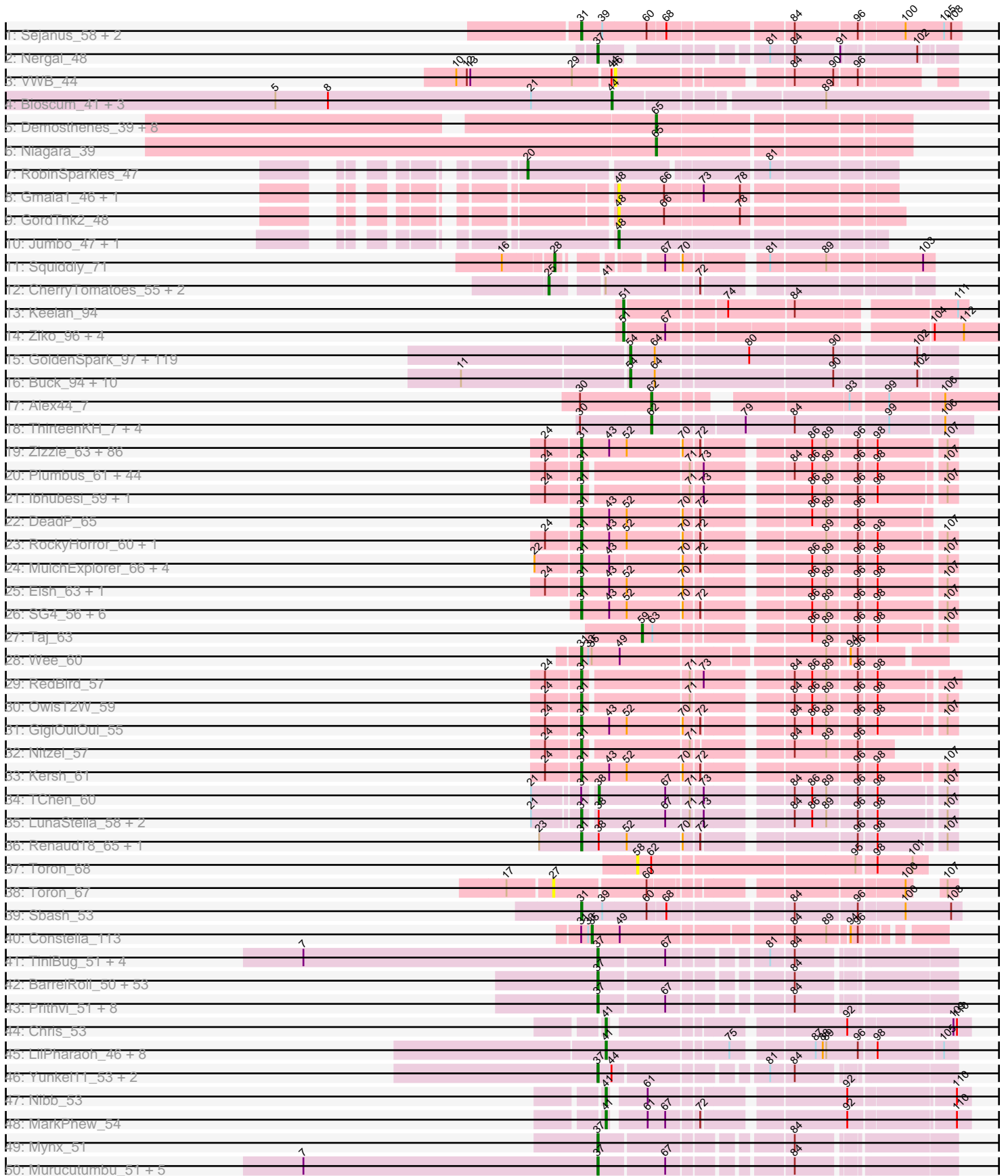
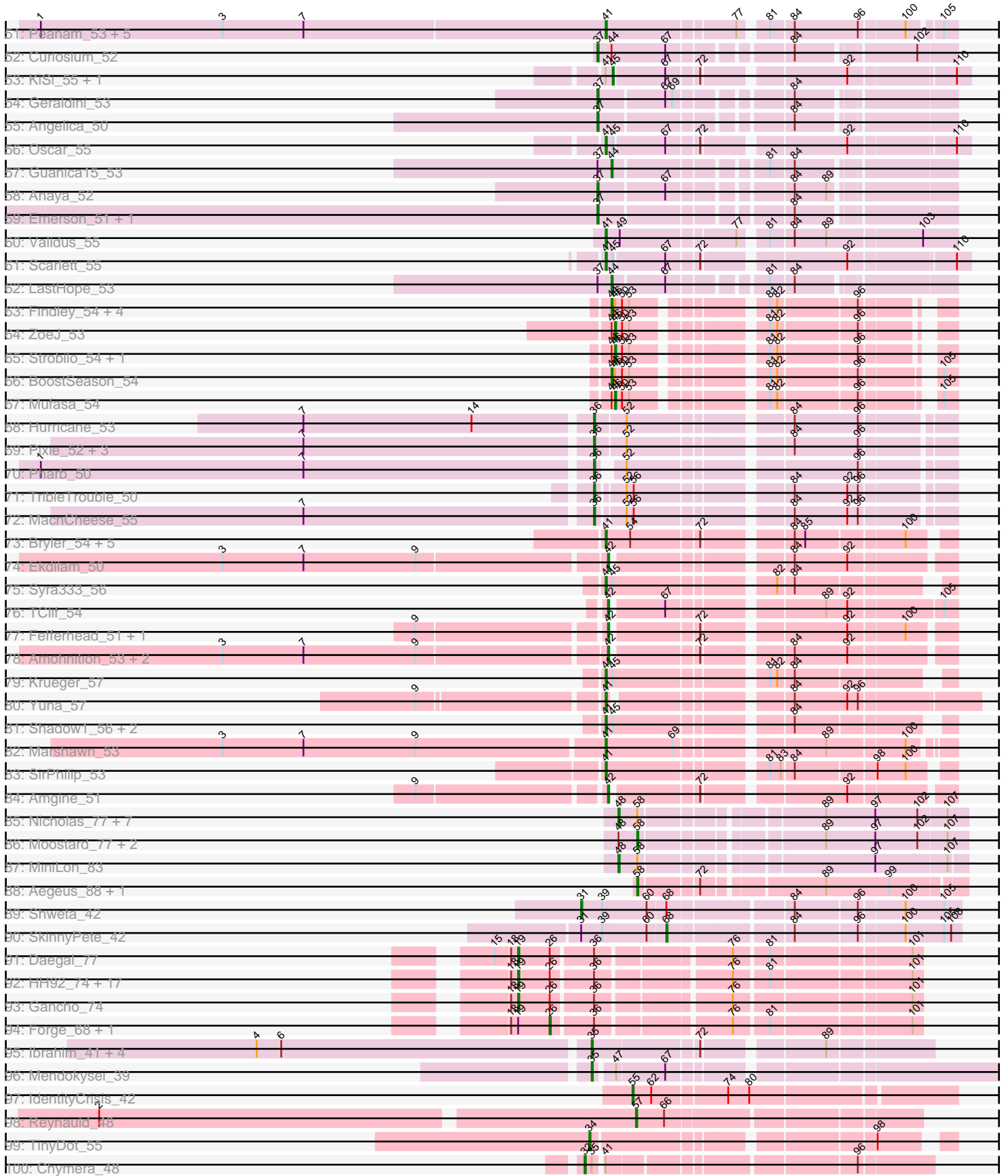


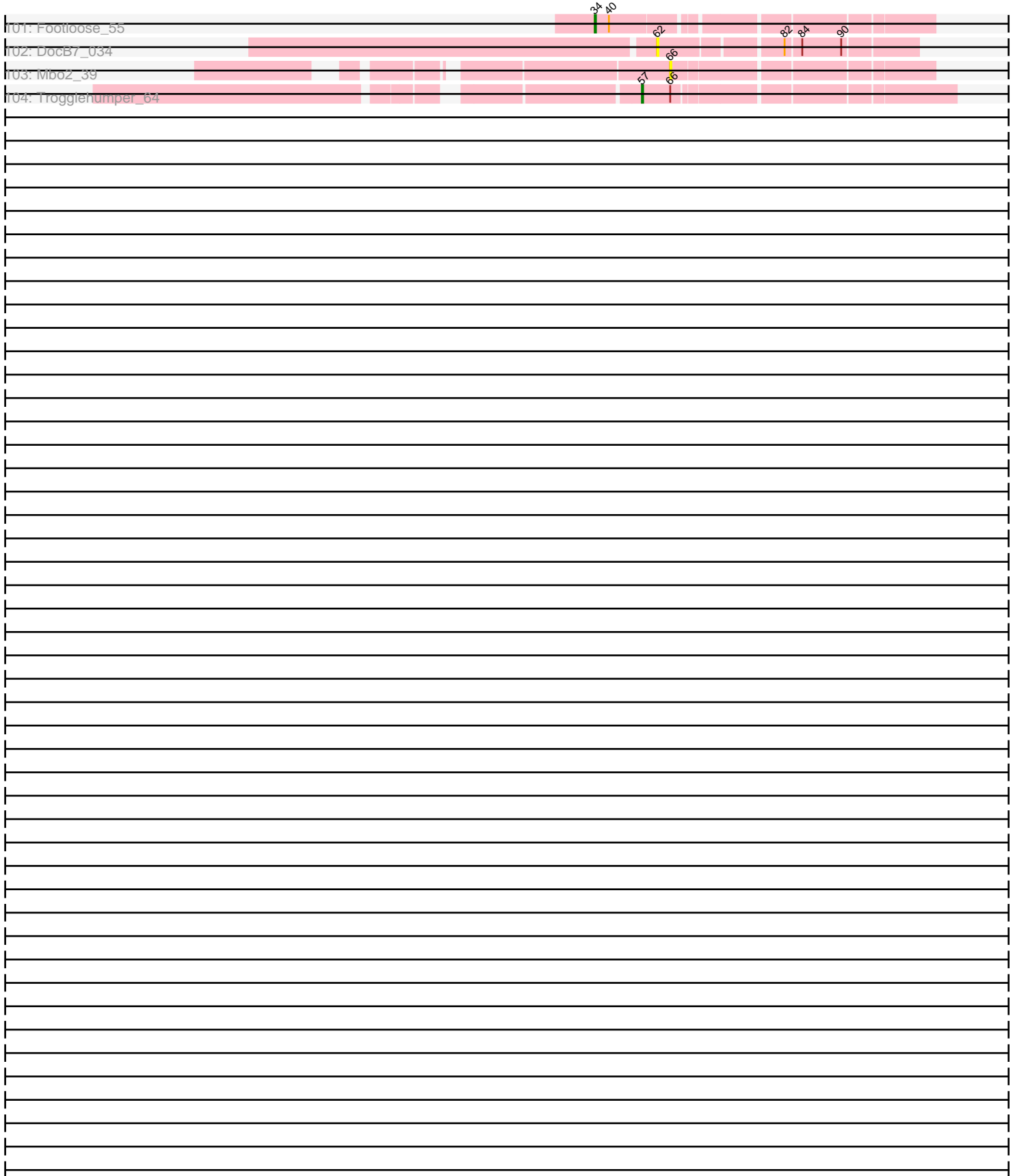
Pham 196177



Pham 196177



Pham 196177



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 196177 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196177 has 541 members, 33 are drafts.

