwokeuplikedis\_86 Start: 48070, Stop: 47795, Start Num: 80  
Candidate Starts for Iwokeuplikedis\_86:  
(29, 48229), (37, 48193), (40, 48181), (Start: 63 @48121 has 1 MA's), (66, 48115), (Start: 80 @48070  
has 2 MA's), (118, 48031), (Start: 124 @48016 has 1 MA's),

Gene: JC27\_77 Start: 46703, Stop: 46419, Start Num: 103  
Candidate Starts for JC27\_77:  
(75, 46733), (Start: 103 @46703 has 3 MA's), (Start: 113 @46691 has 3 MA's), (152, 46601), (161,  
46550),

Gene: JF2\_75 Start: 43846, Stop: 43562, Start Num: 114  
Candidate Starts for JF2\_75:  
(Start: 93 @43867 has 4 MA's), (Start: 110 @43849 has 24 MA's), (Start: 114 @43846 has 97 MA's),  
(158, 43726), (166, 43642),

Gene: JF4\_75 Start: 43846, Stop: 43562, Start Num: 114  
Candidate Starts for JF4\_75:  
(Start: 93 @43867 has 4 MA's), (Start: 110 @43849 has 24 MA's), (Start: 114 @43846 has 97 MA's),  
(158, 43726), (166, 43642),

Gene: JHC117\_75 Start: 45625, Stop: 45362, Start Num: 114  
Candidate Starts for JHC117\_75:  
(71, 45688), (Start: 79 @45670 has 2 MA's), (Start: 114 @45625 has 97 MA's), (123, 45604),

Gene: Jaan\_80 Start: 48211, Stop: 47903, Start Num: 76  
Candidate Starts for Jaan\_80:  
(Start: 76 @48211 has 117 MA's), (Start: 114 @48169 has 97 MA's), (140, 48109),

Gene: Jabith\_83 Start: 46570, Stop: 46274, Start Num: 98  
Candidate Starts for Jabith\_83:



(Start: 98 @46570 has 24 MA's), (109, 46561), (125, 46531), (Start: 129 @46522 has 2 MA's), (158, 46432),

Gene: JackSparrow\_77 Start: 46543, Stop: 46244, Start Num: 92

Candidate Starts for JackSparrow\_77:

(65, 46603), (Start: 92 @46543 has 199 MA's), (122, 46498), (123, 46495), (161, 46375),

Gene: Jasper\_75 Start: 45295, Stop: 44996, Start Num: 92

Candidate Starts for Jasper\_75:

(65, 45355), (Start: 92 @45295 has 199 MA's), (122, 45250), (123, 45247), (152, 45178), (161, 45127),

Gene: Jaykayelowell\_72 Start: 45640, Stop: 45341, Start Num: 76

Candidate Starts for Jaykayelowell\_72:

(Start: 76 @45640 has 117 MA's), (Start: 114 @45598 has 97 MA's),

Gene: Jeeves\_84 Start: 46095, Stop: 45823, Start Num: 116

Candidate Starts for Jeeves\_84:

(46, 46227), (52, 46215), (Start: 76 @46152 has 117 MA's), (Start: 79 @46146 has 2 MA's), (Start: 116 @46095 has 4 MA's), (128, 46065), (130, 46059), (131, 46056), (148, 46011),

Gene: JenCasNa\_81 Start: 45630, Stop: 45367, Start Num: 114

Candidate Starts for JenCasNa\_81:

(71, 45693), (Start: 79 @45675 has 2 MA's), (Start: 114 @45630 has 97 MA's), (123, 45609),

Gene: JeppNRM\_80 Start: 45440, Stop: 45177, Start Num: 114

Candidate Starts for JeppNRM\_80:

(71, 45503), (Start: 79 @45485 has 2 MA's), (Start: 114 @45440 has 97 MA's), (137, 45392),

Gene: Jerm\_85 Start: 48029, Stop: 47718, Start Num: 85

Candidate Starts for Jerm\_85:

(Start: 85 @48029 has 34 MA's), (Start: 89 @48026 has 18 MA's), (128, 47963), (168, 47801),

Gene: Jerm2\_78 Start: 48988, Stop: 48689, Start Num: 92

Candidate Starts for Jerm2\_78:

(65, 49048), (Start: 92 @48988 has 199 MA's), (122, 48943), (123, 48940), (152, 48871), (161, 48820),

Gene: JetBlade\_76 Start: 45675, Stop: 45376, Start Num: 76

Candidate Starts for JetBlade\_76:

(Start: 76 @45675 has 117 MA's), (Start: 114 @45633 has 97 MA's),

Gene: Jiawan\_85 Start: 48025, Stop: 47744, Start Num: 108

Candidate Starts for Jiawan\_85:

(Start: 108 @48025 has 18 MA's), (128, 47986), (158, 47890),

Gene: Jobu08\_76 Start: 45454, Stop: 45191, Start Num: 114

Candidate Starts for Jobu08\_76:

(71, 45517), (Start: 79 @45499 has 2 MA's), (Start: 114 @45454 has 97 MA's), (123, 45433),

Gene: JoongJeon\_74 Start: 45641, Stop: 45342, Start Num: 76

Candidate Starts for JoongJeon\_74:

(Start: 76 @45641 has 117 MA's), (Start: 114 @45599 has 97 MA's),

Gene: Jordennis\_81 Start: 45745, Stop: 45497, Start Num: 121

Candidate Starts for Jordennis\_81:

(29, 45931), (37, 45901), (59, 45835), (Start: 63 @45829 has 1 MA's), (Start: 78 @45787 has 16 MA's), (Start: 121 @45745 has 3 MA's), (122, 45742), (Start: 124 @45736 has 1 MA's), (125, 45733), (Start: 129 @45724 has 2 MA's), (153, 45667), (156, 45652),

Gene: Jorgensen\_83 Start: 48562, Stop: 48278, Start Num: 103

Candidate Starts for Jorgensen\_83:

(75, 48592), (Start: 103 @48562 has 3 MA's), (Start: 113 @48550 has 3 MA's), (152, 48460), (161, 48409),

Gene: Joselito\_83 Start: 46590, Stop: 46294, Start Num: 98

Candidate Starts for Joselito\_83:

(Start: 98 @46590 has 24 MA's), (109, 46581), (112, 46578), (125, 46551), (Start: 129 @46542 has 2 MA's), (158, 46452),

Gene: JoshKayV\_85 Start: 48197, Stop: 47886, Start Num: 85

Candidate Starts for JoshKayV\_85:

(Start: 85 @48197 has 34 MA's), (Start: 89 @48194 has 18 MA's), (Start: 120 @48152 has 17 MA's), (122, 48146), (168, 47972),

Gene: Journey13\_68 Start: 43259, Stop: 42879, Start Num: 53

Candidate Starts for Journey13\_68:

(Start: 53 @43259 has 1 MA's), (57, 43250), (Start: 108 @43151 has 18 MA's), (119, 43133), (128, 43115), (141, 43079),

Gene: Jsquared\_87 Start: 47057, Stop: 46782, Start Num: 110

Candidate Starts for Jsquared\_87:

(24, 47306), (Start: 110 @47057 has 24 MA's), (Start: 121 @47036 has 3 MA's), (125, 47024), (128, 47018),

Gene: JuliaChild\_77 Start: 47536, Stop: 47237, Start Num: 92

Candidate Starts for JuliaChild\_77:

(Start: 70 @47566 has 1 MA's), (Start: 92 @47536 has 199 MA's), (122, 47491), (123, 47488), (152, 47419), (161, 47368),

Gene: KADY\_77 Start: 45657, Stop: 45394, Start Num: 114

Candidate Starts for KADY\_77:

(71, 45720), (Start: 79 @45702 has 2 MA's), (Start: 114 @45657 has 97 MA's), (123, 45636),

Gene: KBG\_74 Start: 47890, Stop: 47585, Start Num: 88

Candidate Starts for KBG\_74:

(Start: 88 @47890 has 2 MA's), (Start: 92 @47884 has 199 MA's), (122, 47839), (123, 47836), (152, 47767), (161, 47716),

Gene: KFPoly\_74 Start: 45641, Stop: 45342, Start Num: 76

Candidate Starts for KFPoly\_74:

(Start: 76 @45641 has 117 MA's), (Start: 114 @45599 has 97 MA's),

Gene: KSSJEB\_73 Start: 45768, Stop: 45469, Start Num: 92

Candidate Starts for KSSJEB\_73:

(Start: 92 @45768 has 199 MA's), (122, 45723), (123, 45720), (152, 45651), (161, 45600),

Gene: Kachowdy\_76 Start: 46006, Stop: 45722, Start Num: 114

Candidate Starts for Kachowdy\_76:  
(Start: 114 @46006 has 97 MA's), (166, 45802),

Gene: Kalb97\_80 Start: 44807, Stop: 44451, Start Num: 114  
Candidate Starts for Kalb97\_80:  
(71, 44870), (Start: 79 @44852 has 2 MA's), (Start: 114 @44807 has 97 MA's), (123, 44786),

Gene: Kalnoky\_80 Start: 45435, Stop: 45172, Start Num: 114  
Candidate Starts for Kalnoky\_80:  
(71, 45498), (Start: 79 @45480 has 2 MA's), (Start: 114 @45435 has 97 MA's), (123, 45414),

Gene: Kalpine\_85 Start: 48190, Stop: 47882, Start Num: 96  
Candidate Starts for Kalpine\_85:  
(Start: 96 @48190 has 3 MA's), (Start: 120 @48151 has 17 MA's), (Start: 121 @48148 has 3 MA's),

Gene: Kamy\_74 Start: 45650, Stop: 45351, Start Num: 76  
Candidate Starts for Kamy\_74:  
(Start: 76 @45650 has 117 MA's), (Start: 114 @45608 has 97 MA's),

Gene: Kanely\_78 Start: 47624, Stop: 47325, Start Num: 92  
Candidate Starts for Kanely\_78:  
(Start: 88 @47630 has 2 MA's), (Start: 92 @47624 has 199 MA's), (122, 47579), (123, 47576), (152, 47507), (161, 47456),

Gene: Katalie136\_74 Start: 45708, Stop: 45397, Start Num: 55  
Candidate Starts for Katalie136\_74:  
(Start: 54 @45711 has 2 MA's), (Start: 55 @45708 has 13 MA's), (Start: 67 @45690 has 2 MA's), (68, 45687), (81, 45657), (Start: 121 @45645 has 3 MA's), (140, 45606), (153, 45573),

Gene: Kazan\_84 Start: 45560, Stop: 45270, Start Num: 78  
Candidate Starts for Kazan\_84:  
(29, 45704), (37, 45674), (59, 45608), (Start: 63 @45602 has 1 MA's), (Start: 78 @45560 has 16 MA's), (Start: 121 @45518 has 3 MA's), (122, 45515), (Start: 124 @45509 has 1 MA's), (125, 45506), (Start: 129 @45497 has 2 MA's), (153, 45440), (156, 45425),

Gene: Kenmech\_78 Start: 47914, Stop: 47615, Start Num: 92  
Candidate Starts for Kenmech\_78:  
(Start: 70 @47944 has 1 MA's), (Start: 92 @47914 has 199 MA's), (122, 47869), (123, 47866), (152, 47797), (161, 47746),

Gene: Kerberos\_83 Start: 47197, Stop: 46919, Start Num: 110  
Candidate Starts for Kerberos\_83:  
(Start: 110 @47197 has 24 MA's), (125, 47164), (128, 47158), (164, 47023),

Gene: Keziacharles14\_84 Start: 48520, Stop: 48254, Start Num: 110  
Candidate Starts for Keziacharles14\_84:  
(Start: 110 @48520 has 24 MA's), (Start: 121 @48505 has 3 MA's), (128, 48487), (Start: 129 @48484 has 2 MA's), (130, 48481),

Gene: Killigrew\_73 Start: 46134, Stop: 45835, Start Num: 92  
Candidate Starts for Killigrew\_73:  
(65, 46194), (Start: 92 @46134 has 199 MA's), (122, 46089), (123, 46086), (143, 46044), (152, 46017), (161, 45966),

Gene: Kimona\_76 Start: 44739, Stop: 44437, Start Num: 74

Candidate Starts for Kimona\_76:

(43, 44811), (Start: 74 @44739 has 5 MA's),

Gene: KingCyrus\_82 Start: 48898, Stop: 48593, Start Num: 85

Candidate Starts for KingCyrus\_82:

(Start: 85 @48898 has 34 MA's), (Start: 120 @48859 has 17 MA's), (122, 48853), (167, 48682), (168, 48679),

Gene: Kingmustik0402\_75 Start: 45636, Stop: 45337, Start Num: 76

Candidate Starts for Kingmustik0402\_75:

(Start: 76 @45636 has 117 MA's), (Start: 114 @45594 has 97 MA's),

Gene: Kipper29\_83 Start: 45573, Stop: 45283, Start Num: 78

Candidate Starts for Kipper29\_83:

(29, 45717), (37, 45687), (59, 45621), (Start: 63 @45615 has 1 MA's), (Start: 78 @45573 has 16 MA's), (Start: 121 @45531 has 3 MA's), (122, 45528), (Start: 124 @45522 has 1 MA's), (125, 45519), (Start: 129 @45510 has 2 MA's), (153, 45453),

Gene: KittenMittens\_78 Start: 47540, Stop: 47253, Start Num: 106

Candidate Starts for KittenMittens\_78:

(2, 48347), (3, 48326), (4, 48314), (15, 47900), (23, 47804), (Start: 106 @47540 has 13 MA's), (117, 47525), (126, 47507),

Gene: Koan\_70 Start: 45647, Stop: 45348, Start Num: 76

Candidate Starts for Koan\_70:

(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: Koduck\_83 Start: 46399, Stop: 46124, Start Num: 110

Candidate Starts for Koduck\_83:

(24, 46648), (Start: 110 @46399 has 24 MA's), (123, 46372), (125, 46366), (128, 46360),

Gene: Koko\_85 Start: 46331, Stop: 46068, Start Num: 138

Candidate Starts for Koko\_85:

(27, 46631), (33, 46574), (35, 46571), (44, 46526), (102, 46403), (Start: 138 @46331 has 19 MA's), (144, 46319), (147, 46313), (157, 46274),

Gene: Koreni\_74 Start: 45328, Stop: 45029, Start Num: 76

Candidate Starts for Koreni\_74:

(Start: 76 @45328 has 117 MA's), (Start: 114 @45286 has 97 MA's),

Gene: Kratark\_74 Start: 45681, Stop: 45382, Start Num: 76

Candidate Starts for Kratark\_74:

(Start: 76 @45681 has 117 MA's), (Start: 114 @45639 has 97 MA's),

Gene: Kremtemulon\_74 Start: 45795, Stop: 45481, Start Num: 55

Candidate Starts for Kremtemulon\_74:

(Start: 54 @45798 has 2 MA's), (Start: 55 @45795 has 13 MA's), (Start: 67 @45777 has 2 MA's), (68, 45774), (Start: 121 @45732 has 3 MA's), (140, 45693),