Phages represented in each track:

- Track 1 : Sejanus\_58, Charlie\_44, Journey\_43
- Track 2 : Nergal\_48
- Track 3 : VWB\_44
- Track 4 : Bioscum\_41, PapayaSalad\_40, Ididsumtinwong\_41, Austintatious\_37
- Track 5 : Demosthenes\_39, ASerpRocky\_40, Kvothe\_39, Tredge\_40, Benczkowski14\_39, Teech\_40, Teatealatte\_40, Katyusha\_39, Hollow\_40
- Track 6 : Niagara\_39
- Track 7 : RobinSparkles\_47
- Track 8 : Gmala1\_46, GordDuk1\_47
- Track 9 : GordTnk2\_48
- Track 10 : Jumbo\_47, GMA3\_48
- Track 11 : Squiddly\_71
- Track 12 : CherryTomatoes\_55, SCentae\_53, Pupper\_53
- Track 13 : Keelan\_94
- Track 14 : Ziko\_96, Guey18\_98, Volt\_97, Ronaldo\_96, Fryberger\_93
- Track 15 : GoldenSpark\_97, HanKaySha\_94, Lilpickle\_92, BigBubba\_93, Terminus\_96, Holt\_98, Highbury\_92, CrystalP\_92, Cjw1\_94, YassJohnny\_90, ShamWow\_93, Cactus\_96, ChosenOne\_93, TeardropMSU\_89, Inca\_90, Youngblood\_96, Policronamos\_97, Henry\_91, Simpliphy\_92, GooberAzure\_96, Xandras\_92, BilboSwaggins\_92, Contagion\_89, MadamMonkfish\_93, Murica\_96, Paperbeatsrock\_92, NoSleep\_94, Nala\_95, JeTaime\_94, Flypotenuse\_89, OrionPax\_92, Lilizi\_94, Porky\_92, Icee\_94, Gemini\_98, Kimchi\_97, Tarkin\_92, Gage\_95, ShereKhan\_91, Willez\_88, Hopey\_94, FireRed\_97, Dusk\_90, Quallification\_94, Palpatine\_95, FairyPath\_93, Stark\_95, NelitzaMV\_91, Eureka\_92, Kanye\_90, Hoonter\_96, SirDuracell\_93, BaboJay\_93, Sotrice96\_94, Murphy\_93, Lilac\_96, Goldilocks\_96, StolenFromERC\_96, Tuco\_94, Miniwave\_88, Amao\_93, MISSy\_94, Phrux\_91, Glexan\_92, Bruin\_90, Thresher\_96, Bench\_96, Command613\_95, Rakim\_94, Mosby\_89, Marshmallow\_91, Misfit\_94, 244\_94, AmericanBeauty\_97, Myrale\_93, Manda\_95, Teaspoon\_94, Nimrod\_94, Pumpkin\_97, SophKB\_90, Tomaszewski\_88, ABCat\_90, Sassay\_88, Phaja\_91, Goku\_92, Argent26\_97, IHOP\_91, BadStone\_90, Saints25\_92, Asriel\_91, Elph10\_94, DrDrey\_93, TBrady12\_96, PhatBacter\_97, Toto\_91, HufflyPuff\_95, xkcd\_96, MPhalcon\_94, Harella\_93, Dumbo\_93, Adnama\_97, Traaww1\_89, Pharsalus\_90, BugsBunny\_93, Filch\_95, StellaBean\_91, Wiggin\_95, Ukulele\_88, Czyszczon1\_94, Maxxinista\_96, Mindy\_92, Easy2Say\_94, Kostya\_93, Moldemort\_96, Stank\_95, Emmina\_93, RiverMonster\_94, Elite2014\_92, Barbarian\_92, Phaux\_96

- Track 16 : Buck\_94, Balomoji\_93, Rimmer\_91, Bask21\_93, DoctorDiddles\_92, Gator\_91, Cookies\_90, Daikon\_94, Petra64142\_98, Pat3\_90, ChotaBhai\_93
- Track 17 : Alex44\_7
- Track 18 : ThirteenKH\_7, Atraxi\_7, Yafa\_7, TrippleS\_7, Morrill\_7
- Track 19 : Zizzle\_63, Phatniss\_57, Llij\_55, Rita\_60, Scottish\_57, Zerg\_59, Soul22\_65, EleanorGeorge\_60, Rockne\_60, DaddyRickover\_58, Mahavrat\_57, Koella\_53, Mozy\_68, Zapner\_72, Maravista\_60, Radiance\_58, Totinger\_58, ByChance\_51, Tootsieroll\_60, James\_63, Pippy\_57, UncleRicky\_58, VRedHorse\_59, LastJedi\_53, Crumble\_54, Fancypants\_61, Marker\_61, Drago\_57, Blexus\_57, Strokeseat\_55, Karhdo\_56, Sabbb\_63, Jabbawokkie\_73, GUmbe\_57, Whouxphf\_56, Dante\_60, DirtMcgirt\_58, Byougenkin\_57, Chuckly\_62, Clifton\_54, PMC\_56, Hlubikazi\_55, Blarby\_71, Boomer\_64, Mattes\_63, Firehouse51\_60, Hades\_60, Mutaforma13\_63, Spikelee\_66, ShowerHandel\_62, Burwell21\_57, SiSi\_57, SwagPiggett\_64, Pollywog\_60, NormanBulbieJr\_59, IrishSherpFalk\_60, Priscilla\_59, Saal\_61, BuzzLyseyear\_65, Alexphander\_63, Doug\_61, OlympiaSaint\_61, ShroomBoi\_61, Madiba\_57, Mandlovu\_55, Yorick\_58, WillSterrel\_60, Jarcob\_59, Latretium\_61, Mova\_60, Eradicator\_52, Martik\_59, OldBen\_56, KristaRAM\_62, Spartacus\_61, Gandalph\_62, BobaPhett\_63, Brocalys\_54, ShiLan\_58, MadMen\_57, Cabrinians\_60, Gorge\_63, FreddyB\_60, LittleShirley\_58, Rialto\_65, Lorde\_59, Lizziana\_65
- Track 20 : Plumbus\_61, Daenerys\_53, AlpineSix\_64, Job42\_61, Pacc40\_53, Nivrat\_55, LunaBlu\_61, Dorothy\_57, KingMidas\_58, Avani\_67, Sebastian\_64, Jinglebell\_64, Ochi17\_62, Leozinho\_58, SimranZ1\_59, DosHalletts\_61, Stap\_57, Modragons\_63, Inventum\_54, Phasih\_57, Leperchaun\_51, Girr\_57, JoeyJr\_54, PHappiness\_54, Ruby\_55, Cornucopia\_61, Doomphist\_59, Empress\_57, Fastidio\_59, Poenanya\_59, Estave1\_62, LilMoolah\_57, Sassafras\_57, OfUltron\_64, Oksu\_63, Spoonbill\_56, Llama\_64, DRBy19\_62, RitaG\_54, DillTech15\_56, MisterCuddles\_57, Galactic\_58, Philus\_62, Polka14\_57, BodEinwohner17\_59
- Track 21 : lbhubesi\_59, Veteran\_56
- Track 22 : DeadP\_65
- Track 23 : RockyHorror\_60, BlueCrab\_59
- Track 24 : MulchExplorer\_66, QuickMath\_61, Starcevich\_59, Kimberlium\_62, Cornie\_55
- Track 25 : Eish\_63, DaWorst\_60
- Track 26 : SG4\_56, Wee\_63, Hegedechwinu\_59, lbOuu\_60, MinionDave\_58, Enby\_60, CaptainTrips\_56
- Track 27 : Taj\_63
- Track 28 : Wee\_60
- Track 29 : RedBird\_57
- Track 30 : OwlsT2W\_59
- Track 31 : GigiOuiOui\_55
- Track 32 : Nitzel\_57
- Track 33 : Kersh\_61
- Track 34 : TChen\_60
- Track 35 : LunaStella\_58, Yoshi\_72, ThetaBob\_64
- Track 36 : Renaud18\_65, Demsculpinboyz\_70
- Track 37 : Toron\_68
- Track 38 : Toron\_67
- Track 39 : Sbash\_53
- Track 40 : Constella\_113
- Track 41 : TiniBug\_51, SamuelLPlaqson\_51, DrHayes\_51, Bella96\_51, Urkel\_51
- Track 42 : BarrelRoll\_50, AlishaPH\_50, BaghaKamala\_49, Atiba\_51, Adephagia\_50, Veliki\_51, Beezoo\_52, JAWS\_50, Ramen\_51, ActinUp\_50,

Hyperbowlee\_50, CREW\_50, Slimphazie\_50, TruffulaTree\_50, Zavala\_52, Adonis\_50, Capricorn\_50, Spock\_50, QuincyRose\_49, Durfee\_50, Sulley\_50, Tachez\_50, Jayhawk\_51, Rapunzel97\_51, CaseJules\_52, Topper\_50, Dalmuri\_50, Asayake\_50, Rosmarinus\_50, Apocalypse\_53, Joy99\_50, CheetoDust\_49, Blizzard\_50, Belladonna\_50, Homura\_50, YoureAdopted\_49, Zabiza\_45, Lunahalos\_50, TaiwanKao\_52, HedwigODU\_50, MeaningOfLife\_51, Peel\_50, Llorens\_50, Padfoot\_50, Jeckyll\_50, Boiiii\_50, BGlluviae\_50, BEEEST\_50, Inky\_50, Ganymede\_51, Piatt\_50, ShiaSurprise\_51, Jarvi\_50, Twitch\_50

- Track 43 : Prithvi\_51, CrimD\_50, LaterM\_51, Megsy\_52, LindNT\_49, TreyKay\_51, Deby\_50, Tiri\_51, Pokerus\_49
- Track 44 : Chris\_53
- Track 45 : LilPharaoh\_46, SgtBeansprout\_46, Enkosi\_48, Nutello\_46, Amelie\_46, Nikao\_49, Mdavu\_47, Torres\_48, Binglebops\_46
- Track 46 : Yunkel11\_53, Efra2\_53, TingHuaYa\_51
- Track 47 : Nibb\_53
- Track 48 : MarkPhew\_54
- Track 49 : Mynx\_51
- Track 50 : Murucutumbu\_51, Illumine\_53, Dole\_53, Ageofdapage\_52, Devera\_55, Stinson\_51
- Track 51 : Peanam\_53, Dartin\_53, Shaobing\_53, Richo\_53, McMater\_53, Niklas\_53
- Track 52 : Curiosium\_52
- Track 53 : KiSi\_55, LeMond\_55
- Track 54 : Geraldini\_53
- Track 55 : Angelica\_50
- Track 56 : Oscar\_55
- Track 57 : Guanica15\_53
- Track 58 : Anaya\_52
- Track 59 : Emerson\_51, Padpat\_52
- Track 60 : Validus\_55
- Track 61 : Scarlett\_55
- Track 62 : LastHope\_53
- Track 63 : Findley\_54, DismalStressor\_54, DismalFunk\_54, Milly\_54, Marcoliusprime\_54
- Track 64 : ZoeJ\_53
- Track 65 : Strobilo\_54, TM4\_49
- Track 66 : BoostSeason\_54
- Track 67 : Mufasa\_54
- Track 68 : Hurricane\_53
- Track 69 : Pixie\_52, Keshu\_55, TBond007\_51, ShedlockHolmes\_54
- Track 70 : Pharb\_50
- Track 71 : TribbleTrouble\_50
- Track 72 : MacnCheese\_55
- Track 73 : Bryler\_54, Cain\_54, Tierra\_54, PhelpsODU\_53, Phrank\_54, Unicorn\_53
- Track 74 : Ekdilam\_50
- Track 75 : Syra333\_56
- Track 76 : TClif\_54
- Track 77 : Fefferhead\_51, Ellie\_49
- Track 78 : Amohnition\_53, DarthP\_53, Hammy\_53
- Track 79 : Krueger\_57
- Track 80 : Yuna\_57
- Track 81 : Shadow1\_56, Sunflower1121\_57, Ximenita\_57
- Track 82 : Marshawn\_53
- Track 83 : SirPhilip\_53

- Track 84 : Amgine\_51
- Track 85 : Nicholas\_77, Clautastrophe\_77, Kingsolomon\_77, Snenia\_78, Finnry\_79, Jobypre\_80, MsGreen\_79, Jubie\_78
- Track 86 : Moostard\_77, Bellis\_77, Samty\_78
- Track 87 : MiniLon\_83
- Track 88 : Aegeus\_88, Baudelaire\_88
- Track 89 : Shweta\_42
- Track 90 : SkinnyPete\_42
- Track 91 : Daegal\_77
- Track 92 : HH92\_74, Amymech\_75, Webster2\_75, OBUpride\_74, Giles\_68, Hadrien\_72, LilHazelNut\_75, Ubuntu\_75, DeepSoil15\_75, Luke\_72, Amochick\_76, Dewey\_68, Hail\_68, Gravallia\_69, Evanesce\_74, Ein37\_75, Luna22\_68, Kinbote\_73
- Track 93 : Gancho\_74
- Track 94 : Forge\_68, Wishmaker\_68
- Track 95 : Ibrahim\_41, Nairb\_40, ZenTime222\_40, Bernal13\_41, RonRayGun\_41
- Track 96 : Mendokysei\_39
- Track 97 : IdentityCrisis\_42
- Track 98 : Reynauld\_48
- Track 99 : TinyDot\_55
- Track 100 : Chymera\_48
- Track 101 : Footloose\_55
- Track 102 : DocB7\_034
- Track 103 : Mbo2\_39
- Track 104 : Trogglehumper\_64

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

The start number called the most often in the published annotations is 31, it was called in 162 of the 508 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander\_63, AlpineSix\_64, Avani\_67, Blarby\_71, Blexus\_57, BlueCrab\_59, BobaPhett\_63, BodEinwohner17\_59, Boomer\_64, Brocalys\_54, Burwell21\_57, BuzzLyseyear\_65, ByChance\_51, Byougenkin\_57, Cabrinians\_60, CaptainTrips\_56, Charlie\_44, Chuckly\_62, Clifton\_54, Cornie\_55, Cornucopia\_61, Crumble\_54, DRBy19\_62, DaWorst\_60, DaddyRickover\_58, Daenerys\_53, Dante\_60, DeadP\_65, Demsculpinboyz\_70, DillTech15\_56, DirtMcgirt\_58, Doomphist\_59, Dorothy\_57, DosHalletts\_61, Doug\_61, Drago\_57, Eish\_63, EleanorGeorge\_60, Empress\_57, Enby\_60, Eradicator\_52, Estave1\_62, Fancypants\_61, Fastidio\_59, Firehouse51\_60, FreddyB\_60, GUmbie\_57, Galactic\_58, Gandalph\_62, GigiOuiOui\_55, Girr\_57, Gorge\_63, Hades\_60, Hegedechwinu\_59, Hlubikazi\_55, IbOuu\_60, Ihubesi\_59, Inventum\_54, IrishSherpFalk\_60, Jabbawokkie\_73, James\_63, Jarcob\_59, Jinglebell\_64, Job42\_61, JoeyJr\_54, Journey\_43, Karhdo\_56, Kersh\_61, Kimberlium\_62, KingMidas\_58, Koella\_53, KristaRAM\_62, LastJedi\_53, Latretium\_61, Leozinho\_58, Leperchaun\_51, LilMoolah\_57, LittleShirley\_58, Lizziana\_65, Llama\_64, Llij\_55, Lorde\_59, LunaBlu\_61, LunaStella\_58, MadMen\_57, Madiba\_57, Mahavrat\_57, Mandlovu\_55, Maravista\_60, Marker\_61, Martik\_59, Mattes\_63, MinionDave\_58, MisterCuddles\_57, Modragons\_63, Mova\_60, Mozy\_68, MulchExplorer\_66, Mutaforma13\_63, Nitzel\_57, Nivrat\_55, NormanBulbieJr\_59, Ochi17\_62, OfUltron\_64, Oksu\_63, OldBen\_56, OlympiaSaint\_61, OwlsT2W\_59,

PHappiness\_54, PMC\_56, Pacc40\_53, Phasih\_57, Phatniss\_57, Philus\_62, Pippy\_57, Plumbus\_61, Poenanya\_59, Polka14\_57, Pollywog\_60, Priscilla\_59, QuickMath\_61, Radiance\_58, RedBird\_57, Renaud18\_65, Rialto\_65, RitaG\_54, Rita\_60, Rockne\_60, RockyHorror\_60, Ruby\_55, SG4\_56, Saal\_61, Sabbb\_63, Sassafras\_57, Sbash\_53, Scottish\_57, Seabastian\_64, Sejanus\_58, ShiLan\_58, ShowerHandel\_62, ShroomBoi\_61, Shweta\_42, SiSi\_57, SimranZ1\_59, Soul22\_65, Spartacus\_61, Spikelee\_66, Spoonbill\_56, Stap\_57, Starcevich\_59, Strokeseat\_55, SwagPiggett\_64, ThetaBob\_64, Tootsieroll\_60, Totinger\_58, UncleRicky\_58, VRedHorse\_59, Veteran\_56, Wee\_60, Wee\_63, Whouxphf\_56, WillSterrel\_60, Yorick\_58, Yoshi\_72, Zapner\_72, Zerg\_59, Zizzle\_63,

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

- Constella\_113, SkinnyPete\_42, TChen\_60,

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

- 244\_94, ABCat\_90, ASerpRocky\_40, ActinUp\_50, Adephegia\_50, Adnama\_97, Adonis\_50, Aegeus\_88, Ageofdapage\_52, Alex44\_7, AlishaPH\_50, Amao\_93, Amelie\_46, AmericanBeauty\_97, Amgine\_51, Amochick\_76, Amohnition\_53, Amymech\_75, Anaya\_52, Angelica\_50, Apocalypse\_53, Argent26\_97, Asayake\_50, Asriel\_91, Atiba\_51, Atraxi\_7, Austintatious\_37, BEEST\_50, BGIlluviae\_50, BaboJay\_93, BadStone\_90, BaghaKamala\_49, Balomoji\_93, Barbarian\_92, BarrelRoll\_50, Bask21\_93, Baudelaire\_88, Beezoo\_52, Bella96\_51, Belladonna\_50, Bellis\_77, Bench\_96, Benczkowski14\_39, Bernal13\_41, BigBubba\_93, Binglebops\_46, BilboSwaggins\_92, Bioscum\_41, Blizzard\_50, Boiii\_50, BoostSeason\_54, Bruin\_90, Bryler\_54, Buck\_94, BugsBunny\_93, CREW\_50, Cactus\_96, Cain\_54, Capricorn\_50, CaseJules\_52, CheetoDust\_49, CherryTomatoes\_55, ChosenOne\_93, ChotaBhai\_93, Chris\_53, Chymera\_48, Cjw1\_94, Clautastrophe\_77, Command613\_95, Contagion\_89, Cookies\_90, CrimD\_50, CrystalP\_92, Curiosium\_52, Czyszczonek\_94, Daegal\_77, Daikon\_94, Dalmuri\_50, DarthP\_53, Dartin\_53, Deby\_50, DeepSoil15\_75, Demosthenes\_39, Devera\_55, Dewey\_68, DismalFunk\_54, DismalStressor\_54, DocB7\_034, DoctorDiddles\_92, Dole\_53, DrDrey\_93, DrHayes\_51, Dumbo\_93, Durfee\_50, Dusk\_90, Easy2Say\_94, Efra2\_53, Ein37\_75, Ekdilam\_50, Elite2014\_92, Ellie\_49, Elph10\_94, Emerson\_51, Emmina\_93, Enkosi\_48, Eureka\_92, Evanesce\_74, FairyPath\_93, Fefferhead\_51, Filch\_95, Findley\_54, Finnry\_79, FireRed\_97, Flypotenuse\_89, Footloose\_55, Forge\_68, Fryberger\_93, GMA3\_48, Gage\_95, Gancho\_74, Ganymede\_51, Gator\_91, Gemini\_98, Geraldini\_53, Giles\_68, Glexan\_92, Gmala1\_46, Goku\_92, GoldenSpark\_97, Goldilocks\_96, GooberAzure\_96, GordDuk1\_47, GordTnk2\_48, Gravaiilia\_69, Guanica15\_53, Guey18\_98, HH92\_74, Hadrien\_72, Hail\_68, Hammy\_53, HanKaySha\_94, Harella\_93, HedwigODU\_50, Henry\_91, Highbury\_92, Hollow\_40, Holt\_98, Homura\_50, Hoonter\_96, Hopey\_94, HufflyPuff\_95, Hurricane\_53, Hyperbowlee\_50, IHOP\_91, Ibrahim\_41, Icee\_94, IdentityCrisis\_42, Ididsumtinwong\_41, Illumine\_53, Inca\_90, Inky\_50, JAWS\_50, Jarvi\_50, Jayhawk\_51, JeTaimie\_94, Jeckyll\_50, Jobypre\_80, Joy99\_50, Jubie\_78, Jumbo\_47, Kanye\_90, Katyusha\_39, Keelan\_94, Keshu\_55, KiSi\_55, Kimchi\_97, Kinbote\_73, Kingsolomon\_77, Kostya\_93, Krueger\_57, Kvothe\_39, LastHope\_53, LaterM\_51, LeMond\_55, LilHazelNut\_75, LilPharaoh\_46, Lilac\_96, Lilizi\_94, Lilpickle\_92, LindNT\_49, Llorens\_50, Luke\_72, Luna22\_68, Lunahalos\_50, MISSy\_94, MPhalcon\_94, MacnCheese\_55, MadamMonkfish\_93, Manda\_95, Marcoliusprime\_54, MarkPhew\_54, Marshawn\_53, Marshmallow\_91, Maxxinista\_96, Mbo2\_39, McMater\_53, Mdavu\_47, MeaningOfLife\_51, Megsy\_52, Mendokysei\_39, Milly\_54, Mindy\_92, MiniLon\_83, Miniwave\_88, Misfit\_94, Moldemort\_96, Moostard\_77, Morrill\_7, Mosby\_89, MsGreen\_79, Mufasa\_54, Murica\_96,



Murphy\_93, Murucutumbu\_51, Mynx\_51, Myrale\_93, Nairb\_40, Nala\_95, NelitzaMV\_91, Nergal\_48, Niagara\_39, Nibb\_53, Nicholas\_77, Nikao\_49, Niklas\_53, Nimrod\_94, NoSleep\_94, Nutello\_46, OBUpride\_74, OrionPax\_92, Oscar\_55, Padfoot\_50, Padpat\_52, Palpatine\_95, PapayaSalad\_40, Paperbeatsrock\_92, Pat3\_90, Peanam\_53, Peel\_50, Petra64142\_98, Phaja\_91, Pharb\_50, Pharsalus\_90, PhatBacter\_97, Phaux\_96, PhelpsODU\_53, Phrank\_54, Phrux\_91, Piatt\_50, Pixie\_52, Pokerus\_49, Policronamos\_97, Porky\_92, Prithvi\_51, Pumpkin\_97, Pupper\_53, Quallification\_94, QuincyRose\_49, Rakim\_94, Ramen\_51, Rapunzel97\_51, Reynauld\_48, Richo\_53, Rimmer\_91, RiverMonster\_94, RobinSparkles\_47, RonRayGun\_41, Ronaldo\_96, Rosmarinus\_50, SCentae\_53, Saints25\_92, Samty\_78, SamuelLPlaqsom\_51, Sassay\_88, Scarlett\_55, SgtBeansprout\_46, Shadow1\_56, ShamWow\_93, Shaobing\_53, ShedlockHolmes\_54, ShereKhan\_91, ShiaSurprise\_51, Simpliphy\_92, SirDuracell\_93, SirPhilip\_53, Slimphazie\_50, Snenia\_78, SophKB\_90, Sotrice96\_94, Spock\_50, Squiddly\_71, Stank\_95, Stark\_95, StellaBean\_91, Stinson\_51, StolenFromERC\_96, Strobilo\_54, Sulley\_50, Sunflower1121\_57, Syra333\_56, TBond007\_51, TBrady12\_96, TClif\_54, TM4\_49, Tachez\_50, TaiwanKao\_52, Taj\_63, Tarkin\_92, TeardropMSU\_89, Teaspoon\_94, Teatealatte\_40, Teech\_40, Terminus\_96, ThirteenKH\_7, Thresher\_96, Tierra\_54, TingHuaYa\_51, TiniBug\_51, TinyDot\_55, Tiri\_51, Tomaszewski\_88, Topper\_50, Toron\_67, Toron\_68, Torres\_48, Toto\_91, Traaww1\_89, Tredge\_40, TreyKay\_51, TripleTrouble\_50, TrippleS\_7, Trogglehumper\_64, TruffulaTree\_50, Tuco\_94, Twitch\_50, Ubuntu\_75, Ukulele\_88, Unicorn\_53, Urkel\_51, VWB\_44, Validus\_55, Veliki\_51, Volt\_97, Webster2\_75, Wiggin\_95, Willez\_88, Wishmaker\_68, Xandras\_92, Ximenita\_57, Yafa\_7, YassJohnny\_90, Youngblood\_96, YoureAdopted\_49, Yuna\_57, Yunkel11\_53, Zabiza\_45, Zavala\_52, ZenTime222\_40, Ziko\_96, ZoeJ\_53, xkcd\_96,