Gene: Kristoff\_81 Start: 48800, Stop: 48519, Start Num: 106

Candidate Starts for Kristoff\_81:

(12, 49208), (18, 49112), (Start: 106 @48800 has 13 MA's),

Gene: Kugel\_78 Start: 47776, Stop: 47477, Start Num: 92

Candidate Starts for Kugel\_78:

(65, 47836), (Start: 92 @47776 has 199 MA's), (122, 47731), (123, 47728), (152, 47659), (161, 47608),

Gene: KyMonks1A\_82 Start: 48245, Stop: 47946, Start Num: 92

Candidate Starts for KyMonks1A\_82:

(Start: 70 @48275 has 1 MA's), (Start: 92 @48245 has 199 MA's), (122, 48200), (123, 48197), (152, 48128), (161, 48077),

Gene: Kyee\_75 Start: 45642, Stop: 45343, Start Num: 76

Candidate Starts for Kyee\_75:

(Start: 76 @45642 has 117 MA's), (Start: 114 @45600 has 97 MA's),

Gene: Kykar\_76 Start: 46815, Stop: 46522, Start Num: 92

Candidate Starts for Kykar\_76:

(65, 46875), (Start: 92 @46815 has 199 MA's), (Start: 106 @46794 has 13 MA's), (152, 46704), (161, 46653),

Gene: L5\_76 Start: 46290, Stop: 46015, Start Num: 110

Candidate Starts for L5\_76:

(24, 46539), (Start: 110 @46290 has 24 MA's), (123, 46263), (125, 46257), (128, 46251),

Gene: LBerry\_81 Start: 45631, Stop: 45368, Start Num: 114

Candidate Starts for LBerry\_81:

(71, 45694), (Start: 79 @45676 has 2 MA's), (Start: 114 @45631 has 97 MA's), (123, 45610),

Gene: LHTSCC\_77 Start: 46087, Stop: 45785, Start Num: 76

Candidate Starts for LHTSCC\_77:

(Start: 76 @46087 has 117 MA's), (Start: 114 @46045 has 97 MA's), (153, 45967),

Gene: LadyBird\_87 Start: 48119, Stop: 47796, Start Num: 85

Candidate Starts for LadyBird\_87:

(Start: 85 @48119 has 34 MA's), (Start: 103 @48098 has 3 MA's), (122, 48068), (128, 48053),

Gene: Lambert1\_79 Start: 46002, Stop: 45721, Start Num: 110

Candidate Starts for Lambert1\_79:

(Start: 93 @46020 has 4 MA's), (Start: 110 @46002 has 24 MA's), (Start: 114 @45999 has 97 MA's), (123, 45981),

Gene: Lamina13\_80 Start: 49268, Stop: 48969, Start Num: 92

Candidate Starts for Lamina13\_80:

(65, 49328), (Start: 92 @49268 has 199 MA's), (122, 49223), (123, 49220), (152, 49151), (161, 49100),

Gene: Landor\_80 Start: 48136, Stop: 47828, Start Num: 76

Candidate Starts for Landor\_80:

(Start: 76 @48136 has 117 MA's), (Start: 114 @48094 has 97 MA's), (140, 48034),

Gene: LappelDuVide\_75 Start: 45647, Stop: 45348, Start Num: 76

Candidate Starts for LappelDuVide\_75:

(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: Larenn\_81 Start: 47473, Stop: 47156, Start Num: 85  
Candidate Starts for Larenn\_81:  
(6, 48031), (11, 47863), (22, 47719), (Start: 85 @47473 has 34 MA's), (Start: 93 @47470 has 4 MA's),  
(Start: 120 @47431 has 17 MA's), (128, 47410), (167, 47245),

Gene: LarryKay\_80 Start: 45661, Stop: 45398, Start Num: 114  
Candidate Starts for LarryKay\_80:  
(71, 45724), (Start: 79 @45706 has 2 MA's), (Start: 114 @45661 has 97 MA's), (123, 45640),

Gene: Lemur\_75 Start: 45644, Stop: 45345, Start Num: 76  
Candidate Starts for Lemur\_75:  
(Start: 76 @45644 has 117 MA's), (Start: 114 @45602 has 97 MA's),

Gene: LeoAvram\_74 Start: 45714, Stop: 45379, Start Num: 60  
Candidate Starts for LeoAvram\_74:  
(Start: 60 @45714 has 1 MA's), (Start: 80 @45663 has 2 MA's), (Start: 114 @45636 has 97 MA's),

Gene: Lesedi\_73 Start: 45402, Stop: 45103, Start Num: 92  
Candidate Starts for Lesedi\_73:  
(Start: 70 @45432 has 1 MA's), (Start: 92 @45402 has 199 MA's), (122, 45357), (123, 45354), (152,  
45285), (161, 45234),

Gene: Leviathan\_85 Start: 48110, Stop: 47802, Start Num: 85  
Candidate Starts for Leviathan\_85:  
(Start: 85 @48110 has 34 MA's), (Start: 89 @48107 has 18 MA's), (Start: 120 @48065 has 17 MA's),  
(122, 48059), (128, 48044), (168, 47885),

Gene: Licorice\_77 Start: 48925, Stop: 48626, Start Num: 92  
Candidate Starts for Licorice\_77:  
(Start: 88 @48931 has 2 MA's), (Start: 92 @48925 has 199 MA's), (122, 48880), (123, 48877), (152,  
48808), (161, 48757),

Gene: LilBib\_73 Start: 47156, Stop: 46857, Start Num: 92  
Candidate Starts for LilBib\_73:  
(Start: 92 @47156 has 199 MA's), (122, 47111), (123, 47108), (152, 47039), (161, 46988),

Gene: LilTurb\_84 Start: 47906, Stop: 47598, Start Num: 85  
Candidate Starts for LilTurb\_84:  
(Start: 85 @47906 has 34 MA's), (Start: 89 @47903 has 18 MA's), (128, 47840), (168, 47681),

Gene: Lilbunny\_83 Start: 45573, Stop: 45310, Start Num: 138  
Candidate Starts for Lilbunny\_83:  
(27, 45873), (33, 45816), (35, 45813), (44, 45768), (102, 45645), (Start: 138 @45573 has 19 MA's),  
(144, 45561), (147, 45555), (157, 45516),

Gene: Lilit\_78 Start: 45620, Stop: 45357, Start Num: 114  
Candidate Starts for Lilit\_78:  
(71, 45683), (Start: 79 @45665 has 2 MA's), (Start: 114 @45620 has 97 MA's),

Gene: Lilleskat\_84 Start: 47987, Stop: 47724, Start Num: 120  
Candidate Starts for Lilleskat\_84:  
(Start: 108 @48005 has 18 MA's), (Start: 120 @47987 has 17 MA's), (128, 47966), (158, 47870),

Gene: LittleB\_75 Start: 45648, Stop: 45349, Start Num: 76  
Candidate Starts for LittleB\_75:  
(Start: 76 @45648 has 117 MA's), (Start: 114 @45606 has 97 MA's),

Gene: LittleGuy\_75 Start: 45532, Stop: 45233, Start Num: 76  
Candidate Starts for LittleGuy\_75:  
(Start: 76 @45532 has 117 MA's), (Start: 114 @45490 has 97 MA's),

Gene: LochMonster\_76 Start: 45884, Stop: 45585, Start Num: 76  
Candidate Starts for LochMonster\_76:  
(Start: 76 @45884 has 117 MA's), (Start: 114 @45842 has 97 MA's),

Gene: Lockley\_73 Start: 46285, Stop: 45986, Start Num: 92  
Candidate Starts for Lockley\_73:  
(Start: 70 @46315 has 1 MA's), (Start: 92 @46285 has 199 MA's), (122, 46240), (123, 46237), (152, 46168), (161, 46117),

Gene: Lokk\_78 Start: 45975, Stop: 45661, Start Num: 73  
Candidate Starts for Lokk\_78:  
(Start: 73 @45975 has 5 MA's), (100, 45948), (107, 45939), (154, 45852),

Gene: LoneWolf\_87 Start: 48048, Stop: 47776, Start Num: 108  
Candidate Starts for LoneWolf\_87:  
(Start: 108 @48048 has 18 MA's), (Start: 120 @48030 has 17 MA's), (128, 48009), (Start: 129 @48006 has 2 MA's),

Gene: Lopton\_75 Start: 48247, Stop: 47948, Start Num: 92  
Candidate Starts for Lopton\_75:  
(Start: 70 @48277 has 1 MA's), (Start: 92 @48247 has 199 MA's), (122, 48202), (123, 48199), (152, 48130), (161, 48079),

Gene: Lorenzo\_75 Start: 45645, Stop: 45346, Start Num: 76  
Candidate Starts for Lorenzo\_75:  
(Start: 76 @45645 has 117 MA's),

Gene: Loser\_86 Start: 48364, Stop: 48065, Start Num: 93  
Candidate Starts for Loser\_86:  
(Start: 93 @48364 has 4 MA's), (101, 48352), (Start: 103 @48349 has 3 MA's), (Start: 106 @48346 has 13 MA's), (Start: 120 @48325 has 17 MA's), (128, 48304),

Gene: Louie6\_79 Start: 45658, Stop: 45395, Start Num: 114  
Candidate Starts for Louie6\_79:  
(71, 45721), (Start: 79 @45703 has 2 MA's), (Start: 114 @45658 has 97 MA's), (123, 45637),

Gene: Luchador\_82 Start: 47356, Stop: 47087, Start Num: 116  
Candidate Starts for Luchador\_82:  
(46, 47488), (52, 47476), (Start: 76 @47413 has 117 MA's), (Start: 116 @47356 has 4 MA's), (128, 47326), (130, 47320), (148, 47272),

Gene: Lucivia\_85 Start: 46869, Stop: 46573, Start Num: 98  
Candidate Starts for Lucivia\_85:  
(Start: 98 @46869 has 24 MA's), (109, 46860), (112, 46857), (125, 46830), (Start: 129 @46821 has 2 MA's), (158, 46731),

Gene: Lucyedi\_82 Start: 47034, Stop: 46771, Start Num: 108  
Candidate Starts for Lucyedi\_82:  
(9, 47598), (24, 47280), (Start: 108 @47034 has 18 MA's), (128, 46998), (Start: 129 @46995 has 2 MA's),

Gene: LugYA\_83 Start: 45631, Stop: 45368, Start Num: 114  
Candidate Starts for LugYA\_83:  
(71, 45694), (Start: 79 @45676 has 2 MA's), (Start: 114 @45631 has 97 MA's), (123, 45610),

Gene: Lunsford\_75 Start: 45640, Stop: 45341, Start Num: 76  
Candidate Starts for Lunsford\_75:  
(Start: 76 @45640 has 117 MA's), (Start: 114 @45598 has 97 MA's),

Gene: MA5\_77 Start: 45054, Stop: 44770, Start Num: 114  
Candidate Starts for MA5\_77:  
(Start: 114 @45054 has 97 MA's), (166, 44850),

Gene: MK4\_72 Start: 43576, Stop: 43289, Start Num: 110  
Candidate Starts for MK4\_72:  
(Start: 93 @43594 has 4 MA's), (Start: 110 @43576 has 24 MA's), (Start: 114 @43573 has 97 MA's), (158, 43453), (166, 43369),

Gene: MPlant7149\_76 Start: 46801, Stop: 46502, Start Num: 92  
Candidate Starts for MPlant7149\_76:  
(Start: 70 @46831 has 1 MA's), (Start: 92 @46801 has 199 MA's), (122, 46756), (123, 46753), (152, 46684), (161, 46633),

Gene: MaCh\_84 Start: 46833, Stop: 46537, Start Num: 98  
Candidate Starts for MaCh\_84:  
(Start: 98 @46833 has 24 MA's), (109, 46824), (112, 46821), (125, 46794), (Start: 129 @46785 has 2 MA's), (158, 46695),

Gene: Mabel\_84 Start: 46834, Stop: 46538, Start Num: 98  
Candidate Starts for Mabel\_84:  
(Start: 98 @46834 has 24 MA's), (109, 46825), (112, 46822), (125, 46795), (Start: 129 @46786 has 2 MA's), (158, 46696),

Gene: MadMarie\_78 Start: 45628, Stop: 45365, Start Num: 114  
Candidate Starts for MadMarie\_78:  
(71, 45691), (Start: 79 @45673 has 2 MA's), (Start: 114 @45628 has 97 MA's), (123, 45607),

Gene: Magnar\_72 Start: 45929, Stop: 45630, Start Num: 92  
Candidate Starts for Magnar\_72:  
(Start: 70 @45959 has 1 MA's), (Start: 92 @45929 has 199 MA's), (122, 45884), (123, 45881), (152, 45812), (161, 45761),

Gene: Magnito\_75 Start: 46242, Stop: 45943, Start Num: 92  
Candidate Starts for Magnito\_75:  
(Start: 92 @46242 has 199 MA's), (122, 46197), (123, 46194), (152, 46125), (161, 46074),

Gene: Mainiac\_79 Start: 45620, Stop: 45357, Start Num: 114  
Candidate Starts for Mainiac\_79:



(71, 45683), (Start: 79 @45665 has 2 MA's), (Start: 114 @45620 has 97 MA's),

Gene: MajorMajor\_80 Start: 45106, Stop: 44831, Start Num: 110

Candidate Starts for MajorMajor\_80:

(24, 45355), (Start: 110 @45106 has 24 MA's), (Start: 121 @45085 has 3 MA's), (125, 45073),

Gene: Makemake\_79 Start: 47852, Stop: 47553, Start Num: 92

Candidate Starts for Makemake\_79:

(Start: 70 @47882 has 1 MA's), (Start: 92 @47852 has 199 MA's), (122, 47807), (123, 47804), (152, 47735), (161, 47684),

Gene: Malec\_82 Start: 48043, Stop: 47726, Start Num: 85

Candidate Starts for Malec\_82:

(Start: 85 @48043 has 34 MA's), (Start: 93 @48040 has 4 MA's), (Start: 120 @48001 has 17 MA's), (128, 47980), (167, 47815),

Gene: Malinsilva\_83 Start: 45619, Stop: 45356, Start Num: 114

Candidate Starts for Malinsilva\_83:

(71, 45682), (Start: 79 @45664 has 2 MA's), (Start: 114 @45619 has 97 MA's),

Gene: Maminiaina\_86 Start: 47971, Stop: 47693, Start Num: 108

Candidate Starts for Maminiaina\_86:

(Start: 108 @47971 has 18 MA's), (128, 47932),

Gene: Manatee\_74 Start: 45782, Stop: 45483, Start Num: 92

Candidate Starts for Manatee\_74:

(Start: 70 @45812 has 1 MA's), (Start: 92 @45782 has 199 MA's), (122, 45737), (123, 45734), (152, 45665),

Gene: Manu\_79 Start: 45442, Stop: 45179, Start Num: 114

Candidate Starts for Manu\_79:

(71, 45505), (Start: 79 @45487 has 2 MA's), (Start: 114 @45442 has 97 MA's), (123, 45421),