### Summary by start number:

#### Start 19:

- Found in 22 of 541 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 20 of 508
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Amochick\_76 (Q), Amymech\_75 (Q), Daegal\_77 (Q), DeepSoil15\_75 (Q), Dewey\_68 (Q), Ein37\_75 (Q), Evanesce\_74 (Q), Gancho\_74 (Q), Giles\_68 (Q), Gravaillia\_69 (Q), HH92\_74 (Q), Hadrien\_72 (Q), Hail\_68 (Q), Kinbote\_73 (Q), LilHazelnut\_75 (Q), Luke\_72 (Q), Luna22\_68 (Q), OBUpride\_74 (Q), Ubuntu\_75 (Q), Webster2\_75 (Q),

#### Start 20:

- Found in 1 of 541 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RobinSparkles\_47 (CX),

#### Start 25:

- Found in 3 of 541 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 3 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CherryTomatoes\_55 (DO), Pupper\_53 (DO), SCentae\_53 (DO),

#### Start 26:

- Found in 22 of 541 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 2 of 508
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Forge\_68 (Q), Wishmaker\_68 (Q),

#### Start 27:

- Found in 1 of 541 ( 0.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toron\_67 (F6),

#### Start 28:

- Found in 1 of 541 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Squiddly\_71 (DN2),

#### Start 31:

- Found in 170 of 541 ( 31.4% ) of genes in pham
- Manual Annotations of this start: 162 of 508
- Called 98.2% of time when present
- Phage (with cluster) where this start called: Alexphander\_63 (F1), AlpineSix\_64 (F1), Avani\_67 (F2), Blarby\_71 (F), Blexus\_57 (F1), BlueCrab\_59 (F1), BobaPhett\_63 (F1), BodEinwohner17\_59 (F1), Boomer\_64 (F1), Brocalys\_54 (F1), Burwell21\_57 (F1), BuzzLyseyear\_65 (F1), ByChance\_51 (F1), Byougenkin\_57 (F1), Cabrinians\_60 (F1), CaptainTrips\_56 (F1), Charlie\_44 (N), Chuckly\_62 (F1), Clifton\_54 (F1), Cornie\_55 (F5), Cornucopia\_61 (F1), Crumble\_54 (F1), DRBy19\_62 (F1), DaWorst\_60 (F1), DaddyRickover\_58 (F1), Daenerys\_53 (F1), Dante\_60 (F1), DeadP\_65 (F1), Demsculpinboyz\_70 (F2), DillTech15\_56 (F1), DirtMcgirt\_58 (F1), Doomphist\_59 (F1), Dorothy\_57 (F1), DosHalletts\_61 (F1), Doug\_61 (F1), Drago\_57 (F1), Eish\_63 (F1), EleanorGeorge\_60 (F1), Empress\_57 (F1), Enby\_60 (F1), Eradicator\_52 (F1), Estave1\_62 (F1), Fancypants\_61 (F1), Fastidio\_59 (F1), Firehouse51\_60 (F1), FreddyB\_60 (F1), GUmbie\_57 (F1), Galactic\_58 (F1), Gandolph\_62 (F1), GigiOuiOui\_55 (F1), Girr\_57 (F1), Gorge\_63 (F1), Hades\_60 (F1), Hegedechwinu\_59 (F1), Hlubikazi\_55 (F1), IbOuu\_60 (F1), Ibhubesi\_59 (F1), Inventum\_54 (F1), IrishSherpFalk\_60 (F1), Jabbawokkie\_73 (F2), James\_63 (F1), Jarcob\_59 (F1), Jinglebell\_64 (F1), Job42\_61 (F1), JoeyJr\_54 (F1), Journey\_43 (N), Karhdo\_56 (F1), Kersh\_61 (F1), Kimberlium\_62 (F1), KingMidas\_58 (F1), Koella\_53 (F1), KristaRAM\_62 (F1), LastJedi\_53 (F1), Latretium\_61 (F1), Leozinho\_58 (F1), Leperchaun\_51 (F1), LilMoolah\_57 (F1), LittleShirley\_58 (F1), Lizziana\_65 (F1), Llama\_64 (F1), Llij\_55 (F1), Lorde\_59 (F1), LunaBlu\_61 (F1), LunaStella\_58 (F4), MadMen\_57 (F1), Madiba\_57 (F1), Mahavrat\_57 (F1), Mandlovu\_55 (F1), Maravista\_60 (F1), Marker\_61 (F1), Martik\_59 (F1), Mattes\_63 (F1), MinionDave\_58 (F1), MisterCuddles\_57 (F1), Modragons\_63 (F1), Mova\_60 (F1), Mozy\_68 (F1), MulchExplorer\_66 (F1), Mutaforma13\_63 (F1), Nitzel\_57 (F1), Nivrat\_55 (F1), NormanBulbieJr\_59 (F1), Ochi17\_62 (F1), OfUltron\_64 (F1), Oksu\_63 (F1), OldBen\_56 (F1), OlympiaSaint\_61 (F1), OwlsT2W\_59 (F1), PHappiness\_54 (F1), PMC\_56 (F1), Pacc40\_53 (F1), Phasih\_57 (F1), Phatniss\_57 (F1), Philus\_62 (F1), Pippy\_57 (F1), Plumbus\_61 (F1), Poenanya\_59 (F1), Polka14\_57 (F1), Pollywog\_60 (F1), Priscilla\_59 (F1), QuickMath\_61 (F1), Radiance\_58 (F1), RedBird\_57 (F1), Renaud18\_65 (F4), Rialto\_65 (F1), RitaG\_54 (F1), Rita\_60 (F1), Rockne\_60 (F1), RockyHorror\_60 (F1), Ruby\_55 (F1), SG4\_56 (F1), Saal\_61 (F1), Sabbb\_63 (F1), Sassafras\_57 (F1), Sbash\_53 (I2), Scottish\_57 (F1), Seabastian\_64 (F1),

Sejanus\_58 (AD), ShiLan\_58 (F1), ShowerHandel\_62 (F1), ShroomBoi\_61 (F1), Shweta\_42 (N), SiSi\_57 (F1), SimranZ1\_59 (F1), Soul22\_65 (F2), Spartacus\_61 (F1), Spikelee\_66 (F1), Spoonbill\_56 (F1), Stap\_57 (F1), Starceвич\_59 (F1), Strokeseat\_55 (F1), SwagPigglett\_64 (F1), ThetaBob\_64 (F4), Tootsieroll\_60 (F1), Totinger\_58 (F1), UncleRicky\_58 (F1), VRedHorse\_59 (F1), Veteran\_56 (F1), Wee\_60 (F1), Wee\_63 (F1), Whouxphf\_56 (F1), WillSterrel\_60 (F1), Yorick\_58 (F1), Yoshi\_72 (F2), Zapner\_72 (F2), Zerg\_59 (F1), Zizzle\_63 (F1),

#### Start 32:

- Found in 1 of 541 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chymera\_48 (singleton),

#### Start 34:

- Found in 2 of 541 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Footloose\_55 (singleton), TinyDot\_55 (singleton),

#### Start 35:

- Found in 9 of 541 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 7 of 508
- Called 77.8% of time when present
- Phage (with cluster) where this start called: Bernal13\_41 (T), Constella\_113 (J), Ibrahim\_41 (T), Mendokysei\_39 (T), Nairb\_40 (T), RonRayGun\_41 (T), ZenTime222\_40 (T),

#### Start 36:

- Found in 30 of 541 ( 5.5% ) of genes in pham
- Manual Annotations of this start: 8 of 508
- Called 26.7% of time when present
- Phage (with cluster) where this start called: Hurricane\_53 (K3), Keshu\_55 (K3), MacnCheese\_55 (K3), Pharb\_50 (K3), Pixie\_52 (K3), ShedlockHolmes\_54 (K3), TBond007\_51 (K3), TripleTrouble\_50 (K3),

#### Start 37:

- Found in 87 of 541 ( 16.1% ) of genes in pham
- Manual Annotations of this start: 83 of 508
- Called 97.7% of time when present
- Phage (with cluster) where this start called: ActinUp\_50 (K1), Adephegia\_50 (K1), Adonis\_50 (K1), Ageofdapage\_52 (K1), AlishaPH\_50 (K1), Anaya\_52 (K1), Angelica\_50 (K1), Apocalypse\_53 (K1), Asayake\_50 (K1), Atiba\_51 (K1), BEEST\_50 (K1), BGIluviae\_50 (K1), BaghaKamala\_49 (K1), BarrelRoll\_50 (K1), Beezoo\_52 (K1), Bella96\_51 (K1), Belladonna\_50 (K1), Blizzard\_50 (K1), Boiii\_50 (K1), CREW\_50 (K1), Capricorn\_50 (K1), CaseJules\_52 (K1), CheetoDust\_49 (K1), CrimD\_50 (K1), Curiosium\_52 (K1), Dalmuri\_50 (K1), Deby\_50 (K1), Devera\_55 (K1), Dole\_53 (K1), DrHayes\_51 (K1), Durfee\_50 (K1), Efra2\_53 (K1), Emerson\_51 (K1), Ganymede\_51 (K1), Geraldini\_53 (K1), HedwigODU\_50 (K1), Homura\_50 (K1), Hyperbowlee\_50 (K1), Illumine\_53 (K1), Inky\_50 (K1), JAWS\_50 (K1), Jarvi\_50 (K1), Jayhawk\_51 (K1), Jeckyll\_50 (K1), Joy99\_50 (K1), LaterM\_51 (K1), LindNT\_49 (K1), Llorens\_50 (K1), Lunahalos\_50 (K1), MeaningOfLife\_51 (K1), Megsy\_52 (K1),

Murucutumbu\_51 (K1), Mynx\_51 (K1), Nergal\_48 (AG), Padfoot\_50 (K1), Padpat\_52 (K1), Peel\_50 (K1), Piatt\_50 (K1), Pokerus\_49 (K1), Prithvi\_51 (K1), QuincyRose\_49 (K1), Ramen\_51 (K1), Rapunzel97\_51 (K1), Rosmarinus\_50 (K1), SamuelLPlaqson\_51 (K1), ShiaSurprise\_51 (K1), Slimphazie\_50 (K1), Spock\_50 (K1), Stinson\_51 (K1), Sulley\_50 (K1), Tachez\_50 (K1), TaiwanKao\_52 (K1), TingHuaYa\_51 (K1), TiniBug\_51 (K1), Tiri\_51 (K1), Topper\_50 (K1), TreyKay\_51 (K1), TruffulaTree\_50 (K1), Twitch\_50 (K1), Urkel\_51 (K1), Veliki\_51 (K1), YoureAdopted\_49 (K1), Yunkel11\_53 (K1), Zabiza\_45 (K1), Zavala\_52 (K1),

Start 38:

- Found in 6 of 541 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 508
- Called 16.7% of time when present
- Phage (with cluster) where this start called: TChen\_60 (F4),

Start 41:

- Found in 41 of 541 ( 7.6% ) of genes in pham
- Manual Annotations of this start: 31 of 508
- Called 85.4% of time when present
- Phage (with cluster) where this start called: Amelie\_46 (K1), Binglebops\_46 (K1), Bryler\_54 (K6), Cain\_54 (K6), Chris\_53 (K1), Dartin\_53 (K1), Enkosi\_48 (K1), Krueger\_57 (K6), LilPharaoh\_46 (K1), MarkPhew\_54 (K1), Marshawn\_53 (K6), McMater\_53 (K1), Mdavu\_47 (K1), Nibb\_53 (K1), Nikao\_49 (K1), Niklas\_53 (K1), Nutello\_46 (K1), Oscar\_55 (K1), Peanam\_53 (K1), PhelpsODU\_53 (K6), Phrank\_54 (K6), Richo\_53 (K1), Scarlett\_55 (K1), SgtBeansprout\_46 (K1), Shadow1\_56 (K6), Shaobing\_53 (K1), SirPhilip\_53 (K6), Sunflower1121\_57 (K6), Syra333\_56 (K6), Tierra\_54 (K6), Torres\_48 (K1), Unicorn\_53 (K6), Validus\_55 (K1), Ximenita\_57 (K6), Yuna\_57 (K6),

Start 42:

- Found in 8 of 541 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 8 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amgine\_51 (K6), Amohnition\_53 (K6), DarthP\_53 (K6), Ekdilam\_50 (K6), Ellie\_49 (K6), Fefferhead\_51 (K6), Hammy\_53 (K6), TClif\_54 (K6),

Start 44:

- Found in 21 of 541 ( 3.9% ) of genes in pham
- Manual Annotations of this start: 12 of 508
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Austintatious\_37 (BC3), Bioscum\_41 (BC3), BoostSeason\_54 (K2), DismalFunk\_54 (K2), DismalStressor\_54 (K2), Findley\_54 (K2), Guanica15\_53 (K1), Ididsumtinwong\_41 (BC3), LastHope\_53 (K1), Marcoliusprime\_54 (K2), Milly\_54 (K2), PapayaSalad\_40 (BC3),

Start 45:

- Found in 9 of 541 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 2 of 508
- Called 22.2% of time when present
- Phage (with cluster) where this start called: KiSi\_55 (K1), LeMond\_55 (K1),

Start 46:

- Found in 11 of 541 ( 2.0% ) of genes in pham
- Manual Annotations of this start: 4 of 508
- Called 45.5% of time when present
- Phage (with cluster) where this start called: Mufasa\_54 (K2), Strobilo\_54 (K2), TM4\_49 (K2), VWB\_44 (BA), ZoeJ\_53 (K2),

#### Start 48:

- Found in 17 of 541 ( 3.1% ) of genes in pham
- Manual Annotations of this start: 9 of 508
- Called 82.4% of time when present
- Phage (with cluster) where this start called: Clautastrophe\_77 (L3), Finnry\_79 (L3), GMA3\_48 (DF2), Gmala1\_46 (DF1), GordDuk1\_47 (DF1), GordTnk2\_48 (DF1), Jobypre\_80 (L3), Jubie\_78 (L3), Jumbo\_47 (DF3), Kingsolomon\_77 (L3), MiniLon\_83 (L3), MsGreen\_79 (L3), Nicholas\_77 (L3), Snenia\_78 (L3),

#### Start 51:

- Found in 6 of 541 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 6 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_93 (DP), Guey18\_98 (DP), Keelan\_94 (DP), Ronaldo\_96 (DP), Volt\_97 (DP), Ziko\_96 (DP),

#### Start 54:

- Found in 137 of 541 ( 25.3% ) of genes in pham
- Manual Annotations of this start: 123 of 508
- Called 95.6% of time when present
- Phage (with cluster) where this start called: 244\_94 (E), ABCat\_90 (E), Adnama\_97 (E), Amao\_93 (E), AmericanBeauty\_97 (E), Argent26\_97 (E), Asriel\_91 (E), BaboJay\_93 (E), BadStone\_90 (E), Balomoji\_93 (E), Barbarian\_92 (E), Bask21\_93 (E), Bench\_96 (E), BigBubba\_93 (E), BilboSwaggins\_92 (E), Bruin\_90 (E), Buck\_94 (E), BugsBunny\_93 (E), Cactus\_96 (E), ChosenOne\_93 (E), ChotaBhai\_93 (E), Cjw1\_94 (E), Command613\_95 (E), Contagion\_89 (E), Cookies\_90 (E), CrystalP\_92 (E), Czyszczonek\_94 (E), Daikon\_94 (E), DoctorDiddles\_92 (E), DrDrey\_93 (E), Dumbo\_93 (E), Dusk\_90 (E), Easy2Say\_94 (E), Elite2014\_92 (E), Elph10\_94 (E), Emmina\_93 (E), Eureka\_92 (E), FairyPath\_93 (E), Filch\_95 (E), FireRed\_97 (E), Flypotenuse\_89 (E), Gage\_95 (E), Gator\_91 (E), Gemini\_98 (E), Glexan\_92 (E), Goku\_92 (E), GoldenSpark\_97 (E), Goldilocks\_96 (E), GooberAzure\_96 (E), HanKaySha\_94 (E), Harella\_93 (E), Henry\_91 (E), Highbury\_92 (E), Holt\_98 (E), Hoonter\_96 (E), Hokey\_94 (E), HufflyPuff\_95 (E), IHOP\_91 (E), Icee\_94 (E), Inca\_90 (E), JeTaime\_94 (E), Kanye\_90 (E), Kimchi\_97 (E), Kostya\_93 (E), Lilac\_96 (E), Lilizi\_94 (E), Lilpickle\_92 (E), MISSy\_94 (E), MPhalcon\_94 (E), MadamMonkfish\_93 (E), Manda\_95 (E), Marshmallow\_91 (E), Maxxinista\_96 (E), Mindy\_92 (E), Miniwave\_88 (E), Misfit\_94 (E), Moldemort\_96 (E), Mosby\_89 (E), Murica\_96 (E), Murphy\_93 (E), Myrale\_93 (E), Nala\_95 (E), NelitzaMV\_91 (E), Nimrod\_94 (E), NoSleep\_94 (E), OrionPax\_92 (E), Palpatine\_95 (E), Paperbeatsrock\_92 (E), Pat3\_90 (E), Petra64142\_98 (E), Phaja\_91 (E), Pharsalus\_90 (E), PhatBacter\_97 (E), Phaux\_96 (E), Phrux\_91 (E), Policronamos\_97 (E), Porky\_92 (E), Pumpkin\_97 (E), Quallification\_94 (E), Rakim\_94 (E), Rimmer\_91 (E), RiverMonster\_94 (E), Saints25\_92 (E), Sassay\_88 (E), ShamWow\_93 (E), ShereKhan\_91 (E), Simpliphy\_92 (E), SirDuracell\_93 (E), SophKB\_90 (E), Sotrice96\_94 (E), Stank\_95 (E), Stark\_95 (E), StellaBean\_91 (E), StolenFromERC\_96 (E), TBrady12\_96 (E), Tarkin\_92 (E), TeardropMSU\_89 (E), Teaspoon\_94 (E), Terminus\_96 (E), Thresher\_96 (E), Tomaszewski\_88 (E), Toto\_91 (E), Traaww1\_89 (E), Tuco\_94 (E),

Ukulele\_88 (E), Wiggin\_95 (E), Willez\_88 (E), Xandras\_92 (E), YassJohnny\_90 (E), Youngblood\_96 (E), xkcd\_96 (E),

Start 55:

- Found in 1 of 541 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: IdentityCrisis\_42 (singleton),

Start 57:

- Found in 2 of 541 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Reynauld\_48 (singleton), Trogglehumper\_64 (singleton),

Start 58:

- Found in 15 of 541 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 4 of 508
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Aegeus\_88 (L5), Baudelaire\_88 (L5), Bellis\_77 (L3), Moostard\_77 (L3), Samty\_78 (L3), Toron\_68 (F6),

Start 59:

- Found in 1 of 541 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Taj\_63 (F1),

Start 62:

- Found in 9 of 541 ( 1.7% ) of genes in pham
- Manual Annotations of this start: 4 of 508
- Called 77.8% of time when present
- Phage (with cluster) where this start called: Alex44\_7 (EK1), Atraxi\_7 (EK2), DocB7\_034 (singleton), Morrill\_7 (EK2), ThirteenKH\_7 (EK2), TrippleS\_7 (EK2), Yafa\_7 (EK2),

Start 65:

- Found in 10 of 541 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 9 of 508
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ASerpRocky\_40 (CS4), Benczkowski14\_39 (CS4), Demosthenes\_39 (CS4), Hollow\_40 (CS4), Katyusha\_39 (CS4), Kvothe\_39 (CS4), Niagara\_39 (CS4), Teatealatte\_40 (CS4), Teech\_40 (CS4), Tredge\_40 (CS4),

Start 66:

- Found in 6 of 541 ( 1.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Mbo2\_39 (singleton),

Start 68:

- Found in 6 of 541 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 508
- Called 16.7% of time when present
- Phage (with cluster) where this start called: SkinnyPete\_42 (N),

### **Summary by clusters:**

There are 33 clusters represented in this pham: DO, singleton, BA, K3, K2, K1, K6, DP, I2, DF1, DF3, DF2, DN2, CS4, E, AD, AG, F, J, N, Q, CX, L3, F1, F2, F4, F5, F6, T, L5, EK2, EK1, BC3,

Info for manual annotations of cluster AD:

- Start number 31 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster AG:

- Start number 37 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster BC3:

- Start number 44 was manually annotated 4 times for cluster BC3.

Info for manual annotations of cluster CS4:

- Start number 65 was manually annotated 9 times for cluster CS4.

Info for manual annotations of cluster CX:

- Start number 20 was manually annotated 1 time for cluster CX.

Info for manual annotations of cluster DF3:

- Start number 48 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster DN2:

- Start number 28 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DO:

- Start number 25 was manually annotated 3 times for cluster DO.

Info for manual annotations of cluster DP:

- Start number 51 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster E:

- Start number 54 was manually annotated 123 times for cluster E.

Info for manual annotations of cluster EK1:

- Start number 62 was manually annotated 1 time for cluster EK1.

Info for manual annotations of cluster EK2:

- Start number 62 was manually annotated 3 times for cluster EK2.

Info for manual annotations of cluster F1:

- Start number 31 was manually annotated 147 times for cluster F1.

- Start number 59 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 31 was manually annotated 6 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 31 was manually annotated 3 times for cluster F4.
- Start number 38 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster F5:

- Start number 31 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster I2:

- Start number 31 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster J:

- Start number 35 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster K1:

- Start number 37 was manually annotated 82 times for cluster K1.
- Start number 41 was manually annotated 17 times for cluster K1.
- Start number 44 was manually annotated 2 times for cluster K1.
- Start number 45 was manually annotated 2 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 44 was manually annotated 6 times for cluster K2.
- Start number 46 was manually annotated 4 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 36 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K6:

- Start number 41 was manually annotated 14 times for cluster K6.
- Start number 42 was manually annotated 8 times for cluster K6.

Info for manual annotations of cluster L3:

- Start number 48 was manually annotated 8 times for cluster L3.
- Start number 58 was manually annotated 2 times for cluster L3.

Info for manual annotations of cluster L5:

- Start number 58 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster N:

- Start number 31 was manually annotated 3 times for cluster N.
- Start number 68 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster Q:

- Start number 19 was manually annotated 20 times for cluster Q.
- Start number 26 was manually annotated 2 times for cluster Q.

Info for manual annotations of cluster T:

- Start number 35 was manually annotated 6 times for cluster T.