Gene: MarQuardt\_80 Start: 45629, Stop: 45366, Start Num: 114

Candidate Starts for MarQuardt\_80:

(71, 45692), (Start: 79 @45674 has 2 MA's), (Start: 114 @45629 has 97 MA's), (123, 45608),

Gene: Marcell\_69 Start: 44549, Stop: 44250, Start Num: 92

Candidate Starts for Marcell\_69:

(65, 44609), (Start: 92 @44549 has 199 MA's), (122, 44504), (123, 44501), (152, 44432), (161, 44381),

Gene: Marchesa\_78 Start: 45958, Stop: 45674, Start Num: 114

Candidate Starts for Marchesa\_78:

(Start: 114 @45958 has 97 MA's), (166, 45754),

Gene: Marchy\_68 Start: 43353, Stop: 43054, Start Num: 92

Candidate Starts for Marchy\_68:

(65, 43413), (Start: 92 @43353 has 199 MA's), (122, 43308), (123, 43305), (152, 43236), (161, 43185),

Gene: Marge\_73 Start: 46046, Stop: 45747, Start Num: 92

Candidate Starts for Marge\_73:

(65, 46106), (Start: 92 @46046 has 199 MA's), (122, 46001), (123, 45998), (152, 45929), (155, 45917), (161, 45878),

Gene: Margo\_79 Start: 46027, Stop: 45746, Start Num: 110  
Candidate Starts for Margo\_79:  
(Start: 93 @46045 has 4 MA's), (Start: 110 @46027 has 24 MA's), (Start: 114 @46024 has 97 MA's),

Gene: Marie\_78 Start: 45630, Stop: 45367, Start Num: 114  
Candidate Starts for Marie\_78:  
(71, 45693), (Start: 79 @45675 has 2 MA's), (Start: 114 @45630 has 97 MA's), (123, 45609),

Gene: Marius\_80 Start: 45435, Stop: 45172, Start Num: 114  
Candidate Starts for Marius\_80:  
(71, 45498), (Start: 79 @45480 has 2 MA's), (Start: 114 @45435 has 97 MA's), (123, 45414),

Gene: Maroc7\_78 Start: 48845, Stop: 48546, Start Num: 92  
Candidate Starts for Maroc7\_78:  
(65, 48905), (Start: 92 @48845 has 199 MA's), (122, 48800), (123, 48797), (152, 48728), (161, 48677),

Gene: Marsha\_76 Start: 48488, Stop: 48189, Start Num: 92  
Candidate Starts for Marsha\_76:  
(Start: 92 @48488 has 199 MA's), (122, 48443), (123, 48440), (152, 48371), (161, 48320),

Gene: MaryBeth\_74 Start: 47072, Stop: 46773, Start Num: 92  
Candidate Starts for MaryBeth\_74:  
(Start: 70 @47102 has 1 MA's), (Start: 92 @47072 has 199 MA's), (122, 47027), (123, 47024), (152, 46955), (161, 46904),

Gene: Maverick\_74 Start: 45644, Stop: 45345, Start Num: 76  
Candidate Starts for Maverick\_74:  
(Start: 76 @45644 has 117 MA's), (Start: 114 @45602 has 97 MA's),

Gene: Maxo\_77 Start: 45650, Stop: 45351, Start Num: 76  
Candidate Starts for Maxo\_77:  
(Start: 76 @45650 has 117 MA's), (Start: 114 @45608 has 97 MA's),

Gene: Mazhar510\_75 Start: 45645, Stop: 45346, Start Num: 76  
Candidate Starts for Mazhar510\_75:  
(Start: 76 @45645 has 117 MA's), (Start: 114 @45603 has 97 MA's),

Gene: McFly\_83 Start: 45909, Stop: 45619, Start Num: 78  
Candidate Starts for McFly\_83:  
(29, 46053), (37, 46023), (59, 45957), (Start: 63 @45951 has 1 MA's), (Start: 78 @45909 has 16 MA's),  
(Start: 121 @45867 has 3 MA's), (122, 45864), (Start: 124 @45858 has 1 MA's), (125, 45855), (Start:  
129 @45846 has 2 MA's), (153, 45789),

Gene: McGuire\_76 Start: 46085, Stop: 45786, Start Num: 92  
Candidate Starts for McGuire\_76:  
(65, 46145), (Start: 92 @46085 has 199 MA's), (122, 46040), (123, 46037), (152, 45968), (161, 45917),

Gene: Medusa\_74 Start: 45660, Stop: 45361, Start Num: 76  
Candidate Starts for Medusa\_74:  
(Start: 76 @45660 has 117 MA's), (Start: 114 @45618 has 97 MA's),

Gene: MeeZee\_74 Start: 45641, Stop: 45342, Start Num: 76

Candidate Starts for MeeZee\_74:  
(Start: 76 @45641 has 117 MA's), (Start: 114 @45599 has 97 MA's),

Gene: Melvin\_77 Start: 45642, Stop: 45343, Start Num: 76  
Candidate Starts for Melvin\_77:  
(Start: 76 @45642 has 117 MA's), (Start: 114 @45600 has 97 MA's),

Gene: MetalQZJ\_73 Start: 47072, Stop: 46773, Start Num: 92  
Candidate Starts for MetalQZJ\_73:  
(Start: 70 @47102 has 1 MA's), (Start: 92 @47072 has 199 MA's), (122, 47027), (123, 47024), (152, 46955), (161, 46904),

Gene: Methuselah\_73 Start: 45651, Stop: 45388, Start Num: 114  
Candidate Starts for Methuselah\_73:  
(71, 45714), (Start: 79 @45696 has 2 MA's), (Start: 114 @45651 has 97 MA's), (123, 45630),

Gene: Microwolf\_76 Start: 45643, Stop: 45380, Start Num: 114  
Candidate Starts for Microwolf\_76:  
(71, 45706), (Start: 79 @45688 has 2 MA's), (Start: 114 @45643 has 97 MA's),

Gene: MiculUcigas\_83 Start: 47170, Stop: 46859, Start Num: 85  
Candidate Starts for MiculUcigas\_83:  
(Start: 85 @47170 has 34 MA's), (99, 47158), (Start: 103 @47152 has 3 MA's), (Start: 120 @47128 has 17 MA's), (122, 47122), (128, 47107),

Gene: Midas2\_67 Start: 44122, Stop: 43820, Start Num: 92  
Candidate Starts for Midas2\_67:  
(Start: 92 @44122 has 199 MA's), (126, 44071), (128, 44068), (160, 43960), (164, 43936),

Gene: Miko\_78 Start: 46737, Stop: 46423, Start Num: 73  
Candidate Starts for Miko\_78:  
(Start: 73 @46737 has 5 MA's), (100, 46710), (107, 46701),

Gene: Milcery\_70 Start: 44007, Stop: 43711, Start Num: 97  
Candidate Starts for Milcery\_70:  
(Start: 97 @44007 has 1 MA's), (115, 43986), (Start: 120 @43980 has 17 MA's), (158, 43866), (160, 43851), (164, 43827),

Gene: Millski\_74 Start: 45648, Stop: 45349, Start Num: 76  
Candidate Starts for Millski\_74:  
(Start: 76 @45648 has 117 MA's), (Start: 114 @45606 has 97 MA's),

Gene: Miramae\_74 Start: 45242, Stop: 44946, Start Num: 74  
Candidate Starts for Miramae\_74:  
(Start: 74 @45242 has 5 MA's), (Start: 110 @45221 has 24 MA's), (Start: 121 @45203 has 3 MA's), (152, 45134),

Gene: MissWhite\_76 Start: 44037, Stop: 43771, Start Num: 108  
Candidate Starts for MissWhite\_76:  
(8, 44595), (24, 44283), (Start: 108 @44037 has 18 MA's), (119, 44019), (128, 44001), (141, 43965), (164, 43869),

Gene: Mkhuseli\_73 Start: 44816, Stop: 44517, Start Num: 92

Candidate Starts for Mkhusele\_73:

(Start: 92 @44816 has 199 MA's), (122, 44771), (123, 44768), (152, 44699), (158, 44672), (161, 44648),

Gene: Molly\_76 Start: 46458, Stop: 46159, Start Num: 92

Candidate Starts for Molly\_76:

(Start: 70 @46488 has 1 MA's), (Start: 92 @46458 has 199 MA's), (122, 46413), (123, 46410), (152, 46341), (161, 46290),

Gene: Monet\_80 Start: 48495, Stop: 48196, Start Num: 92

Candidate Starts for Monet\_80:

(65, 48555), (Start: 92 @48495 has 199 MA's), (122, 48450), (123, 48447), (152, 48378), (161, 48327),

Gene: MoneyMay\_80 Start: 45630, Stop: 45367, Start Num: 114

Candidate Starts for MoneyMay\_80:

(71, 45693), (Start: 79 @45675 has 2 MA's), (Start: 114 @45630 has 97 MA's), (123, 45609),

Gene: Moose\_78 Start: 47631, Stop: 47332, Start Num: 92

Candidate Starts for Moose\_78:

(Start: 70 @47661 has 1 MA's), (Start: 92 @47631 has 199 MA's), (122, 47586), (123, 47583), (152, 47514), (161, 47463),

Gene: Morpher26\_74 Start: 45732, Stop: 45418, Start Num: 54

Candidate Starts for Morpher26\_74:

(Start: 54 @45732 has 2 MA's), (Start: 55 @45729 has 13 MA's), (Start: 67 @45711 has 2 MA's), (68, 45708), (81, 45678), (Start: 121 @45666 has 3 MA's), (140, 45627), (153, 45594),

Gene: Morrow\_77 Start: 45687, Stop: 45388, Start Num: 76

Candidate Starts for Morrow\_77:

(Start: 76 @45687 has 117 MA's), (Start: 114 @45645 has 97 MA's),

Gene: MrGordo\_77 Start: 46387, Stop: 46088, Start Num: 92

Candidate Starts for MrGordo\_77:

(77, 46405), (Start: 92 @46387 has 199 MA's), (122, 46342), (123, 46339), (152, 46270), (161, 46219),

Gene: Mryolo\_71 Start: 45416, Stop: 45117, Start Num: 92

Candidate Starts for Mryolo\_71:

(Start: 70 @45446 has 1 MA's), (Start: 92 @45416 has 199 MA's), (122, 45371), (123, 45368), (152, 45299), (161, 45248),

Gene: MuchMore\_83 Start: 45616, Stop: 45353, Start Num: 114

Candidate Starts for MuchMore\_83:

(71, 45679), (Start: 79 @45661 has 2 MA's), (Start: 114 @45616 has 97 MA's),

Gene: Mulciber\_82 Start: 46375, Stop: 46079, Start Num: 98

Candidate Starts for Mulciber\_82:

(Start: 98 @46375 has 24 MA's), (109, 46366), (125, 46336), (Start: 129 @46327 has 2 MA's), (158, 46237),

Gene: Mule\_75 Start: 46498, Stop: 46199, Start Num: 92

Candidate Starts for Mule\_75:

(Start: 70 @46528 has 1 MA's), (Start: 92 @46498 has 199 MA's), (122, 46453), (123, 46450), (152, 46381), (161, 46330),

Gene: Munch\_84 Start: 46838, Stop: 46542, Start Num: 98  
Candidate Starts for Munch\_84:  
(Start: 98 @46838 has 24 MA's), (109, 46829), (112, 46826), (125, 46799), (Start: 129 @46790 has 2 MA's), (158, 46700),

Gene: Mundrea\_74 Start: 45707, Stop: 45417, Start Num: 74  
Candidate Starts for Mundrea\_74:  
(Start: 74 @45707 has 5 MA's), (Start: 110 @45686 has 24 MA's), (Start: 121 @45668 has 3 MA's), (Start: 124 @45659 has 1 MA's), (153, 45596),

Gene: Museum\_76 Start: 47521, Stop: 47222, Start Num: 92  
Candidate Starts for Museum\_76:  
(Start: 70 @47551 has 1 MA's), (Start: 92 @47521 has 199 MA's), (122, 47476), (123, 47473), (152, 47404), (161, 47353),

Gene: MyraDee\_79 Start: 44293, Stop: 44003, Start Num: 104  
Candidate Starts for MyraDee\_79:  
(Start: 104 @44293 has 1 MA's), (127, 44254),

Gene: Myxus\_87 Start: 48032, Stop: 47766, Start Num: 120  
Candidate Starts for Myxus\_87:  
(Start: 108 @48050 has 18 MA's), (Start: 120 @48032 has 17 MA's), (128, 48011), (158, 47915),

Gene: NEHalo\_72 Start: 46331, Stop: 46032, Start Num: 92  
Candidate Starts for NEHalo\_72:  
(Start: 70 @46361 has 1 MA's), (Start: 92 @46331 has 199 MA's), (122, 46286), (123, 46283), (152, 46214), (161, 46163),

Gene: NaSiaTalie\_84 Start: 47457, Stop: 47146, Start Num: 85  
Candidate Starts for NaSiaTalie\_84:  
(Start: 85 @47457 has 34 MA's), (99, 47445), (Start: 120 @47415 has 17 MA's), (122, 47409), (128, 47394),

Gene: Naca\_73 Start: 45403, Stop: 45119, Start Num: 105  
Candidate Starts for Naca\_73:  
(Start: 96 @45415 has 3 MA's), (Start: 105 @45403 has 5 MA's), (123, 45376), (158, 45271), (161, 45247),

Gene: Naira\_78 Start: 48004, Stop: 47705, Start Num: 92  
Candidate Starts for Naira\_78:  
(65, 48064), (Start: 92 @48004 has 199 MA's), (122, 47959), (123, 47956), (152, 47887), (161, 47836),

Gene: Nebs\_76 Start: 45687, Stop: 45388, Start Num: 76  
Candidate Starts for Nebs\_76:  
(Start: 76 @45687 has 117 MA's), (Start: 114 @45645 has 97 MA's),

Gene: Neeharika16\_82 Start: 45659, Stop: 45369, Start Num: 78  
Candidate Starts for Neeharika16\_82:  
(29, 45803), (37, 45773), (59, 45707), (Start: 63 @45701 has 1 MA's), (Start: 78 @45659 has 16 MA's), (Start: 121 @45617 has 3 MA's), (122, 45614), (Start: 124 @45608 has 1 MA's), (125, 45605), (Start: 129 @45596 has 2 MA's), (153, 45539),

Gene: Nemo27\_74 Start: 45643, Stop: 45344, Start Num: 76  
Candidate Starts for Nemo27\_74:  
(Start: 76 @45643 has 117 MA's), (Start: 114 @45601 has 97 MA's),

Gene: Nerujay\_80 Start: 48773, Stop: 48474, Start Num: 92  
Candidate Starts for Nerujay\_80:  
(26, 48980), (28, 48953), (36, 48911), (37, 48908), (41, 48881), (45, 48869), (50, 48860), (56, 48845),  
(65, 48830), (77, 48791), (Start: 92 @48773 has 199 MA's), (122, 48728), (123, 48725), (152, 48656),  
(161, 48605),

Gene: Newrala\_82 Start: 45995, Stop: 45705, Start Num: 78  
Candidate Starts for Newrala\_82:  
(29, 46139), (37, 46109), (59, 46043), (Start: 63 @46037 has 1 MA's), (Start: 78 @45995 has 16 MA's),  
(Start: 121 @45953 has 3 MA's), (122, 45950), (Start: 124 @45944 has 1 MA's), (125, 45941), (Start:  
129 @45932 has 2 MA's), (153, 45875),

Gene: Nhonho\_72 Start: 46492, Stop: 46193, Start Num: 92  
Candidate Starts for Nhonho\_72:  
(86, 46501), (Start: 92 @46492 has 199 MA's), (122, 46447), (123, 46444), (152, 46375), (161, 46324),

Gene: NicoleTera\_81 Start: 47391, Stop: 47083, Start Num: 85  
Candidate Starts for NicoleTera\_81:  
(Start: 85 @47391 has 34 MA's), (Start: 120 @47352 has 17 MA's), (128, 47331),

Gene: Niza\_76 Start: 47804, Stop: 47505, Start Num: 92  
Candidate Starts for Niza\_76:  
(Start: 70 @47834 has 1 MA's), (Start: 92 @47804 has 199 MA's), (122, 47759), (123, 47756), (152,  
47687), (161, 47636),

Gene: Noella\_80 Start: 46000, Stop: 45722, Start Num: 114  
Candidate Starts for Noella\_80:  
(Start: 93 @46021 has 4 MA's), (Start: 110 @46003 has 24 MA's), (Start: 114 @46000 has 97 MA's),

Gene: Noelle\_75 Start: 46056, Stop: 45739, Start Num: 55  
Candidate Starts for Noelle\_75:  
(Start: 54 @46059 has 2 MA's), (Start: 55 @46056 has 13 MA's), (Start: 67 @46038 has 2 MA's), (68,  
46035), (Start: 121 @45990 has 3 MA's), (140, 45951), (153, 45918),

Gene: Norbert\_75 Start: 46000, Stop: 45719, Start Num: 110  
Candidate Starts for Norbert\_75:  
(Start: 93 @46018 has 4 MA's), (Start: 110 @46000 has 24 MA's), (Start: 114 @45997 has 97 MA's),

Gene: NorthStar\_72 Start: 45647, Stop: 45348, Start Num: 76  
Candidate Starts for NorthStar\_72:  
(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: Norz\_72 Start: 47994, Stop: 47695, Start Num: 92  
Candidate Starts for Norz\_72:  
(65, 48054), (Start: 92 @47994 has 199 MA's), (122, 47949), (123, 47946), (152, 47877), (161, 47826),

Gene: NotAPhaseMom\_74 Start: 45648, Stop: 45349, Start Num: 76  
Candidate Starts for NotAPhaseMom\_74:  
(Start: 76 @45648 has 117 MA's), (Start: 114 @45606 has 97 MA's),

Gene: NothingSpecial\_78 Start: 47348, Stop: 47028, Start Num: 83  
Candidate Starts for NothingSpecial\_78:  
(1, 48203), (7, 47891), (19, 47591), (Start: 83 @47348 has 3 MA's), (Start: 95 @47333 has 8 MA's),  
(107, 47315), (118, 47300), (123, 47288), (170, 47120),

Gene: Nyxis\_74 Start: 45526, Stop: 45227, Start Num: 76  
Candidate Starts for Nyxis\_74:  
(Start: 76 @45526 has 117 MA's), (Start: 114 @45484 has 97 MA's),

Gene: OKCentral2016\_82 Start: 47617, Stop: 47324, Start Num: 106  
Candidate Starts for OKCentral2016\_82:  
(15, 47977), (23, 47881), (Start: 106 @47617 has 13 MA's), (134, 47563),

Gene: OKaNui\_74 Start: 45697, Stop: 45398, Start Num: 76  
Candidate Starts for OKaNui\_74:  
(Start: 76 @45697 has 117 MA's), (Start: 114 @45655 has 97 MA's),

Gene: Obama12\_76 Start: 46071, Stop: 45769, Start Num: 76  
Candidate Starts for Obama12\_76:  
(Start: 76 @46071 has 117 MA's), (Start: 114 @46029 has 97 MA's), (153, 45951),

Gene: Ohfah\_76 Start: 45687, Stop: 45388, Start Num: 76  
Candidate Starts for Ohfah\_76:  
(Start: 76 @45687 has 117 MA's), (Start: 114 @45645 has 97 MA's),

Gene: Ohno789\_79 Start: 48554, Stop: 48255, Start Num: 92  
Candidate Starts for Ohno789\_79:  
(Start: 70 @48584 has 1 MA's), (Start: 92 @48554 has 199 MA's), (122, 48509), (123, 48506), (152,  
48437), (161, 48386),

Gene: OlanP\_78 Start: 45614, Stop: 45351, Start Num: 114  
Candidate Starts for OlanP\_78:  
(71, 45677), (Start: 79 @45659 has 2 MA's), (Start: 114 @45614 has 97 MA's), (123, 45593),

Gene: Ollie\_80 Start: 45498, Stop: 45235, Start Num: 114  
Candidate Starts for Ollie\_80:  
(71, 45561), (Start: 79 @45543 has 2 MA's), (Start: 114 @45498 has 97 MA's), (123, 45477),

Gene: Onglai\_85 Start: 46179, Stop: 45916, Start Num: 120  
Candidate Starts for Onglai\_85:  
(Start: 108 @46197 has 18 MA's), (Start: 120 @46179 has 17 MA's), (128, 46158), (158, 46062),

Gene: Oogway\_75 Start: 47385, Stop: 47086, Start Num: 92  
Candidate Starts for Oogway\_75:  
(65, 47445), (Start: 92 @47385 has 199 MA's), (122, 47340), (123, 47337), (152, 47268), (161, 47217),

Gene: Orange\_84 Start: 46388, Stop: 46092, Start Num: 98  
Candidate Starts for Orange\_84:  
(Start: 98 @46388 has 24 MA's), (109, 46379), (112, 46376), (125, 46349), (Start: 129 @46340 has 2  
MA's), (158, 46250),

Gene: P28Green\_80 Start: 45633, Stop: 45370, Start Num: 114

Candidate Starts for P28Green\_80:  
(71, 45696), (Start: 79 @45678 has 2 MA's), (Start: 114 @45633 has 97 MA's), (123, 45612),

Gene: PGHhamlin\_82 Start: 45619, Stop: 45356, Start Num: 114  
Candidate Starts for PGHhamlin\_82:  
(71, 45682), (Start: 79 @45664 has 2 MA's), (Start: 114 @45619 has 97 MA's),

Gene: PP\_76 Start: 49639, Stop: 49325, Start Num: 72  
Candidate Starts for PP\_76:  
(62, 49672), (Start: 72 @49639 has 1 MA's), (Start: 74 @49633 has 5 MA's), (Start: 97 @49600 has 1 MA's), (Start: 114 @49576 has 97 MA's), (122, 49558), (126, 49546),

Gene: PSullivan\_74 Start: 45604, Stop: 45305, Start Num: 92  
Candidate Starts for PSullivan\_74:  
(Start: 70 @45634 has 1 MA's), (Start: 92 @45604 has 199 MA's), (122, 45559), (123, 45556), (152, 45487), (161, 45436),

Gene: PacerPaul\_81 Start: 48867, Stop: 48568, Start Num: 92  
Candidate Starts for PacerPaul\_81:  
(65, 48927), (Start: 92 @48867 has 199 MA's), (122, 48822), (123, 48819), (152, 48750), (161, 48699),

Gene: PainterBoy\_82 Start: 46744, Stop: 46481, Start Num: 108  
Candidate Starts for PainterBoy\_82:  
(9, 47308), (24, 46990), (Start: 108 @46744 has 18 MA's), (128, 46708), (Start: 129 @46705 has 2 MA's),

Gene: Palestino\_74 Start: 45644, Stop: 45345, Start Num: 76  
Candidate Starts for Palestino\_74:  
(Start: 76 @45644 has 117 MA's), (Start: 114 @45602 has 97 MA's),

Gene: Panamaxus\_76 Start: 45999, Stop: 45721, Start Num: 114  
Candidate Starts for Panamaxus\_76:  
(Start: 93 @46020 has 4 MA's), (Start: 110 @46002 has 24 MA's), (Start: 114 @45999 has 97 MA's), (123, 45981),

Gene: Papez\_78 Start: 47995, Stop: 47696, Start Num: 92  
Candidate Starts for Papez\_78:  
(65, 48055), (Start: 92 @47995 has 199 MA's), (122, 47950), (123, 47947), (152, 47878), (161, 47827),

Gene: Paphu\_71 Start: 46029, Stop: 45730, Start Num: 92  
Candidate Starts for Paphu\_71:  
(Start: 70 @46059 has 1 MA's), (Start: 92 @46029 has 199 MA's), (122, 45984), (123, 45981), (152, 45912), (161, 45861),

Gene: Paraselene\_74 Start: 46678, Stop: 46379, Start Num: 92  
Candidate Starts for Paraselene\_74:  
(65, 46738), (Start: 92 @46678 has 199 MA's), (122, 46633), (123, 46630), (152, 46561), (161, 46510),

Gene: Pari\_81 Start: 47398, Stop: 47099, Start Num: 92  
Candidate Starts for Pari\_81:  
(Start: 70 @47428 has 1 MA's), (Start: 92 @47398 has 199 MA's), (122, 47353), (123, 47350), (152, 47281), (161, 47230),



Gene: Parliament\_77 Start: 49579, Stop: 49280, Start Num: 92  
Candidate Starts for Parliament\_77:  
(Start: 70 @49609 has 1 MA's), (Start: 92 @49579 has 199 MA's), (122, 49534), (123, 49531), (152, 49462), (161, 49411),

Gene: PascalRango\_74 Start: 46673, Stop: 46374, Start Num: 92  
Candidate Starts for PascalRango\_74:  
(Start: 70 @46703 has 1 MA's), (Start: 92 @46673 has 199 MA's), (122, 46628), (123, 46625), (152, 46556), (161, 46505),

Gene: PattyP\_76 Start: 47227, Stop: 46928, Start Num: 92  
Candidate Starts for PattyP\_76:  
(Start: 70 @47257 has 1 MA's), (Start: 92 @47227 has 199 MA's), (122, 47182), (123, 47179), (152, 47110), (161, 47059),

Gene: Pawn\_78 Start: 45442, Stop: 45179, Start Num: 114  
Candidate Starts for Pawn\_78:  
(71, 45505), (Start: 79 @45487 has 2 MA's), (Start: 114 @45442 has 97 MA's), (123, 45421),

Gene: PeaceMeal1\_80 Start: 47544, Stop: 47254, Start Num: 106  
Candidate Starts for PeaceMeal1\_80:  
(2, 48351), (3, 48330), (4, 48318), (15, 47904), (23, 47808), (Start: 106 @47544 has 13 MA's), (117, 47529), (126, 47511),

Gene: Peaches\_73 Start: 45646, Stop: 45347, Start Num: 76  
Candidate Starts for Peaches\_73:  
(Start: 76 @45646 has 117 MA's), (Start: 114 @45604 has 97 MA's),

Gene: Pelly\_79 Start: 49760, Stop: 49461, Start Num: 92  
Candidate Starts for Pelly\_79:  
(Start: 70 @49790 has 1 MA's), (Start: 92 @49760 has 199 MA's), (122, 49715), (123, 49712), (152, 49643), (161, 49592),

Gene: Pembroke\_80 Start: 45628, Stop: 45365, Start Num: 114  
Candidate Starts for Pembroke\_80:  
(71, 45691), (Start: 79 @45673 has 2 MA's), (Start: 114 @45628 has 97 MA's),

Gene: Penny1\_80 Start: 45631, Stop: 45368, Start Num: 114  
Candidate Starts for Penny1\_80:  
(71, 45694), (Start: 79 @45676 has 2 MA's), (Start: 114 @45631 has 97 MA's), (123, 45610),

Gene: Pepe\_70 Start: 44682, Stop: 44383, Start Num: 92  
Candidate Starts for Pepe\_70:  
(65, 44742), (Start: 92 @44682 has 199 MA's), (122, 44637), (123, 44634), (152, 44565), (161, 44514),

Gene: Perplexer\_74 Start: 45711, Stop: 45394, Start Num: 55  
Candidate Starts for Perplexer\_74:  
(Start: 54 @45714 has 2 MA's), (Start: 55 @45711 has 13 MA's), (65, 45696), (81, 45660), (Start: 121 @45645 has 3 MA's), (140, 45606), (153, 45573),

Gene: Perseus\_76 Start: 48660, Stop: 48361, Start Num: 92  
Candidate Starts for Perseus\_76:

(Start: 70 @48690 has 1 MA's), (Start: 92 @48660 has 199 MA's), (122, 48615), (123, 48612), (152, 48543), (161, 48492),

Gene: PeterPeter\_75 Start: 45641, Stop: 45342, Start Num: 76  
Candidate Starts for PeterPeter\_75:  
(Start: 76 @45641 has 117 MA's), (Start: 114 @45599 has 97 MA's),

Gene: Petersenfast\_78 Start: 45269, Stop: 44973, Start Num: 98  
Candidate Starts for Petersenfast\_78:  
(Start: 98 @45269 has 24 MA's), (109, 45260), (112, 45257), (125, 45230), (Start: 129 @45221 has 2 MA's), (158, 45131),

Gene: Peterson\_75 Start: 47826, Stop: 47527, Start Num: 92  
Candidate Starts for Peterson\_75:  
(65, 47886), (Start: 92 @47826 has 199 MA's), (122, 47781), (123, 47778), (152, 47709), (161, 47658),

Gene: PetiteSangsue\_74 Start: 45714, Stop: 45397, Start Num: 55  
Candidate Starts for PetiteSangsue\_74:  
(Start: 54 @45717 has 2 MA's), (Start: 55 @45714 has 13 MA's), (65, 45699), (81, 45663), (Start: 121 @45648 has 3 MA's), (140, 45609), (153, 45576),

Gene: Petp2012\_77 Start: 48008, Stop: 47709, Start Num: 92  
Candidate Starts for Petp2012\_77:  
(65, 48068), (Start: 92 @48008 has 199 MA's), (122, 47963), (123, 47960), (152, 47891), (161, 47840),

Gene: Petruchio\_76 Start: 46087, Stop: 45788, Start Num: 92  
Candidate Starts for Petruchio\_76:  
(Start: 92 @46087 has 199 MA's), (122, 46042), (123, 46039), (152, 45970), (161, 45919),

Gene: PetterN\_78 Start: 45190, Stop: 44906, Start Num: 105  
Candidate Starts for PetterN\_78:  
(Start: 96 @45202 has 3 MA's), (Start: 105 @45190 has 5 MA's), (123, 45163), (158, 45058), (161, 45034),