**Gene Information:**

Gene: 244\_94 Start: 56440, Stop: 56700, Start Num: 54

Candidate Starts for 244\_94:

(Start: 54 @56440 has 123 MA's), (64, 56461), (80, 56536), (90, 56605), (102, 56671),

Gene: ABCat\_90 Start: 57128, Stop: 57388, Start Num: 54

Candidate Starts for ABCat\_90:

(Start: 54 @57128 has 123 MA's), (64, 57149), (80, 57224), (90, 57293), (102, 57359),

Gene: ASerpRocky\_40 Start: 44241, Stop: 44041, Start Num: 65

Candidate Starts for ASerpRocky\_40:

(Start: 65 @44241 has 9 MA's),

Gene: ActinUp\_50 Start: 37356, Stop: 37619, Start Num: 37

Candidate Starts for ActinUp\_50:

(Start: 37 @37356 has 83 MA's), (84, 37497),

Gene: Adephagia\_50 Start: 37353, Stop: 37616, Start Num: 37

Candidate Starts for Adephagia\_50:

(Start: 37 @37353 has 83 MA's), (84, 37494),

Gene: Adnama\_97 Start: 56736, Stop: 56996, Start Num: 54

Candidate Starts for Adnama\_97:

(Start: 54 @56736 has 123 MA's), (64, 56757), (80, 56832), (90, 56901), (102, 56967),

Gene: Adonis\_50 Start: 37651, Stop: 37914, Start Num: 37

Candidate Starts for Adonis\_50:

(Start: 37 @37651 has 83 MA's), (84, 37792),

Gene: Aegeus\_88 Start: 54840, Stop: 55091, Start Num: 58

Candidate Starts for Aegeus\_88:

(Start: 58 @54840 has 4 MA's), (72, 54885), (89, 54978), (99, 55032),

Gene: Ageofdapage\_52 Start: 38336, Stop: 38599, Start Num: 37

Candidate Starts for Ageofdapage\_52:

(7, 38084), (Start: 37 @38336 has 83 MA's), (67, 38390), (84, 38477),

Gene: Alex44\_7 Start: 5465, Stop: 5193, Start Num: 62

Candidate Starts for Alex44\_7:

(30, 5525), (Start: 62 @5465 has 4 MA's), (93, 5327), (99, 5297), (106, 5252),

Gene: Alexphander\_63 Start: 40422, Stop: 40706, Start Num: 31

Candidate Starts for Alexphander\_63:

(24, 40395), (Start: 31 @40422 has 162 MA's), (43, 40446), (52, 40461), (70, 40506), (72, 40518), (86, 40596), (89, 40608), (96, 40632), (98, 40644), (107, 40698),

Gene: AlishaPH\_50 Start: 37626, Stop: 37889, Start Num: 37

Candidate Starts for AlishaPH\_50:

(Start: 37 @37626 has 83 MA's), (84, 37767),

Gene: AlpineSix\_64 Start: 42541, Stop: 42819, Start Num: 31

Candidate Starts for AlpineSix\_64:

(24, 42514), (Start: 31 @42541 has 162 MA's), (71, 42625), (73, 42634), (84, 42697), (86, 42712), (89, 42724), (96, 42748), (98, 42760), (107, 42811),

Gene: Amao\_93 Start: 56248, Stop: 56508, Start Num: 54

Candidate Starts for Amao\_93:

(Start: 54 @56248 has 123 MA's), (64, 56269), (80, 56344), (90, 56413), (102, 56479),

Gene: Amelie\_46 Start: 37040, Stop: 37309, Start Num: 41

Candidate Starts for Amelie\_46:

(Start: 41 @37040 has 31 MA's), (75, 37136), (87, 37196), (88, 37202), (89, 37205), (96, 37232), (98, 37244), (105, 37298),

Gene: AmericanBeauty\_97 Start: 57297, Stop: 57557, Start Num: 54

Candidate Starts for AmericanBeauty\_97:

(Start: 54 @57297 has 123 MA's), (64, 57318), (80, 57393), (90, 57462), (102, 57528),

Gene: Amgine\_51 Start: 38553, Stop: 38807, Start Num: 42

Candidate Starts for Amgine\_51:

(9, 38403), (Start: 42 @38553 has 8 MA's), (72, 38619), (92, 38727),

Gene: Amochick\_76 Start: 49396, Stop: 49704, Start Num: 19

Candidate Starts for Amochick\_76:

(18, 49390), (Start: 19 @49396 has 20 MA's), (Start: 26 @49423 has 2 MA's), (Start: 36 @49456 has 8 MA's), (76, 49558), (81, 49585), (101, 49696),

Gene: Amohnition\_53 Start: 38560, Stop: 38814, Start Num: 42

Candidate Starts for Amohnition\_53:

(3, 38242), (7, 38311), (9, 38407), (Start: 42 @38560 has 8 MA's), (72, 38626), (84, 38689), (92, 38734),

Gene: Amymech\_75 Start: 48849, Stop: 49157, Start Num: 19

Candidate Starts for Amymech\_75:

(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: Anaya\_52 Start: 37953, Stop: 38216, Start Num: 37

Candidate Starts for Anaya\_52:

(Start: 37 @37953 has 83 MA's), (67, 38007), (84, 38094), (89, 38121),

Gene: Angelica\_50 Start: 37583, Stop: 37846, Start Num: 37

Candidate Starts for Angelica\_50:

(Start: 37 @37583 has 83 MA's), (84, 37724),

Gene: Apocalypse\_53 Start: 38362, Stop: 38625, Start Num: 37

Candidate Starts for Apocalypse\_53:

(Start: 37 @38362 has 83 MA's), (84, 38503),

Gene: Argent26\_97 Start: 56657, Stop: 56917, Start Num: 54

Candidate Starts for Argent26\_97:

(Start: 54 @56657 has 123 MA's), (64, 56678), (80, 56753), (90, 56822), (102, 56888),

Gene: Asayake\_50 Start: 37668, Stop: 37931, Start Num: 37

Candidate Starts for Asayake\_50:

(Start: 37 @37668 has 83 MA's), (84, 37809),

Gene: Asriel\_91 Start: 55073, Stop: 55333, Start Num: 54

Candidate Starts for Asriel\_91:

(Start: 54 @55073 has 123 MA's), (64, 55094), (80, 55169), (90, 55238), (102, 55304),

Gene: Atiba\_51 Start: 37316, Stop: 37579, Start Num: 37

Candidate Starts for Atiba\_51:

(Start: 37 @37316 has 83 MA's), (84, 37457),

Gene: Atraxi\_7 Start: 5184, Stop: 4927, Start Num: 62

Candidate Starts for Atraxi\_7:

(30, 5244), (Start: 62 @5184 has 4 MA's), (79, 5112), (84, 5070), (99, 4995), (106, 4950),

Gene: Austintatious\_37 Start: 25254, Stop: 25553, Start Num: 44

Candidate Starts for Austintatious\_37:

(5, 24966), (8, 25011), (21, 25185), (Start: 44 @25254 has 12 MA's), (89, 25416),

Gene: Avani\_67 Start: 40740, Stop: 41018, Start Num: 31

Candidate Starts for Avani\_67:

(24, 40713), (Start: 31 @40740 has 162 MA's), (71, 40824), (73, 40833), (84, 40896), (86, 40911), (89, 40923), (96, 40947), (98, 40959), (107, 41010),

Gene: BEEST\_50 Start: 37668, Stop: 37931, Start Num: 37

Candidate Starts for BEEST\_50:

(Start: 37 @37668 has 83 MA's), (84, 37809),

Gene: BGlluviae\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for BGlluviae\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: BaboJay\_93 Start: 57319, Stop: 57579, Start Num: 54

Candidate Starts for BaboJay\_93:

(Start: 54 @57319 has 123 MA's), (64, 57340), (80, 57415), (90, 57484), (102, 57550),

Gene: BadStone\_90 Start: 56697, Stop: 56957, Start Num: 54

Candidate Starts for BadStone\_90:

(Start: 54 @56697 has 123 MA's), (64, 56718), (80, 56793), (90, 56862), (102, 56928),

Gene: BaghaKamala\_49 Start: 36791, Stop: 37054, Start Num: 37

Candidate Starts for BaghaKamala\_49:

(Start: 37 @36791 has 83 MA's), (84, 36932),

Gene: Balomoji\_93 Start: 56855, Stop: 57115, Start Num: 54

Candidate Starts for Balomoji\_93:

(11, 56717), (Start: 54 @56855 has 123 MA's), (64, 56876), (90, 57020), (102, 57086),

Gene: Barbarian\_92 Start: 55073, Stop: 55333, Start Num: 54

Candidate Starts for Barbarian\_92:

(Start: 54 @55073 has 123 MA's), (64, 55094), (80, 55169), (90, 55238), (102, 55304),

Gene: BarrelRoll\_50 Start: 37339, Stop: 37602, Start Num: 37

Candidate Starts for BarrelRoll\_50:

(Start: 37 @37339 has 83 MA's), (84, 37480),

Gene: Bask21\_93 Start: 55708, Stop: 55968, Start Num: 54

Candidate Starts for Bask21\_93:

(11, 55570), (Start: 54 @55708 has 123 MA's), (64, 55729), (90, 55873), (102, 55939),

Gene: Baudelaire\_88 Start: 54840, Stop: 55091, Start Num: 58

Candidate Starts for Baudelaire\_88:

(Start: 58 @54840 has 4 MA's), (72, 54885), (89, 54978), (99, 55032),

Gene: Beezoo\_52 Start: 38314, Stop: 38577, Start Num: 37

Candidate Starts for Beezoo\_52:

(Start: 37 @38314 has 83 MA's), (84, 38455),

Gene: Bella96\_51 Start: 38180, Stop: 38443, Start Num: 37

Candidate Starts for Bella96\_51:

(7, 37928), (Start: 37 @38180 has 83 MA's), (67, 38234), (81, 38303), (84, 38321),

Gene: Belladonna\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for Belladonna\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: Bellis\_77 Start: 53811, Stop: 54065, Start Num: 58

Candidate Starts for Bellis\_77:

(Start: 48 @53796 has 9 MA's), (Start: 58 @53811 has 4 MA's), (89, 53946), (97, 53988), (102, 54024), (107, 54048),

Gene: Bench\_96 Start: 56792, Stop: 57052, Start Num: 54

Candidate Starts for Bench\_96:

(Start: 54 @56792 has 123 MA's), (64, 56813), (80, 56888), (90, 56957), (102, 57023),

Gene: Benczkowski14\_39 Start: 44274, Stop: 44074, Start Num: 65

Candidate Starts for Benczkowski14\_39:

(Start: 65 @44274 has 9 MA's),

Gene: Bernal13\_41 Start: 31446, Stop: 31703, Start Num: 35

Candidate Starts for Bernal13\_41:

(4, 31170), (6, 31191), (Start: 35 @31446 has 7 MA's), (72, 31530), (89, 31620),

Gene: BigBubba\_93 Start: 56089, Stop: 56349, Start Num: 54

Candidate Starts for BigBubba\_93:

(Start: 54 @56089 has 123 MA's), (64, 56110), (80, 56185), (90, 56254), (102, 56320),

Gene: Biglebops\_46 Start: 37040, Stop: 37309, Start Num: 41

Candidate Starts for Biglebops\_46:

(Start: 41 @37040 has 31 MA's), (75, 37136), (87, 37196), (88, 37202), (89, 37205), (96, 37232), (98, 37244), (105, 37298),

Gene: BilboSwaggins\_92 Start: 57094, Stop: 57354, Start Num: 54

Candidate Starts for BilboSwaggins\_92:

(Start: 54 @57094 has 123 MA's), (64, 57115), (80, 57190), (90, 57259), (102, 57325),

Gene: Bioscum\_41 Start: 27555, Stop: 27854, Start Num: 44

Candidate Starts for Bioscum\_41:

(5, 27267), (8, 27312), (21, 27486), (Start: 44 @27555 has 12 MA's), (89, 27717),

Gene: Blarby\_71 Start: 41835, Stop: 42119, Start Num: 31

Candidate Starts for Blarby\_71:

(24, 41808), (Start: 31 @41835 has 162 MA's), (43, 41859), (52, 41874), (70, 41919), (72, 41931), (86, 42009), (89, 42021), (96, 42045), (98, 42057), (107, 42111),