Gene: Phacado\_75 Start: 45643, Stop: 45344, Start Num: 76  
Candidate Starts for Phacado\_75:  
(Start: 76 @45643 has 117 MA's), (Start: 114 @45601 has 97 MA's),

Gene: Phaded\_76 Start: 48095, Stop: 47787, Start Num: 76  
Candidate Starts for Phaded\_76:  
(Start: 76 @48095 has 117 MA's), (Start: 114 @48053 has 97 MA's), (140, 47993),

Gene: Phaeder\_87 Start: 47907, Stop: 47641, Start Num: 120  
Candidate Starts for Phaeder\_87:  
(Start: 108 @47925 has 18 MA's), (Start: 120 @47907 has 17 MA's), (128, 47886), (158, 47790),

Gene: Phantastic\_80 Start: 45465, Stop: 45187, Start Num: 114  
Candidate Starts for Phantastic\_80:  
(Start: 114 @45465 has 97 MA's),

Gene: Pharaoh\_77 Start: 47219, Stop: 46926, Start Num: 111  
Candidate Starts for Pharaoh\_77:  
(Start: 111 @47219 has 5 MA's), (122, 47195), (123, 47192), (132, 47168), (142, 47135),

Gene: Phelipe\_76 Start: 45687, Stop: 45388, Start Num: 76  
Candidate Starts for Phelipe\_76:  
(Start: 76 @45687 has 117 MA's), (Start: 114 @45645 has 97 MA's),

Gene: PherrisBueller\_75 Start: 44946, Stop: 44647, Start Num: 92  
Candidate Starts for PherrisBueller\_75:  
(65, 45006), (Start: 92 @44946 has 199 MA's), (122, 44901), (123, 44898), (152, 44829), (161, 44778),

Gene: Phighter1804\_75 Start: 45708, Stop: 45409, Start Num: 76  
Candidate Starts for Phighter1804\_75:  
(Start: 76 @45708 has 117 MA's), (Start: 114 @45666 has 97 MA's),

Gene: PhishRPhriends\_76 Start: 44622, Stop: 44359, Start Num: 114  
Candidate Starts for PhishRPhriends\_76:  
(71, 44685), (Start: 79 @44667 has 2 MA's), (Start: 114 @44622 has 97 MA's), (123, 44601),

Gene: Phoebe\_81 Start: 45623, Stop: 45360, Start Num: 114  
Candidate Starts for Phoebe\_81:  
(71, 45686), (Start: 79 @45668 has 2 MA's), (Start: 114 @45623 has 97 MA's), (123, 45602),

Gene: Phonnegut\_87 Start: 47920, Stop: 47657, Start Num: 120  
Candidate Starts for Phonnegut\_87:  
(Start: 108 @47938 has 18 MA's), (Start: 120 @47920 has 17 MA's), (128, 47899), (158, 47803),

Gene: Phontbonne\_75 Start: 45542, Stop: 45243, Start Num: 76  
Candidate Starts for Phontbonne\_75:  
(Start: 76 @45542 has 117 MA's), (Start: 114 @45500 has 97 MA's),

Gene: Phoxy\_80 Start: 45652, Stop: 45389, Start Num: 114  
Candidate Starts for Phoxy\_80:  
(71, 45715), (Start: 79 @45697 has 2 MA's), (Start: 114 @45652 has 97 MA's), (123, 45631),

Gene: PhrostyMug\_78 Start: 48672, Stop: 48373, Start Num: 92  
Candidate Starts for PhrostyMug\_78:  
(Start: 70 @48702 has 1 MA's), (Start: 92 @48672 has 199 MA's), (122, 48627), (123, 48624), (152, 48555), (161, 48504),

Gene: PinkPlastic\_72 Start: 45594, Stop: 45295, Start Num: 92  
Candidate Starts for PinkPlastic\_72:  
(65, 45654), (Start: 92 @45594 has 199 MA's), (122, 45549), (123, 45546), (152, 45477), (161, 45426),

Gene: Pinto\_76 Start: 47457, Stop: 47158, Start Num: 92  
Candidate Starts for Pinto\_76:  
(65, 47517), (Start: 92 @47457 has 199 MA's), (122, 47412), (123, 47409), (133, 47391), (152, 47340), (161, 47289),

Gene: Pioneer\_87 Start: 47920, Stop: 47657, Start Num: 120  
Candidate Starts for Pioneer\_87:  
(Start: 108 @47938 has 18 MA's), (Start: 120 @47920 has 17 MA's), (128, 47899), (158, 47803),

Gene: Pipcraft\_71 Start: 45648, Stop: 45349, Start Num: 76  
Candidate Starts for Pipcraft\_71:

(Start: 76 @45648 has 117 MA's), (Start: 114 @45606 has 97 MA's),

Gene: Pippin\_77 Start: 47099, Stop: 46800, Start Num: 92

Candidate Starts for Pippin\_77:

(65, 47159), (Start: 92 @47099 has 199 MA's), (122, 47054), (123, 47051), (152, 46982), (161, 46931),

Gene: Piro94\_82 Start: 47405, Stop: 47094, Start Num: 85

Candidate Starts for Piro94\_82:

(Start: 85 @47405 has 34 MA's), (99, 47393), (122, 47357), (128, 47342),

Gene: Pistachio\_79 Start: 45583, Stop: 45311, Start Num: 114

Candidate Starts for Pistachio\_79:

(Start: 114 @45583 has 97 MA's),

Gene: Pita2\_77 Start: 47100, Stop: 46801, Start Num: 92

Candidate Starts for Pita2\_77:

(Start: 70 @47130 has 1 MA's), (Start: 92 @47100 has 199 MA's), (122, 47055), (123, 47052), (152, 46983), (161, 46932),

Gene: Pmask\_82 Start: 46196, Stop: 45906, Start Num: 78

Candidate Starts for Pmask\_82:

(29, 46340), (37, 46310), (59, 46244), (Start: 63 @46238 has 1 MA's), (Start: 78 @46196 has 16 MA's), (Start: 121 @46154 has 3 MA's), (122, 46151), (Start: 124 @46145 has 1 MA's), (125, 46142), (Start: 129 @46133 has 2 MA's), (153, 46076),

Gene: Pocahontas\_78 Start: 45995, Stop: 45717, Start Num: 114

Candidate Starts for Pocahontas\_78:

(Start: 93 @46016 has 4 MA's), (Start: 110 @45998 has 24 MA's), (Start: 114 @45995 has 97 MA's), (123, 45977),

Gene: Polymorphads\_76 Start: 45668, Stop: 45369, Start Num: 76

Candidate Starts for Polymorphads\_76:

(Start: 76 @45668 has 117 MA's),

Gene: Pomar16\_83 Start: 47270, Stop: 46992, Start Num: 110

Candidate Starts for Pomar16\_83:

(Start: 110 @47270 has 24 MA's), (125, 47237), (128, 47231), (164, 47096),

Gene: Poompha\_80 Start: 47542, Stop: 47252, Start Num: 106

Candidate Starts for Poompha\_80:

(21, 47818), (Start: 106 @47542 has 13 MA's), (117, 47527), (126, 47509),

Gene: Popcicle\_79 Start: 45995, Stop: 45717, Start Num: 114

Candidate Starts for Popcicle\_79:

(Start: 93 @46016 has 4 MA's), (Start: 110 @45998 has 24 MA's), (Start: 114 @45995 has 97 MA's), (123, 45977),

Gene: PotatoSplit\_81 Start: 45631, Stop: 45368, Start Num: 114

Candidate Starts for PotatoSplit\_81:

(71, 45694), (Start: 79 @45676 has 2 MA's), (Start: 114 @45631 has 97 MA's), (123, 45610),

Gene: Power\_83 Start: 47968, Stop: 47660, Start Num: 89

Candidate Starts for Power\_83:

(Start: 89 @47968 has 18 MA's), (122, 47920), (128, 47905), (146, 47863), (168, 47746),

Gene: Priamo\_85 Start: 45857, Stop: 45609, Start Num: 121

Candidate Starts for Priamo\_85:

(Start: 78 @45899 has 16 MA's), (Start: 121 @45857 has 3 MA's), (122, 45854), (Start: 124 @45848 has 1 MA's), (125, 45845), (Start: 129 @45836 has 2 MA's), (153, 45779),

Gene: Priya\_85 Start: 47691, Stop: 47428, Start Num: 120

Candidate Starts for Priya\_85:

(Start: 108 @47709 has 18 MA's), (Start: 120 @47691 has 17 MA's), (128, 47670), (158, 47574),

Gene: Pukovnik\_77 Start: 47566, Stop: 47252, Start Num: 76

Candidate Starts for Pukovnik\_77:

(Start: 76 @47566 has 117 MA's), (Start: 114 @47524 has 97 MA's), (153, 47446), (170, 47344),

Gene: Pumbaa\_75 Start: 45592, Stop: 45293, Start Num: 76

Candidate Starts for Pumbaa\_75:

(Start: 76 @45592 has 117 MA's), (Start: 114 @45550 has 97 MA's),

Gene: Puppy\_80 Start: 45653, Stop: 45381, Start Num: 114

Candidate Starts for Puppy\_80:

(Start: 114 @45653 has 97 MA's),

Gene: PurpleHaze\_79 Start: 45438, Stop: 45175, Start Num: 114

Candidate Starts for PurpleHaze\_79:

(71, 45501), (Start: 79 @45483 has 2 MA's), (Start: 114 @45438 has 97 MA's), (123, 45417),

Gene: QTRlifeCrisis\_75 Start: 46442, Stop: 46143, Start Num: 92

Candidate Starts for QTRlifeCrisis\_75:

(Start: 92 @46442 has 199 MA's), (122, 46397), (123, 46394), (152, 46325), (161, 46274),

Gene: Qobbit\_85 Start: 47653, Stop: 47390, Start Num: 120

Candidate Starts for Qobbit\_85:

(Start: 108 @47671 has 18 MA's), (Start: 120 @47653 has 17 MA's), (128, 47632), (158, 47536),

Gene: QueenB2\_80 Start: 47058, Stop: 46753, Start Num: 89

Candidate Starts for QueenB2\_80:

(Start: 89 @47058 has 18 MA's), (122, 47013), (168, 46839),

Gene: QueenBeesly\_83 Start: 47765, Stop: 47457, Start Num: 89

Candidate Starts for QueenBeesly\_83:

(Start: 89 @47765 has 18 MA's), (122, 47717), (128, 47702), (146, 47660), (168, 47543),

Gene: QuinnKiro\_78 Start: 46001, Stop: 45720, Start Num: 110

Candidate Starts for QuinnKiro\_78:

(Start: 93 @46019 has 4 MA's), (Start: 110 @46001 has 24 MA's), (Start: 114 @45998 has 97 MA's), (123, 45980),

Gene: Quokka\_85 Start: 46815, Stop: 46540, Start Num: 110

Candidate Starts for Quokka\_85:

(24, 47064), (Start: 110 @46815 has 24 MA's), (Start: 121 @46794 has 3 MA's), (125, 46782),

Gene: Rachaly\_80 Start: 46883, Stop: 46569, Start Num: 73

Candidate Starts for Rachaly\_80:  
(Start: 73 @46883 has 5 MA's), (100, 46856), (107, 46847), (154, 46760),

Gene: Rahalelujah\_86 Start: 47466, Stop: 47197, Start Num: 108  
Candidate Starts for Rahalelujah\_86:  
(Start: 108 @47466 has 18 MA's), (Start: 120 @47448 has 17 MA's), (128, 47427),

Gene: Raid\_74 Start: 46344, Stop: 46045, Start Num: 92  
Candidate Starts for Raid\_74:  
(Start: 92 @46344 has 199 MA's), (122, 46299), (123, 46296), (152, 46227), (161, 46176),

Gene: Rajelicia\_78 Start: 49280, Stop: 48981, Start Num: 92  
Candidate Starts for Rajelicia\_78:  
(65, 49340), (Start: 92 @49280 has 199 MA's), (122, 49235), (123, 49232), (152, 49163), (161, 49112),

Gene: Reba\_75 Start: 44278, Stop: 44015, Start Num: 114  
Candidate Starts for Reba\_75:  
(71, 44341), (Start: 79 @44323 has 2 MA's), (Start: 114 @44278 has 97 MA's), (123, 44257),

Gene: Rebeuca\_84 Start: 48801, Stop: 48520, Start Num: 106  
Candidate Starts for Rebeuca\_84:  
(12, 49209), (18, 49113), (Start: 84 @48825 has 1 MA's), (Start: 106 @48801 has 13 MA's),

Gene: RedRock\_83 Start: 48017, Stop: 47718, Start Num: 93  
Candidate Starts for RedRock\_83:  
(Start: 93 @48017 has 4 MA's), (101, 48005), (Start: 103 @48002 has 3 MA's), (Start: 106 @47999 has 13 MA's), (Start: 120 @47978 has 17 MA's), (128, 47957),

Gene: Refuge\_80 Start: 47830, Stop: 47555, Start Num: 111  
Candidate Starts for Refuge\_80:  
(Start: 111 @47830 has 5 MA's), (Start: 121 @47809 has 3 MA's), (130, 47785), (136, 47773),

Gene: Relief\_74 Start: 45644, Stop: 45345, Start Num: 76  
Candidate Starts for Relief\_74:  
(Start: 76 @45644 has 117 MA's), (Start: 114 @45602 has 97 MA's),

Gene: ResDef\_77 Start: 46001, Stop: 45723, Start Num: 114  
Candidate Starts for ResDef\_77:  
(Start: 93 @46022 has 4 MA's), (Start: 110 @46004 has 24 MA's), (Start: 114 @46001 has 97 MA's), (123, 45983),

Gene: Retro23\_83 Start: 47489, Stop: 47184, Start Num: 89  
Candidate Starts for Retro23\_83:  
(Start: 89 @47489 has 18 MA's), (122, 47444), (128, 47429), (146, 47387), (168, 47270),

Gene: RhynO\_71 Start: 44245, Stop: 43955, Start Num: 106  
Candidate Starts for RhynO\_71:  
(Start: 106 @44245 has 13 MA's),

Gene: Rhynn\_72 Start: 46867, Stop: 46568, Start Num: 92  
Candidate Starts for Rhynn\_72:  
(Start: 70 @46897 has 1 MA's), (Start: 92 @46867 has 199 MA's), (122, 46822), (123, 46819), (152, 46750), (155, 46738), (161, 46699),

Gene: Rifter\_84 Start: 45121, Stop: 44810, Start Num: 138

Candidate Starts for Rifter\_84:

(14, 45574), (32, 45367), (35, 45361), (102, 45193), (Start: 138 @45121 has 19 MA's), (142, 45103), (144, 45100), (145, 45097), (147, 45094), (150, 45085), (151, 45079), (152, 45076), (157, 45055), (163, 45019),

Gene: Ringer\_76 Start: 47812, Stop: 47513, Start Num: 92

Candidate Starts for Ringer\_76:

(86, 47821), (Start: 92 @47812 has 199 MA's), (122, 47767), (123, 47764), (152, 47695), (161, 47644),

Gene: Rohr\_79 Start: 49063, Stop: 48764, Start Num: 92

Candidate Starts for Rohr\_79:

(65, 49123), (Start: 92 @49063 has 199 MA's), (122, 49018), (123, 49015), (152, 48946), (161, 48895),

Gene: Roksolana\_84 Start: 45837, Stop: 45574, Start Num: 138

Candidate Starts for Roksolana\_84:

(27, 46137), (33, 46080), (35, 46077), (44, 46032), (102, 45909), (Start: 138 @45837 has 19 MA's), (144, 45825), (147, 45819), (157, 45780),

Gene: Romney\_74 Start: 45644, Stop: 45345, Start Num: 76

Candidate Starts for Romney\_74:

(Start: 76 @45644 has 117 MA's), (Start: 114 @45602 has 97 MA's),

Gene: Roosevelt\_73 Start: 45649, Stop: 45350, Start Num: 76

Candidate Starts for Roosevelt\_73:

(Start: 76 @45649 has 117 MA's), (Start: 114 @45607 has 97 MA's),

Gene: Rosa24\_71 Start: 45675, Stop: 45376, Start Num: 76

Candidate Starts for Rosa24\_71:

(Start: 76 @45675 has 117 MA's), (Start: 114 @45633 has 97 MA's),

Gene: Rowdy\_86 Start: 48631, Stop: 48341, Start Num: 106

Candidate Starts for Rowdy\_86:

(Start: 106 @48631 has 13 MA's),

Gene: Rubeus\_77 Start: 45563, Stop: 45264, Start Num: 92

Candidate Starts for Rubeus\_77:

(65, 45623), (Start: 92 @45563 has 199 MA's), (122, 45518), (123, 45515), (152, 45446), (161, 45395),

Gene: Rufus\_79 Start: 48252, Stop: 47953, Start Num: 92

Candidate Starts for Rufus\_79:

(65, 48312), (Start: 92 @48252 has 199 MA's), (122, 48207), (123, 48204), (152, 48135), (161, 48084),

Gene: Ruin\_75 Start: 45640, Stop: 45341, Start Num: 76

Candidate Starts for Ruin\_75:

(Start: 76 @45640 has 117 MA's), (Start: 114 @45598 has 97 MA's),

Gene: Rummer\_79 Start: 45655, Stop: 45392, Start Num: 114

Candidate Starts for Rummer\_79:

(71, 45718), (Start: 79 @45700 has 2 MA's), (Start: 114 @45655 has 97 MA's), (123, 45634),

Gene: Ruotula\_80 Start: 48665, Stop: 48366, Start Num: 92

Candidate Starts for Ruotula\_80:

(Start: 92 @48665 has 199 MA's), (100, 48653), (122, 48620), (123, 48617), (152, 48548), (161, 48497),

Gene: Rutherferd\_78 Start: 47832, Stop: 47533, Start Num: 92

Candidate Starts for Rutherferd\_78:

(Start: 92 @47832 has 199 MA's), (122, 47787), (123, 47784), (152, 47715), (161, 47664),

Gene: RyeScarlet\_88 Start: 47915, Stop: 47631, Start Num: 108

Candidate Starts for RyeScarlet\_88:

(Start: 108 @47915 has 18 MA's), (128, 47876), (158, 47780),

Gene: STLscum\_82 Start: 47874, Stop: 47575, Start Num: 92

Candidate Starts for STLscum\_82:

(Start: 70 @47904 has 1 MA's), (Start: 92 @47874 has 199 MA's), (122, 47829), (123, 47826), (152, 47757), (161, 47706),

Gene: Sabertooth\_75 Start: 45652, Stop: 45353, Start Num: 76

Candidate Starts for Sabertooth\_75:

(Start: 76 @45652 has 117 MA's), (Start: 114 @45610 has 97 MA's),

Gene: Sabia\_78 Start: 45635, Stop: 45372, Start Num: 114

Candidate Starts for Sabia\_78:

(71, 45698), (Start: 79 @45680 has 2 MA's), (Start: 114 @45635 has 97 MA's),

Gene: Sabinator\_78 Start: 45629, Stop: 45366, Start Num: 114

Candidate Starts for Sabinator\_78:

(71, 45692), (Start: 79 @45674 has 2 MA's), (Start: 114 @45629 has 97 MA's), (123, 45608),

Gene: Sachima\_83 Start: 47953, Stop: 47669, Start Num: 108

Candidate Starts for Sachima\_83:

(Start: 108 @47953 has 18 MA's), (128, 47914), (158, 47818),

Gene: Sagefire\_73 Start: 46922, Stop: 46623, Start Num: 92

Candidate Starts for Sagefire\_73:

(65, 46982), (Start: 92 @46922 has 199 MA's), (122, 46877), (123, 46874), (152, 46805), (161, 46754),

Gene: Salz\_79 Start: 45184, Stop: 44888, Start Num: 98

Candidate Starts for Salz\_79:

(Start: 98 @45184 has 24 MA's), (109, 45175), (125, 45145), (Start: 129 @45136 has 2 MA's), (158, 45046),

Gene: Sandaddy\_74 Start: 47254, Stop: 46955, Start Num: 92

Candidate Starts for Sandaddy\_74:

(Start: 70 @47284 has 1 MA's), (Start: 92 @47254 has 199 MA's), (122, 47209), (123, 47206), (152, 47137), (161, 47086),

Gene: Sanya\_71 Start: 47559, Stop: 47260, Start Num: 92

Candidate Starts for Sanya\_71:

(65, 47619), (Start: 92 @47559 has 199 MA's), (122, 47514), (123, 47511), (152, 47442),

Gene: SarFire\_80 Start: 48896, Stop: 48597, Start Num: 92

Candidate Starts for SarFire\_80:



(65, 48956), (Start: 92 @48896 has 199 MA's), (122, 48851), (123, 48848), (152, 48779), (161, 48728),

Gene: SaturnRing\_79 Start: 46036, Stop: 45764, Start Num: 114

Candidate Starts for SaturnRing\_79:

(Start: 114 @46036 has 97 MA's),

Gene: Scamp\_75 Start: 45649, Stop: 45350, Start Num: 76

Candidate Starts for Scamp\_75:

(Start: 76 @45649 has 117 MA's), (Start: 114 @45607 has 97 MA's),

Gene: Scherzo\_85 Start: 47952, Stop: 47689, Start Num: 120

Candidate Starts for Scherzo\_85:

(Start: 108 @47970 has 18 MA's), (Start: 120 @47952 has 17 MA's), (128, 47931), (158, 47835),

Gene: Scout\_78 Start: 45217, Stop: 44933, Start Num: 114

Candidate Starts for Scout\_78:

(Start: 114 @45217 has 97 MA's), (166, 45013),

Gene: Scowl\_77 Start: 47219, Stop: 46920, Start Num: 92

Candidate Starts for Scowl\_77:

(65, 47279), (Start: 92 @47219 has 199 MA's), (122, 47174), (123, 47171), (152, 47102), (161, 47051),

Gene: Seabiscuit\_77 Start: 46319, Stop: 46020, Start Num: 92

Candidate Starts for Seabiscuit\_77:

(65, 46379), (Start: 92 @46319 has 199 MA's), (122, 46274), (123, 46271), (152, 46202), (161, 46151),

Gene: Seanderson\_76 Start: 48623, Stop: 48324, Start Num: 92

Candidate Starts for Seanderson\_76:

(65, 48683), (Start: 92 @48623 has 199 MA's), (122, 48578), (123, 48575), (152, 48506), (161, 48455),

Gene: SemperFi\_83 Start: 47653, Stop: 47345, Start Num: 89

Candidate Starts for SemperFi\_83:

(Start: 89 @47653 has 18 MA's), (122, 47605), (128, 47590), (146, 47548), (168, 47431),

Gene: SenorClean\_70 Start: 45647, Stop: 45348, Start Num: 76

Candidate Starts for SenorClean\_70:

(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: Serenity\_86 Start: 46855, Stop: 46580, Start Num: 110

Candidate Starts for Serenity\_86:

(24, 47104), (Start: 110 @46855 has 24 MA's), (123, 46828), (125, 46822), (128, 46816),

Gene: Severus\_81 Start: 47539, Stop: 47252, Start Num: 106

Candidate Starts for Severus\_81:

(2, 48346), (3, 48325), (4, 48313), (15, 47899), (23, 47803), (Start: 106 @47539 has 13 MA's), (117, 47524), (126, 47506),

Gene: Shaka\_73 Start: 45645, Stop: 45346, Start Num: 76

Candidate Starts for Shaka\_73:

(Start: 76 @45645 has 117 MA's), (Start: 114 @45603 has 97 MA's),

Gene: Sham4\_80 Start: 45270, Stop: 44971, Start Num: 98

Candidate Starts for Sham4\_80:

(Start: 98 @45270 has 24 MA's), (109, 45261), (125, 45231), (Start: 129 @45222 has 2 MA's), (158, 45132),

Gene: Shapes\_86 Start: 48631, Stop: 48341, Start Num: 106

Candidate Starts for Shapes\_86:

(Start: 106 @48631 has 13 MA's),

Gene: SheaKeira\_82 Start: 47212, Stop: 46940, Start Num: 108

Candidate Starts for SheaKeira\_82:

(Start: 108 @47212 has 18 MA's), (Start: 120 @47194 has 17 MA's), (128, 47173),

Gene: Sheen\_75 Start: 48554, Stop: 48285, Start Num: 106

Candidate Starts for Sheen\_75:

(30, 48746), (34, 48728), (49, 48674), (51, 48671), (Start: 106 @48554 has 13 MA's), (Start: 116 @48542 has 4 MA's), (130, 48506), (135, 48500), (149, 48464), (158, 48425), (161, 48401),

Gene: SheldonCooper\_75 Start: 46085, Stop: 45786, Start Num: 76

Candidate Starts for SheldonCooper\_75:

(Start: 76 @46085 has 117 MA's), (Start: 114 @46043 has 97 MA's),

Gene: ShortQueendom\_69 Start: 44928, Stop: 44629, Start Num: 92

Candidate Starts for ShortQueendom\_69:

(65, 44988), (Start: 92 @44928 has 199 MA's), (122, 44883), (123, 44880), (152, 44811), (161, 44760),

Gene: Shygu2\_74 Start: 45745, Stop: 45449, Start Num: 76

Candidate Starts for Shygu2\_74:

(Start: 76 @45745 has 117 MA's), (Start: 114 @45703 has 97 MA's), (153, 45625),

Gene: Sibs6\_76 Start: 44568, Stop: 44269, Start Num: 92

Candidate Starts for Sibs6\_76:

(Start: 70 @44598 has 1 MA's), (Start: 92 @44568 has 199 MA's), (122, 44523), (123, 44520), (152, 44451), (161, 44400),

Gene: SkiPole\_85 Start: 48224, Stop: 47925, Start Num: 92

Candidate Starts for SkiPole\_85:

(65, 48284), (Start: 92 @48224 has 199 MA's), (122, 48179), (123, 48176), (152, 48107), (161, 48056),

Gene: Skipitt\_74 Start: 45641, Stop: 45342, Start Num: 76

Candidate Starts for Skipitt\_74:

(Start: 76 @45641 has 117 MA's), (Start: 114 @45599 has 97 MA's),

Gene: Sknot\_83 Start: 47264, Stop: 46953, Start Num: 85

Candidate Starts for Sknot\_83:

(Start: 85 @47264 has 34 MA's), (99, 47252), (Start: 120 @47222 has 17 MA's), (122, 47216), (128, 47201),

Gene: Slagathor\_77 Start: 48080, Stop: 47781, Start Num: 92

Candidate Starts for Slagathor\_77:

(65, 48140), (Start: 92 @48080 has 199 MA's), (122, 48035), (123, 48032), (152, 47963), (161, 47912),

Gene: Smairt\_80 Start: 49688, Stop: 49389, Start Num: 92

Candidate Starts for Smairt\_80:

(Start: 70 @49718 has 1 MA's), (Start: 92 @49688 has 199 MA's), (122, 49643), (123, 49640), (152, 49571), (161, 49520),

Gene: Smeagan\_86 Start: 48201, Stop: 47893, Start Num: 85

Candidate Starts for Smeagan\_86:

(Start: 85 @48201 has 34 MA's), (Start: 89 @48198 has 18 MA's), (Start: 120 @48156 has 17 MA's), (122, 48150), (128, 48135), (168, 47976),

Gene: SmellyB\_83 Start: 45554, Stop: 45264, Start Num: 78

Candidate Starts for SmellyB\_83:

(29, 45698), (37, 45668), (59, 45602), (Start: 63 @45596 has 1 MA's), (Start: 78 @45554 has 16 MA's), (Start: 121 @45512 has 3 MA's), (122, 45509), (Start: 124 @45503 has 1 MA's), (125, 45500), (Start: 129 @45491 has 2 MA's), (153, 45434), (156, 45419),

Gene: SnapTap\_83 Start: 47624, Stop: 47316, Start Num: 89

Candidate Starts for SnapTap\_83:

(Start: 89 @47624 has 18 MA's), (122, 47576), (128, 47561), (146, 47519), (168, 47402),

Gene: Snape\_84 Start: 46377, Stop: 46081, Start Num: 98

Candidate Starts for Snape\_84:

(Start: 98 @46377 has 24 MA's), (109, 46368), (125, 46338), (Start: 129 @46329 has 2 MA's), (158, 46239),

Gene: Snazzy\_77 Start: 47731, Stop: 47432, Start Num: 92

Candidate Starts for Snazzy\_77:

(65, 47791), (Start: 92 @47731 has 199 MA's), (122, 47686), (123, 47683), (152, 47614), (161, 47563),

Gene: Snickers\_76 Start: 45600, Stop: 45337, Start Num: 114

Candidate Starts for Snickers\_76:

(71, 45663), (Start: 79 @45645 has 2 MA's), (Start: 114 @45600 has 97 MA's), (123, 45579),

Gene: SoYo\_77 Start: 45543, Stop: 45280, Start Num: 114

Candidate Starts for SoYo\_77:

(71, 45606), (Start: 79 @45588 has 2 MA's), (Start: 114 @45543 has 97 MA's), (123, 45522),

Gene: SoilDragon\_80 Start: 45070, Stop: 44807, Start Num: 114

Candidate Starts for SoilDragon\_80:

(71, 45133), (Start: 79 @45115 has 2 MA's), (Start: 114 @45070 has 97 MA's), (123, 45049),

Gene: Solon\_72 Start: 45366, Stop: 45067, Start Num: 92

Candidate Starts for Solon\_72:

(65, 45426), (Start: 92 @45366 has 199 MA's), (122, 45321), (123, 45318), (152, 45249), (161, 45198),

Gene: SororFago\_82 Start: 47294, Stop: 47022, Start Num: 116

Candidate Starts for SororFago\_82:

(46, 47426), (52, 47414), (Start: 116 @47294 has 4 MA's), (130, 47258), (131, 47255), (148, 47210),

Gene: Sorpresa\_75 Start: 47260, Stop: 46961, Start Num: 92

Candidate Starts for Sorpresa\_75:

(Start: 70 @47290 has 1 MA's), (Start: 92 @47260 has 199 MA's), (122, 47215), (123, 47212), (152, 47143), (161, 47092),

Gene: Soshari\_82 Start: 45651, Stop: 45388, Start Num: 114

Candidate Starts for Soshari\_82:  
(71, 45714), (Start: 79 @45696 has 2 MA's), (Start: 114 @45651 has 97 MA's), (123, 45630),

Gene: Sparxx\_76 Start: 45643, Stop: 45344, Start Num: 76  
Candidate Starts for Sparxx\_76:  
(Start: 76 @45643 has 117 MA's), (Start: 114 @45601 has 97 MA's),

Gene: Spike509\_80 Start: 45652, Stop: 45389, Start Num: 114  
Candidate Starts for Spike509\_80:  
(71, 45715), (Start: 79 @45697 has 2 MA's), (Start: 114 @45652 has 97 MA's), (123, 45631),

Gene: SpikeBT\_73 Start: 46188, Stop: 45889, Start Num: 92  
Candidate Starts for SpikeBT\_73:  
(Start: 70 @46218 has 1 MA's), (Start: 92 @46188 has 199 MA's), (122, 46143), (123, 46140), (152, 46071), (161, 46020),

Gene: Spino\_74 Start: 45647, Stop: 45348, Start Num: 76  
Candidate Starts for Spino\_74:  
(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: Spouty\_85 Start: 47708, Stop: 47427, Start Num: 108  
Candidate Starts for Spouty\_85:  
(Start: 108 @47708 has 18 MA's), (Start: 120 @47690 has 17 MA's), (128, 47669), (158, 47573),

Gene: Squee\_77 Start: 46804, Stop: 46505, Start Num: 92  
Candidate Starts for Squee\_77:  
(65, 46864), (Start: 92 @46804 has 199 MA's), (122, 46759), (123, 46756), (152, 46687), (161, 46636),

Gene: Stagni\_77 Start: 45630, Stop: 45367, Start Num: 114  
Candidate Starts for Stagni\_77:  
(71, 45693), (Start: 79 @45675 has 2 MA's), (Start: 114 @45630 has 97 MA's),

Gene: StarStuff\_83 Start: 47232, Stop: 46954, Start Num: 110  
Candidate Starts for StarStuff\_83:  
(Start: 110 @47232 has 24 MA's), (125, 47199), (128, 47193), (164, 47058),

Gene: Stasia\_73 Start: 45644, Stop: 45327, Start Num: 73  
Candidate Starts for Stasia\_73:  
(20, 45875), (38, 45752), (69, 45659), (Start: 73 @45644 has 5 MA's), (Start: 74 @45641 has 5 MA's),  
(Start: 76 @45638 has 117 MA's), (Start: 110 @45599 has 24 MA's),

Gene: Steamy\_75 Start: 46308, Stop: 46036, Start Num: 111  
Candidate Starts for Steamy\_75:  
(Start: 111 @46308 has 5 MA's), (128, 46269), (130, 46263),

Gene: StepMih\_80 Start: 45621, Stop: 45358, Start Num: 114  
Candidate Starts for StepMih\_80:  
(71, 45684), (Start: 79 @45666 has 2 MA's), (Start: 114 @45621 has 97 MA's),

Gene: StewieG\_72 Start: 44368, Stop: 44039, Start Num: 70  
Candidate Starts for StewieG\_72:  
(Start: 70 @44368 has 1 MA's), (Start: 92 @44338 has 199 MA's), (122, 44293), (123, 44290), (152, 44221), (161, 44170),

Gene: Stink\_74 Start: 45501, Stop: 45226, Start Num: 110

Candidate Starts for Stink\_74:

(32, 45666), (94, 45522), (Start: 110 @45501 has 24 MA's), (Start: 121 @45483 has 3 MA's), (152, 45414), (171, 45315),

Gene: StrongArm\_72 Start: 46736, Stop: 46437, Start Num: 92

Candidate Starts for StrongArm\_72:

(65, 46796), (Start: 92 @46736 has 199 MA's), (122, 46691), (123, 46688), (152, 46619), (161, 46568),

Gene: Sumter\_73 Start: 47729, Stop: 47430, Start Num: 92

Candidate Starts for Sumter\_73:

(Start: 70 @47759 has 1 MA's), (Start: 92 @47729 has 199 MA's), (122, 47684), (123, 47681), (152, 47612), (161, 47561),

Gene: Sunhee\_83 Start: 45554, Stop: 45309, Start Num: 128

Candidate Starts for Sunhee\_83:

(Start: 116 @45584 has 4 MA's), (128, 45554), (130, 45548), (131, 45545), (139, 45530), (148, 45500),

Gene: Sunshine924\_77 Start: 46251, Stop: 45952, Start Num: 92

Candidate Starts for Sunshine924\_77:

(Start: 92 @46251 has 199 MA's), (122, 46206), (123, 46203), (152, 46134), (161, 46083),

Gene: SuperAwesome\_83 Start: 46235, Stop: 45945, Start Num: 78

Candidate Starts for SuperAwesome\_83:

(29, 46379), (37, 46349), (59, 46283), (Start: 63 @46277 has 1 MA's), (Start: 78 @46235 has 16 MA's), (Start: 121 @46193 has 3 MA's), (122, 46190), (Start: 124 @46184 has 1 MA's), (125, 46181), (Start: 129 @46172 has 2 MA's), (153, 46115),

Gene: SuperCallie99\_80 Start: 46034, Stop: 45786, Start Num: 121

Candidate Starts for SuperCallie99\_80:

(Start: 78 @46076 has 16 MA's), (Start: 121 @46034 has 3 MA's), (122, 46031), (Start: 124 @46025 has 1 MA's), (125, 46022), (Start: 129 @46013 has 2 MA's), (153, 45956),

Gene: SweetiePie\_83 Start: 47757, Stop: 47449, Start Num: 89

Candidate Starts for SweetiePie\_83:

(Start: 89 @47757 has 18 MA's), (122, 47709), (128, 47694), (146, 47652), (168, 47535),

Gene: SwissCheese\_80 Start: 47251, Stop: 46952, Start Num: 92

Candidate Starts for SwissCheese\_80:

(Start: 70 @47281 has 1 MA's), (Start: 92 @47251 has 199 MA's), (122, 47206), (123, 47203), (152, 47134), (161, 47083),

Gene: Switzer\_75 Start: 47195, Stop: 46896, Start Num: 92

Candidate Starts for Switzer\_75:

(65, 47255), (Start: 92 @47195 has 199 MA's), (122, 47150), (123, 47147), (152, 47078), (161, 47027),

Gene: Swole\_77 Start: 47010, Stop: 46711, Start Num: 92

Candidate Starts for Swole\_77:

(Start: 70 @47040 has 1 MA's), (Start: 92 @47010 has 199 MA's), (122, 46965), (123, 46962), (152, 46893), (161, 46842),

Gene: SydNat\_70 Start: 44362, Stop: 44045, Start Num: 95

Candidate Starts for SydNat\_70:

(61, 44434), (Start: 79 @44383 has 2 MA's), (86, 44374), (Start: 95 @44362 has 8 MA's), (Start: 98 @44356 has 24 MA's), (Start: 124 @44320 has 1 MA's), (Start: 129 @44308 has 2 MA's),

Gene: TNguyen7\_80 Start: 45994, Stop: 45722, Start Num: 114

Candidate Starts for TNguyen7\_80:

(Start: 114 @45994 has 97 MA's),

Gene: Taquarus\_74 Start: 45650, Stop: 45351, Start Num: 76

Candidate Starts for Taquarus\_74:

(Start: 76 @45650 has 117 MA's), (Start: 114 @45608 has 97 MA's),

Gene: Target\_76 Start: 45828, Stop: 45529, Start Num: 92

Candidate Starts for Target\_76:

(65, 45888), (Start: 92 @45828 has 199 MA's), (122, 45783), (123, 45780), (152, 45711), (155, 45699), (161, 45660),

Gene: TarsusIV\_82 Start: 47656, Stop: 47333, Start Num: 85

Candidate Starts for TarsusIV\_82:

(22, 47893), (Start: 85 @47656 has 34 MA's), (Start: 120 @47617 has 17 MA's), (122, 47611),

Gene: Tasp14\_75 Start: 47298, Stop: 46999, Start Num: 92

Candidate Starts for Tasp14\_75:

(Start: 70 @47328 has 1 MA's), (Start: 92 @47298 has 199 MA's), (122, 47253), (123, 47250), (152, 47181), (161, 47130),

Gene: Taurus\_81 Start: 45630, Stop: 45367, Start Num: 114

Candidate Starts for Taurus\_81:

(71, 45693), (Start: 79 @45675 has 2 MA's), (Start: 114 @45630 has 97 MA's), (123, 45609),

Gene: Temprado\_85 Start: 45929, Stop: 45678, Start Num: 144

Candidate Starts for Temprado\_85:

(27, 46241), (33, 46184), (35, 46181), (44, 46136), (102, 46013), (Start: 138 @45941 has 19 MA's), (144, 45929), (147, 45923), (157, 45884),

Gene: Teodoridan\_74 Start: 45135, Stop: 44836, Start Num: 92

Candidate Starts for Teodoridan\_74:

(65, 45195), (Start: 92 @45135 has 199 MA's), (122, 45090), (123, 45087), (152, 45018), (161, 44967),

Gene: Texage\_77 Start: 45999, Stop: 45721, Start Num: 114

Candidate Starts for Texage\_77:

(Start: 93 @46020 has 4 MA's), (Start: 110 @46002 has 24 MA's), (Start: 114 @45999 has 97 MA's),

Gene: Thanksgivukkah\_74 Start: 45645, Stop: 45346, Start Num: 76

Candidate Starts for Thanksgivukkah\_74:

(Start: 76 @45645 has 117 MA's), (Start: 114 @45603 has 97 MA's),

Gene: TheloniousMonk\_78 Start: 48520, Stop: 48221, Start Num: 92

Candidate Starts for TheloniousMonk\_78:

(65, 48580), (Start: 92 @48520 has 199 MA's), (122, 48475), (123, 48472), (152, 48403), (161, 48352),

Gene: Thor\_80 Start: 48254, Stop: 47955, Start Num: 92

Candidate Starts for Thor\_80:

(65, 48314), (Start: 92 @48254 has 199 MA's), (122, 48209), (123, 48206), (152, 48137), (161, 48086),

Gene: Tiffany\_79 Start: 45515, Stop: 45252, Start Num: 114

Candidate Starts for Tiffany\_79:

(71, 45578), (Start: 79 @45560 has 2 MA's), (Start: 114 @45515 has 97 MA's), (123, 45494),

Gene: Timothy\_84 Start: 46354, Stop: 46058, Start Num: 98

Candidate Starts for Timothy\_84:

(Start: 98 @46354 has 24 MA's), (109, 46345), (112, 46342), (125, 46315), (Start: 129 @46306 has 2 MA's), (158, 46216),

Gene: Timshel\_75 Start: 48520, Stop: 48227, Start Num: 95

Candidate Starts for Timshel\_75:

(36, 48667), (42, 48634), (Start: 95 @48520 has 8 MA's), (Start: 116 @48490 has 4 MA's), (128, 48460),

Gene: TinaFeyge\_73 Start: 45642, Stop: 45343, Start Num: 76

Candidate Starts for TinaFeyge\_73:

(Start: 76 @45642 has 117 MA's), (Start: 114 @45600 has 97 MA's),

Gene: TinyPebbles\_76 Start: 45659, Stop: 45396, Start Num: 114

Candidate Starts for TinyPebbles\_76:

(71, 45722), (Start: 79 @45704 has 2 MA's), (Start: 114 @45659 has 97 MA's), (123, 45638),

Gene: TinyTimmy\_82 Start: 46083, Stop: 45787, Start Num: 98

Candidate Starts for TinyTimmy\_82:

(Start: 98 @46083 has 24 MA's), (109, 46074), (112, 46071), (125, 46044), (Start: 129 @46035 has 2 MA's), (158, 45945),

Gene: Tinybot\_74 Start: 45674, Stop: 45375, Start Num: 76

Candidate Starts for Tinybot\_74:

(Start: 76 @45674 has 117 MA's), (Start: 114 @45632 has 97 MA's),

Gene: TipsytheTRex\_82 Start: 46857, Stop: 46582, Start Num: 110

Candidate Starts for TipsytheTRex\_82:

(24, 47106), (Start: 110 @46857 has 24 MA's), (123, 46830), (125, 46824), (128, 46818),

Gene: TiroTheta9\_74 Start: 45641, Stop: 45342, Start Num: 76

Candidate Starts for TiroTheta9\_74:

(Start: 76 @45641 has 117 MA's), (Start: 114 @45599 has 97 MA's),

Gene: Toaka\_85 Start: 47815, Stop: 47546, Start Num: 108

Candidate Starts for Toaka\_85:

(Start: 108 @47815 has 18 MA's), (Start: 120 @47797 has 17 MA's), (128, 47776), (159, 47677),

Gene: Todacoro\_79 Start: 45998, Stop: 45720, Start Num: 114

Candidate Starts for Todacoro\_79:

(Start: 93 @46019 has 4 MA's), (Start: 110 @46001 has 24 MA's), (Start: 114 @45998 has 97 MA's), (123, 45980),

Gene: Tomathan\_83 Start: 47310, Stop: 47032, Start Num: 110

Candidate Starts for Tomathan\_83:

(Start: 110 @47310 has 24 MA's), (125, 47277), (128, 47271), (164, 47136),

Gene: ToneTone\_81 Start: 45501, Stop: 45238, Start Num: 138

Candidate Starts for ToneTone\_81:

(27, 45801), (33, 45744), (35, 45741), (44, 45696), (102, 45573), (Start: 138 @45501 has 19 MA's), (144, 45489), (147, 45483), (157, 45444),

Gene: Topanga\_73 Start: 45266, Stop: 44976, Start Num: 113

Candidate Starts for Topanga\_73:

(Start: 84 @45299 has 1 MA's), (Start: 113 @45266 has 3 MA's),

Gene: Topgun\_72 Start: 45472, Stop: 45173, Start Num: 92

Candidate Starts for Topgun\_72:

(65, 45532), (Start: 92 @45472 has 199 MA's), (122, 45427), (123, 45424), (152, 45355), (161, 45304),

Gene: Toro\_76 Start: 49217, Stop: 48948, Start Num: 106

Candidate Starts for Toro\_76:

(30, 49409), (34, 49391), (49, 49337), (51, 49334), (Start: 106 @49217 has 13 MA's), (Start: 116 @49205 has 4 MA's), (123, 49187), (130, 49169), (135, 49163), (149, 49127), (158, 49088), (161, 49064),

Gene: Tote\_72 Start: 44278, Stop: 43979, Start Num: 92

Candidate Starts for Tote\_72:

(Start: 70 @44308 has 1 MA's), (Start: 92 @44278 has 199 MA's), (122, 44233), (123, 44230), (152, 44161), (161, 44110),

Gene: Traft412\_76 Start: 47553, Stop: 47254, Start Num: 92

Candidate Starts for Traft412\_76:

(65, 47613), (Start: 92 @47553 has 199 MA's), (122, 47508), (123, 47505), (152, 47436), (161, 47385),

Gene: Travvers\_83 Start: 47227, Stop: 46949, Start Num: 110

Candidate Starts for Travvers\_83:

(Start: 110 @47227 has 24 MA's), (125, 47194), (128, 47188), (164, 47053),

Gene: Treddle\_78 Start: 48283, Stop: 47984, Start Num: 92

Candidate Starts for Treddle\_78:

(65, 48343), (Start: 92 @48283 has 199 MA's), (122, 48238), (123, 48235), (152, 48166), (161, 48115),

Gene: Tripl3t\_79 Start: 49835, Stop: 49536, Start Num: 92

Candidate Starts for Tripl3t\_79:

(Start: 92 @49835 has 199 MA's), (122, 49790), (123, 49787), (152, 49718), (161, 49667),

Gene: Trixie\_83 Start: 48218, Stop: 47910, Start Num: 96

Candidate Starts for Trixie\_83:

(Start: 96 @48218 has 3 MA's), (Start: 120 @48179 has 17 MA's), (Start: 121 @48176 has 3 MA's),

Gene: Trooper\_82 Start: 47215, Stop: 46895, Start Num: 85

Candidate Starts for Trooper\_82:

(Start: 85 @47215 has 34 MA's), (122, 47167), (Start: 124 @47161 has 1 MA's), (168, 46984),

Gene: Trouble\_76 Start: 47362, Stop: 47063, Start Num: 92

Candidate Starts for Trouble\_76:

(26, 47569), (28, 47542), (31, 47521), (36, 47500), (37, 47497), (41, 47470), (45, 47458), (50, 47449), (56, 47434), (77, 47380), (Start: 92 @47362 has 199 MA's), (122, 47317), (123, 47314), (152, 47245),



(161, 47194),

Gene: TroyPia\_76 Start: 45682, Stop: 45383, Start Num: 76

Candidate Starts for TroyPia\_76:

(Start: 76 @45682 has 117 MA's), (Start: 114 @45640 has 97 MA's),

Gene: Tubs\_87 Start: 47925, Stop: 47641, Start Num: 108

Candidate Starts for Tubs\_87:

(Start: 108 @47925 has 18 MA's), (Start: 120 @47907 has 17 MA's), (128, 47886), (158, 47790),

Gene: Tucker\_84 Start: 45704, Stop: 45441, Start Num: 138

Candidate Starts for Tucker\_84:

(27, 46004), (33, 45947), (35, 45944), (44, 45899), (102, 45776), (Start: 138 @45704 has 19 MA's), (144, 45692), (147, 45686), (157, 45647),

Gene: Turbido\_84 Start: 47922, Stop: 47614, Start Num: 85

Candidate Starts for Turbido\_84:

(Start: 85 @47922 has 34 MA's), (Start: 89 @47919 has 18 MA's), (Start: 120 @47877 has 17 MA's), (122, 47871), (128, 47856), (168, 47697),

Gene: Turj99\_72 Start: 46853, Stop: 46554, Start Num: 92

Candidate Starts for Turj99\_72:

(Start: 92 @46853 has 199 MA's), (122, 46808), (123, 46805), (161, 46685),

Gene: Twigg\_67 Start: 43805, Stop: 43509, Start Num: 97

Candidate Starts for Twigg\_67:

(Start: 97 @43805 has 1 MA's), (115, 43784), (Start: 120 @43778 has 17 MA's), (164, 43625),

Gene: Twister\_84 Start: 48480, Stop: 48184, Start Num: 113

Candidate Starts for Twister\_84:

(Start: 84 @48513 has 1 MA's), (Start: 113 @48480 has 3 MA's),

Gene: TwoPeat\_76 Start: 46815, Stop: 46516, Start Num: 92

Candidate Starts for TwoPeat\_76:

(65, 46875), (Start: 92 @46815 has 199 MA's), (122, 46770), (123, 46767), (130, 46752), (152, 46698), (161, 46647),

Gene: TygerBlood\_75 Start: 45647, Stop: 45348, Start Num: 76

Candidate Starts for TygerBlood\_75:

(Start: 76 @45647 has 117 MA's), (Start: 114 @45605 has 97 MA's),

Gene: U2\_70 Start: 47052, Stop: 46753, Start Num: 92

Candidate Starts for U2\_70:

(Start: 70 @47082 has 1 MA's), (Start: 92 @47052 has 199 MA's), (122, 47007), (123, 47004), (152, 46935), (161, 46884),

Gene: Ugenie5\_74 Start: 45396, Stop: 45133, Start Num: 120

Candidate Starts for Ugenie5\_74:

(Start: 108 @45414 has 18 MA's), (Start: 120 @45396 has 17 MA's), (128, 45375), (158, 45279),

Gene: Ulysses\_74 Start: 45330, Stop: 45031, Start Num: 76

Candidate Starts for Ulysses\_74:

(Start: 76 @45330 has 117 MA's), (Start: 114 @45288 has 97 MA's),

Gene: Updawg\_84 Start: 47452, Stop: 47141, Start Num: 85  
Candidate Starts for Updawg\_84:  
(Start: 85 @47452 has 34 MA's), (99, 47440), (Start: 120 @47410 has 17 MA's), (122, 47404), (128, 47389),

Gene: VA6\_83 Start: 47497, Stop: 47174, Start Num: 89  
Candidate Starts for VA6\_83:  
(16, 47827), (17, 47800), (47, 47590), (Start: 89 @47497 has 18 MA's), (91, 47494), (122, 47446), (128, 47431), (146, 47389),

Gene: VC3\_81 Start: 46132, Stop: 45854, Start Num: 110  
Candidate Starts for VC3\_81:  
(Start: 110 @46132 has 24 MA's), (125, 46099), (128, 46093), (164, 45958),

Gene: Vanisoa\_82 Start: 48147, Stop: 47884, Start Num: 108  
Candidate Starts for Vanisoa\_82:  
(Start: 108 @48147 has 18 MA's), (128, 48114), (159, 48015),

Gene: Veracruz\_76 Start: 46002, Stop: 45721, Start Num: 110  
Candidate Starts for Veracruz\_76:  
(Start: 93 @46020 has 4 MA's), (Start: 110 @46002 has 24 MA's), (Start: 114 @45999 has 97 MA's), (123, 45981),

Gene: Violet\_71 Start: 47447, Stop: 47148, Start Num: 92  
Candidate Starts for Violet\_71:  
(65, 47507), (Start: 92 @47447 has 199 MA's), (122, 47402), (123, 47399), (152, 47330), (161, 47279),

Gene: Vix\_76 Start: 45710, Stop: 45447, Start Num: 114  
Candidate Starts for Vix\_76:  
(71, 45773), (Start: 79 @45755 has 2 MA's), (Start: 114 @45710 has 97 MA's), (123, 45689),

Gene: VohminGhazi\_83 Start: 45555, Stop: 45265, Start Num: 78  
Candidate Starts for VohminGhazi\_83:  
(29, 45699), (37, 45669), (59, 45603), (Start: 63 @45597 has 1 MA's), (Start: 78 @45555 has 16 MA's), (Start: 121 @45513 has 3 MA's), (122, 45510), (Start: 124 @45504 has 1 MA's), (125, 45501), (Start: 129 @45492 has 2 MA's), (153, 45435), (156, 45420),

Gene: WalterMcMickey\_83 Start: 48480, Stop: 48184, Start Num: 113  
Candidate Starts for WalterMcMickey\_83:  
(Start: 84 @48513 has 1 MA's), (Start: 113 @48480 has 3 MA's),

Gene: Wander\_75 Start: 45641, Stop: 45342, Start Num: 76  
Candidate Starts for Wander\_75:  
(Start: 76 @45641 has 117 MA's), (Start: 114 @45599 has 97 MA's),

Gene: Watermelon\_79 Start: 48357, Stop: 48058, Start Num: 92  
Candidate Starts for Watermelon\_79:  
(Start: 70 @48387 has 1 MA's), (Start: 92 @48357 has 199 MA's), (122, 48312), (123, 48309), (152, 48240), (161, 48189),

Gene: Watson\_79 Start: 45664, Stop: 45356, Start Num: 79  
Candidate Starts for Watson\_79:

(71, 45682), (Start: 79 @45664 has 2 MA's), (Start: 114 @45619 has 97 MA's),

Gene: WeiHuaDA\_85 Start: 48465, Stop: 48169, Start Num: 103

Candidate Starts for WeiHuaDA\_85:

(5, 49035), (22, 48720), (Start: 93 @48480 has 4 MA's), (Start: 103 @48465 has 3 MA's), (Start: 120 @48441 has 17 MA's), (128, 48420), (146, 48378),

Gene: Whabigail7\_83 Start: 47920, Stop: 47612, Start Num: 85

Candidate Starts for Whabigail7\_83:

(Start: 85 @47920 has 34 MA's), (Start: 89 @47917 has 18 MA's), (122, 47869), (128, 47854), (168, 47695),

Gene: Wheeler\_81 Start: 49068, Stop: 48769, Start Num: 92

Candidate Starts for Wheeler\_81:

(Start: 92 @49068 has 199 MA's), (122, 49023), (123, 49020), (152, 48951), (161, 48900),

Gene: WideWale\_84 Start: 47452, Stop: 47141, Start Num: 85

Candidate Starts for WideWale\_84:

(Start: 85 @47452 has 34 MA's), (99, 47440), (Start: 120 @47410 has 17 MA's), (122, 47404), (128, 47389),

Gene: Wiks\_83 Start: 45572, Stop: 45309, Start Num: 138

Candidate Starts for Wiks\_83:

(27, 45872), (33, 45815), (35, 45812), (44, 45767), (102, 45644), (Start: 138 @45572 has 19 MA's), (144, 45560), (147, 45554), (157, 45515),

Gene: Wilbur\_75 Start: 45644, Stop: 45345, Start Num: 76

Candidate Starts for Wilbur\_75:

(Start: 76 @45644 has 117 MA's), (Start: 114 @45602 has 97 MA's),

Gene: Wile\_73 Start: 45720, Stop: 45427, Start Num: 67

Candidate Starts for Wile\_73:

(Start: 54 @45741 has 2 MA's), (Start: 55 @45738 has 13 MA's), (Start: 67 @45720 has 2 MA's), (68, 45717), (81, 45687), (Start: 121 @45675 has 3 MA's), (140, 45636), (153, 45603),

Gene: Wilkins\_73 Start: 45402, Stop: 45103, Start Num: 92

Candidate Starts for Wilkins\_73:

(65, 45462), (Start: 92 @45402 has 199 MA's), (122, 45357), (123, 45354), (152, 45285), (161, 45234),

Gene: Wizard007\_74 Start: 45464, Stop: 45153, Start Num: 55

Candidate Starts for Wizard007\_74:

(Start: 54 @45467 has 2 MA's), (Start: 55 @45464 has 13 MA's), (Start: 67 @45446 has 2 MA's), (68, 45443), (81, 45413), (Start: 121 @45401 has 3 MA's), (140, 45362), (153, 45329),

Gene: Wooldri\_82 Start: 45536, Stop: 45273, Start Num: 114

Candidate Starts for Wooldri\_82:

(71, 45599), (Start: 79 @45581 has 2 MA's), (Start: 114 @45536 has 97 MA's), (123, 45515),

Gene: WunderPhul\_84 Start: 45570, Stop: 45307, Start Num: 138

Candidate Starts for WunderPhul\_84:

(27, 45870), (33, 45813), (35, 45810), (44, 45765), (102, 45642), (Start: 138 @45570 has 19 MA's), (144, 45558), (157, 45513),

Gene: Xena\_73 Start: 45735, Stop: 45418, Start Num: 55

Candidate Starts for Xena\_73:

(Start: 54 @45738 has 2 MA's), (Start: 55 @45735 has 13 MA's), (65, 45720), (81, 45684), (Start: 121 @45669 has 3 MA's), (140, 45630), (153, 45597),

Gene: XianYue\_82 Start: 47707, Stop: 47390, Start Num: 82

Candidate Starts for XianYue\_82:

(11, 48094), (22, 47950), (Start: 82 @47707 has 1 MA's), (118, 47671), (167, 47482),

Gene: Yecey3\_88 Start: 47683, Stop: 47417, Start Num: 108

Candidate Starts for Yecey3\_88:

(Start: 108 @47683 has 18 MA's), (Start: 120 @47665 has 17 MA's), (125, 47650), (130, 47638), (164, 47509),

Gene: YoSam321\_75 Start: 45642, Stop: 45343, Start Num: 76

Candidate Starts for YoSam321\_75:

(Start: 76 @45642 has 117 MA's), (Start: 114 @45600 has 97 MA's),

Gene: Yokurt\_83 Start: 45572, Stop: 45309, Start Num: 138

Candidate Starts for Yokurt\_83:

(27, 45872), (33, 45815), (35, 45812), (44, 45767), (102, 45644), (Start: 138 @45572 has 19 MA's), (144, 45560), (147, 45554), (157, 45515),

Gene: Zaka\_84 Start: 45572, Stop: 45309, Start Num: 138

Candidate Starts for Zaka\_84:

(27, 45872), (33, 45815), (35, 45812), (44, 45767), (102, 45644), (Start: 138 @45572 has 19 MA's), (144, 45560), (147, 45554), (157, 45515),

Gene: Zeeculate\_72 Start: 47175, Stop: 46876, Start Num: 92

Candidate Starts for Zeeculate\_72:

(Start: 70 @47205 has 1 MA's), (Start: 92 @47175 has 199 MA's), (122, 47130), (123, 47127), (152, 47058), (161, 47007),

Gene: Zephyr\_78 Start: 47447, Stop: 47148, Start Num: 92

Candidate Starts for Zephyr\_78:

(65, 47507), (Start: 92 @47447 has 199 MA's), (122, 47402), (123, 47399), (152, 47330), (161, 47279),

Gene: Zeuska\_78 Start: 48397, Stop: 48113, Start Num: 103

Candidate Starts for Zeuska\_78:

(75, 48427), (Start: 103 @48397 has 3 MA's), (Start: 113 @48385 has 3 MA's), (152, 48295), (161, 48244),

Gene: Zimmer\_79 Start: 47067, Stop: 46792, Start Num: 111

Candidate Starts for Zimmer\_79:

(Start: 111 @47067 has 5 MA's), (Start: 121 @47046 has 3 MA's), (122, 47043), (123, 47040), (130, 47022), (136, 47010),

Gene: Zulu\_85 Start: 45950, Stop: 45687, Start Num: 138

Candidate Starts for Zulu\_85:

(27, 46250), (33, 46193), (35, 46190), (44, 46145), (102, 46022), (Start: 138 @45950 has 19 MA's), (144, 45938), (147, 45932), (157, 45893),