Gene: Blexus\_57 Start: 40392, Stop: 40673, Start Num: 31

Candidate Starts for Blexus\_57:

(24, 40365), (Start: 31 @40392 has 162 MA's), (43, 40416), (52, 40431), (70, 40476), (72, 40488), (86, 40566), (89, 40578), (96, 40602), (98, 40614), (107, 40665),

Gene: Blizzard\_50 Start: 37668, Stop: 37931, Start Num: 37

Candidate Starts for Blizzard\_50:

(Start: 37 @37668 has 83 MA's), (84, 37809),

Gene: BlueCrab\_59 Start: 40700, Stop: 40978, Start Num: 31

Candidate Starts for BlueCrab\_59:

(24, 40673), (Start: 31 @40700 has 162 MA's), (43, 40724), (52, 40736), (70, 40781), (72, 40793), (89, 40883), (96, 40907), (98, 40919), (107, 40970),

Gene: BobaPhett\_63 Start: 42651, Stop: 42935, Start Num: 31

Candidate Starts for BobaPhett\_63:

(24, 42624), (Start: 31 @42651 has 162 MA's), (43, 42675), (52, 42690), (70, 42735), (72, 42747), (86, 42825), (89, 42837), (96, 42861), (98, 42873), (107, 42927),

Gene: BodEinwohner17\_59 Start: 39462, Stop: 39740, Start Num: 31

Candidate Starts for BodEinwohner17\_59:

(24, 39435), (Start: 31 @39462 has 162 MA's), (71, 39546), (73, 39555), (84, 39618), (86, 39633), (89, 39645), (96, 39669), (98, 39681), (107, 39732),

Gene: Boiiii\_50 Start: 37670, Stop: 37933, Start Num: 37

Candidate Starts for Boiiii\_50:

(Start: 37 @37670 has 83 MA's), (84, 37811),

Gene: Boomer\_64 Start: 42326, Stop: 42610, Start Num: 31

Candidate Starts for Boomer\_64:

(24, 42299), (Start: 31 @42326 has 162 MA's), (43, 42350), (52, 42365), (70, 42410), (72, 42422), (86, 42500), (89, 42512), (96, 42536), (98, 42548), (107, 42602),

Gene: BoostSeason\_54 Start: 39128, Stop: 39364, Start Num: 44

Candidate Starts for BoostSeason\_54:

(Start: 44 @39128 has 12 MA's), (Start: 46 @39131 has 4 MA's), (50, 39137), (53, 39143), (81, 39233), (82, 39239), (96, 39302), (105, 39353),

Gene: Brocalys\_54 Start: 36836, Stop: 37117, Start Num: 31

Candidate Starts for Brocalys\_54:

(24, 36809), (Start: 31 @36836 has 162 MA's), (43, 36860), (52, 36875), (70, 36920), (72, 36932), (86, 37010), (89, 37022), (96, 37046), (98, 37058), (107, 37109),

Gene: Bruin\_90 Start: 55671, Stop: 55931, Start Num: 54

Candidate Starts for Bruin\_90:

(Start: 54 @55671 has 123 MA's), (64, 55692), (80, 55767), (90, 55836), (102, 55902),

Gene: Bryler\_54 Start: 37154, Stop: 37411, Start Num: 41

Candidate Starts for Bryler\_54:

(Start: 41 @37154 has 31 MA's), (Start: 54 @37175 has 123 MA's), (72, 37229), (84, 37292), (85, 37301), (100, 37379),

Gene: Buck\_94 Start: 57360, Stop: 57620, Start Num: 54

Candidate Starts for Buck\_94:

(11, 57222), (Start: 54 @57360 has 123 MA's), (64, 57381), (90, 57525), (102, 57591),

Gene: BugsBunny\_93 Start: 57200, Stop: 57460, Start Num: 54

Candidate Starts for BugsBunny\_93:

(Start: 54 @57200 has 123 MA's), (64, 57221), (80, 57296), (90, 57365), (102, 57431),

Gene: Burwell21\_57 Start: 39934, Stop: 40218, Start Num: 31

Candidate Starts for Burwell21\_57:

(24, 39907), (Start: 31 @39934 has 162 MA's), (43, 39958), (52, 39973), (70, 40018), (72, 40030), (86, 40108), (89, 40120), (96, 40144), (98, 40156), (107, 40210),

Gene: BuzzLyseyear\_65 Start: 41358, Stop: 41639, Start Num: 31

Candidate Starts for BuzzLyseyear\_65:

(24, 41331), (Start: 31 @41358 has 162 MA's), (43, 41382), (52, 41397), (70, 41442), (72, 41454), (86, 41532), (89, 41544), (96, 41568), (98, 41580), (107, 41631),

Gene: ByChance\_51 Start: 35625, Stop: 35906, Start Num: 31

Candidate Starts for ByChance\_51:

(24, 35598), (Start: 31 @35625 has 162 MA's), (43, 35649), (52, 35661), (70, 35706), (72, 35718), (86, 35796), (89, 35808), (96, 35832), (98, 35844), (107, 35898),

Gene: Byougenkin\_57 Start: 39701, Stop: 39982, Start Num: 31

Candidate Starts for Byougenkin\_57:

(24, 39674), (Start: 31 @39701 has 162 MA's), (43, 39725), (52, 39740), (70, 39785), (72, 39797), (86, 39875), (89, 39887), (96, 39911), (98, 39923), (107, 39974),

Gene: CREW\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for CREW\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: Cabrinians\_60 Start: 40012, Stop: 40296, Start Num: 31

Candidate Starts for Cabrinians\_60:

(24, 39985), (Start: 31 @40012 has 162 MA's), (43, 40036), (52, 40051), (70, 40096), (72, 40108), (86, 40186), (89, 40198), (96, 40222), (98, 40234), (107, 40288),

Gene: Cactus\_96 Start: 55737, Stop: 55997, Start Num: 54

Candidate Starts for Cactus\_96:

(Start: 54 @55737 has 123 MA's), (64, 55758), (80, 55833), (90, 55902), (102, 55968),

Gene: Cain\_54 Start: 37142, Stop: 37399, Start Num: 41

Candidate Starts for Cain\_54:

(Start: 41 @37142 has 31 MA's), (Start: 54 @37163 has 123 MA's), (72, 37217), (84, 37280), (85, 37289), (100, 37367),

Gene: Capricorn\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for Capricorn\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: CaptainTrips\_56 Start: 39508, Stop: 39792, Start Num: 31

Candidate Starts for CaptainTrips\_56:

(Start: 31 @39508 has 162 MA's), (43, 39532), (52, 39547), (70, 39592), (72, 39604), (86, 39682), (89, 39694), (96, 39718), (98, 39730), (107, 39784),

Gene: CaseJules\_52 Start: 37668, Stop: 37931, Start Num: 37

Candidate Starts for CaseJules\_52:

(Start: 37 @37668 has 83 MA's), (84, 37809),

Gene: Charlie\_44 Start: 30217, Stop: 30516, Start Num: 31

Candidate Starts for Charlie\_44:

(Start: 31 @30217 has 162 MA's), (39, 30235), (60, 30271), (Start: 68 @30286 has 1 MA's), (84, 30382), (96, 30433), (100, 30469), (105, 30502), (108, 30508),

Gene: CheetoDust\_49 Start: 36840, Stop: 37103, Start Num: 37

Candidate Starts for CheetoDust\_49:

(Start: 37 @36840 has 83 MA's), (84, 36981),

Gene: CherryTomatoes\_55 Start: 18497, Stop: 18778, Start Num: 25

Candidate Starts for CherryTomatoes\_55:

(Start: 25 @18497 has 3 MA's), (Start: 41 @18533 has 31 MA's), (72, 18608),

Gene: ChosenOne\_93 Start: 56152, Stop: 56412, Start Num: 54

Candidate Starts for ChosenOne\_93:

(Start: 54 @56152 has 123 MA's), (64, 56173), (80, 56248), (90, 56317), (102, 56383),

Gene: ChotaBhai\_93 Start: 56073, Stop: 56333, Start Num: 54

Candidate Starts for ChotaBhai\_93:

(11, 55935), (Start: 54 @56073 has 123 MA's), (64, 56094), (90, 56238), (102, 56304),

Gene: Chris\_53 Start: 38292, Stop: 38561, Start Num: 41

Candidate Starts for Chris\_53:

(Start: 41 @38292 has 31 MA's), (92, 38466), (109, 38547), (110, 38550),

Gene: Chuckly\_62 Start: 40654, Stop: 40938, Start Num: 31

Candidate Starts for Chuckly\_62:

(24, 40627), (Start: 31 @40654 has 162 MA's), (43, 40678), (52, 40693), (70, 40738), (72, 40750), (86, 40828), (89, 40840), (96, 40864), (98, 40876), (107, 40930),

Gene: Chymera\_48 Start: 30948, Stop: 31208, Start Num: 32

Candidate Starts for Chymera\_48:

(Start: 32 @30948 has 1 MA's), (Start: 35 @30954 has 7 MA's), (Start: 41 @30960 has 31 MA's), (96, 31149),

Gene: Cjw1\_94 Start: 58116, Stop: 58376, Start Num: 54

Candidate Starts for Cjw1\_94:

(Start: 54 @58116 has 123 MA's), (64, 58137), (80, 58212), (90, 58281), (102, 58347),

Gene: Clautastrophe\_77 Start: 53794, Stop: 54063, Start Num: 48

Candidate Starts for Clautastrophe\_77:

(Start: 48 @53794 has 9 MA's), (Start: 58 @53809 has 4 MA's), (89, 53944), (97, 53986), (102, 54022), (107, 54046),

Gene: Clifton\_54 Start: 37187, Stop: 37468, Start Num: 31

Candidate Starts for Clifton\_54:

(24, 37160), (Start: 31 @37187 has 162 MA's), (43, 37211), (52, 37226), (70, 37271), (72, 37283), (86, 37361), (89, 37373), (96, 37397), (98, 37409), (107, 37460),

Gene: Command613\_95 Start: 57191, Stop: 57451, Start Num: 54

Candidate Starts for Command613\_95:

(Start: 54 @57191 has 123 MA's), (64, 57212), (80, 57287), (90, 57356), (102, 57422),

Gene: Constella\_113 Start: 65296, Stop: 65556, Start Num: 35

Candidate Starts for Constella\_113:

(Start: 31 @65287 has 162 MA's), (33, 65293), (Start: 35 @65296 has 7 MA's), (49, 65320), (84, 65452), (89, 65479), (94, 65494), (96, 65500),

Gene: Contagion\_89 Start: 55952, Stop: 56212, Start Num: 54

Candidate Starts for Contagion\_89:

(Start: 54 @55952 has 123 MA's), (64, 55973), (80, 56048), (90, 56117), (102, 56183),

Gene: Cookies\_90 Start: 55930, Stop: 56190, Start Num: 54

Candidate Starts for Cookies\_90:

(11, 55792), (Start: 54 @55930 has 123 MA's), (64, 55951), (90, 56095), (102, 56161),

Gene: Cornie\_55 Start: 38439, Stop: 38717, Start Num: 31

Candidate Starts for Cornie\_55:

(22, 38403), (Start: 31 @38439 has 162 MA's), (43, 38463), (70, 38520), (72, 38532), (86, 38610), (89, 38622), (96, 38646), (98, 38658), (107, 38709),

Gene: Cornucopia\_61 Start: 40668, Stop: 40946, Start Num: 31

Candidate Starts for Cornucopia\_61:

(24, 40641), (Start: 31 @40668 has 162 MA's), (71, 40752), (73, 40761), (84, 40824), (86, 40839), (89, 40851), (96, 40875), (98, 40887), (107, 40938),

Gene: CrimD\_50 Start: 37577, Stop: 37840, Start Num: 37

Candidate Starts for CrimD\_50:

(Start: 37 @37577 has 83 MA's), (67, 37631), (84, 37718),

Gene: Crumble\_54 Start: 35948, Stop: 36232, Start Num: 31

Candidate Starts for Crumble\_54:

(24, 35921), (Start: 31 @35948 has 162 MA's), (43, 35972), (52, 35987), (70, 36032), (72, 36044), (86, 36122), (89, 36134), (96, 36158), (98, 36170), (107, 36224),

Gene: CrystalP\_92 Start: 57094, Stop: 57354, Start Num: 54

Candidate Starts for CrystalP\_92:

(Start: 54 @57094 has 123 MA's), (64, 57115), (80, 57190), (90, 57259), (102, 57325),

Gene: Curiosium\_52 Start: 36255, Stop: 36521, Start Num: 37



Candidate Starts for Curiosium\_52:

(Start: 37 @36255 has 83 MA's), (Start: 44 @36267 has 12 MA's), (67, 36312), (84, 36399), (102, 36489),

Gene: Czyszczone1\_94 Start: 56655, Stop: 56915, Start Num: 54

Candidate Starts for Czyszczone1\_94:

(Start: 54 @56655 has 123 MA's), (64, 56676), (80, 56751), (90, 56820), (102, 56886),

Gene: DRBy19\_62 Start: 41112, Stop: 41393, Start Num: 31

Candidate Starts for DRBy19\_62:

(24, 41085), (Start: 31 @41112 has 162 MA's), (71, 41196), (73, 41205), (84, 41268), (86, 41283), (89, 41295), (96, 41319), (98, 41331), (107, 41385),

Gene: DaWorst\_60 Start: 40413, Stop: 40697, Start Num: 31

Candidate Starts for DaWorst\_60:

(24, 40386), (Start: 31 @40413 has 162 MA's), (43, 40437), (52, 40452), (70, 40497), (86, 40587), (89, 40599), (96, 40623), (98, 40635), (107, 40689),

Gene: DaddyRickover\_58 Start: 40151, Stop: 40435, Start Num: 31

Candidate Starts for DaddyRickover\_58:

(24, 40124), (Start: 31 @40151 has 162 MA's), (43, 40175), (52, 40190), (70, 40235), (72, 40247), (86, 40325), (89, 40337), (96, 40361), (98, 40373), (107, 40427),

Gene: Daegal\_77 Start: 49955, Stop: 50263, Start Num: 19

Candidate Starts for Daegal\_77:

(15, 49937), (18, 49949), (Start: 19 @49955 has 20 MA's), (Start: 26 @49982 has 2 MA's), (Start: 36 @50015 has 8 MA's), (76, 50117), (81, 50144), (101, 50255),

Gene: Daenerys\_53 Start: 38267, Stop: 38545, Start Num: 31

Candidate Starts for Daenerys\_53:

(24, 38240), (Start: 31 @38267 has 162 MA's), (71, 38351), (73, 38360), (84, 38423), (86, 38438), (89, 38450), (96, 38474), (98, 38486), (107, 38537),

Gene: Daikon\_94 Start: 56682, Stop: 56942, Start Num: 54

Candidate Starts for Daikon\_94:

(11, 56544), (Start: 54 @56682 has 123 MA's), (64, 56703), (90, 56847), (102, 56913),

Gene: Dalmuri\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for Dalmuri\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: Dante\_60 Start: 39936, Stop: 40220, Start Num: 31

Candidate Starts for Dante\_60:

(24, 39909), (Start: 31 @39936 has 162 MA's), (43, 39960), (52, 39975), (70, 40020), (72, 40032), (86, 40110), (89, 40122), (96, 40146), (98, 40158), (107, 40212),

Gene: DarthP\_53 Start: 38444, Stop: 38698, Start Num: 42

Candidate Starts for DarthP\_53:

(3, 38126), (7, 38195), (9, 38291), (Start: 42 @38444 has 8 MA's), (72, 38510), (84, 38573), (92, 38618),

Gene: Dartin\_53 Start: 38285, Stop: 38548, Start Num: 41

Candidate Starts for Dartin\_53:

(1, 37805), (3, 37961), (7, 38030), (Start: 41 @38285 has 31 MA's), (77, 38387), (81, 38405), (84, 38423), (96, 38477), (100, 38513), (105, 38537),

Gene: DeadP\_65 Start: 42582, Stop: 42848, Start Num: 31

Candidate Starts for DeadP\_65:

(Start: 31 @42582 has 162 MA's), (43, 42606), (52, 42621), (70, 42666), (72, 42678), (86, 42756), (89, 42768), (96, 42792),

Gene: Deby\_50 Start: 37599, Stop: 37862, Start Num: 37

Candidate Starts for Deby\_50:

(Start: 37 @37599 has 83 MA's), (67, 37653), (84, 37740),

Gene: DeepSoil15\_75 Start: 48849, Stop: 49157, Start Num: 19

Candidate Starts for DeepSoil15\_75:

(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: Demosthenes\_39 Start: 44214, Stop: 44014, Start Num: 65

Candidate Starts for Demosthenes\_39:

(Start: 65 @44214 has 9 MA's),

Gene: Demsculpinboyz\_70 Start: 39936, Stop: 40217, Start Num: 31

Candidate Starts for Demsculpinboyz\_70:

(23, 39900), (Start: 31 @39936 has 162 MA's), (Start: 38 @39951 has 1 MA's), (52, 39975), (70, 40020), (72, 40032), (96, 40146), (98, 40158), (107, 40209),

Gene: Devera\_55 Start: 38103, Stop: 38366, Start Num: 37

Candidate Starts for Devera\_55:

(7, 37851), (Start: 37 @38103 has 83 MA's), (67, 38157), (84, 38244),

Gene: Dewey\_68 Start: 48849, Stop: 49157, Start Num: 19

Candidate Starts for Dewey\_68:

(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: DillTech15\_56 Start: 38601, Stop: 38879, Start Num: 31

Candidate Starts for DillTech15\_56:

(24, 38574), (Start: 31 @38601 has 162 MA's), (71, 38685), (73, 38694), (84, 38757), (86, 38772), (89, 38784), (96, 38808), (98, 38820), (107, 38871),

Gene: DirtMcgirt\_58 Start: 38676, Stop: 38960, Start Num: 31

Candidate Starts for DirtMcgirt\_58:

(24, 38649), (Start: 31 @38676 has 162 MA's), (43, 38700), (52, 38715), (70, 38760), (72, 38772), (86, 38850), (89, 38862), (96, 38886), (98, 38898), (107, 38952),

Gene: DismalFunk\_54 Start: 39559, Stop: 39792, Start Num: 44

Candidate Starts for DismalFunk\_54:

(Start: 44 @39559 has 12 MA's), (Start: 46 @39562 has 4 MA's), (50, 39568), (53, 39574), (81, 39664), (82, 39670), (96, 39733),

Gene: DismalStressor\_54 Start: 39559, Stop: 39792, Start Num: 44

Candidate Starts for DismalStressor\_54:

(Start: 44 @39559 has 12 MA's), (Start: 46 @39562 has 4 MA's), (50, 39568), (53, 39574), (81, 39664), (82, 39670), (96, 39733),

Gene: DocB7\_034 Start: 36428, Stop: 36228, Start Num: 62

Candidate Starts for DocB7\_034:

(Start: 62 @36428 has 4 MA's), (82, 36332), (84, 36320), (90, 36287),

Gene: DoctorDiddles\_92 Start: 56117, Stop: 56377, Start Num: 54

Candidate Starts for DoctorDiddles\_92:

(11, 55979), (Start: 54 @56117 has 123 MA's), (64, 56138), (90, 56282), (102, 56348),

Gene: Dole\_53 Start: 38105, Stop: 38368, Start Num: 37

Candidate Starts for Dole\_53:

(7, 37853), (Start: 37 @38105 has 83 MA's), (67, 38159), (84, 38246),

Gene: Doomphist\_59 Start: 41112, Stop: 41390, Start Num: 31

Candidate Starts for Doomphist\_59:

(24, 41085), (Start: 31 @41112 has 162 MA's), (71, 41196), (73, 41205), (84, 41268), (86, 41283), (89, 41295), (96, 41319), (98, 41331), (107, 41382),

Gene: Dorothy\_57 Start: 39331, Stop: 39609, Start Num: 31

Candidate Starts for Dorothy\_57:

(24, 39304), (Start: 31 @39331 has 162 MA's), (71, 39415), (73, 39424), (84, 39487), (86, 39502), (89, 39514), (96, 39538), (98, 39550), (107, 39601),

Gene: DosHalletts\_61 Start: 41467, Stop: 41745, Start Num: 31

Candidate Starts for DosHalletts\_61:

(24, 41440), (Start: 31 @41467 has 162 MA's), (71, 41551), (73, 41560), (84, 41623), (86, 41638), (89, 41650), (96, 41674), (98, 41686), (107, 41737),

Gene: Doug\_61 Start: 40679, Stop: 40963, Start Num: 31

Candidate Starts for Doug\_61:

(24, 40652), (Start: 31 @40679 has 162 MA's), (43, 40703), (52, 40718), (70, 40763), (72, 40775), (86, 40853), (89, 40865), (96, 40889), (98, 40901), (107, 40955),

Gene: DrDrey\_93 Start: 57574, Stop: 57834, Start Num: 54

Candidate Starts for DrDrey\_93:

(Start: 54 @57574 has 123 MA's), (64, 57595), (80, 57670), (90, 57739), (102, 57805),

Gene: DrHayes\_51 Start: 38242, Stop: 38505, Start Num: 37

Candidate Starts for DrHayes\_51:

(7, 37990), (Start: 37 @38242 has 83 MA's), (67, 38296), (81, 38365), (84, 38383),

Gene: Drago\_57 Start: 38679, Stop: 38963, Start Num: 31

Candidate Starts for Drago\_57:

(24, 38652), (Start: 31 @38679 has 162 MA's), (43, 38703), (52, 38718), (70, 38763), (72, 38775), (86, 38853), (89, 38865), (96, 38889), (98, 38901), (107, 38955),

Gene: Dumbo\_93 Start: 56054, Stop: 56314, Start Num: 54

Candidate Starts for Dumbo\_93:

(Start: 54 @56054 has 123 MA's), (64, 56075), (80, 56150), (90, 56219), (102, 56285),

Gene: Durfee\_50 Start: 37668, Stop: 37931, Start Num: 37

Candidate Starts for Durfee\_50:  
(Start: 37 @37668 has 83 MA's), (84, 37809),

Gene: Dusk\_90 Start: 56357, Stop: 56617, Start Num: 54  
Candidate Starts for Dusk\_90:  
(Start: 54 @56357 has 123 MA's), (64, 56378), (80, 56453), (90, 56522), (102, 56588),

Gene: Easy2Say\_94 Start: 57556, Stop: 57816, Start Num: 54  
Candidate Starts for Easy2Say\_94:  
(Start: 54 @57556 has 123 MA's), (64, 57577), (80, 57652), (90, 57721), (102, 57787),

Gene: Efra2\_53 Start: 37187, Stop: 37450, Start Num: 37  
Candidate Starts for Efra2\_53:  
(Start: 37 @37187 has 83 MA's), (Start: 44 @37199 has 12 MA's), (81, 37310), (84, 37328),

Gene: Ein37\_75 Start: 48849, Stop: 49157, Start Num: 19  
Candidate Starts for Ein37\_75:  
(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: Eish\_63 Start: 40928, Stop: 41212, Start Num: 31  
Candidate Starts for Eish\_63:  
(24, 40901), (Start: 31 @40928 has 162 MA's), (43, 40952), (52, 40967), (70, 41012), (86, 41102), (89, 41114), (96, 41138), (98, 41150), (107, 41204),

Gene: Ekdilam\_50 Start: 37991, Stop: 38245, Start Num: 42  
Candidate Starts for Ekdilam\_50:  
(3, 37673), (7, 37742), (9, 37838), (Start: 42 @37991 has 8 MA's), (84, 38120), (92, 38165),

Gene: EleanorGeorge\_60 Start: 40795, Stop: 41076, Start Num: 31  
Candidate Starts for EleanorGeorge\_60:  
(24, 40768), (Start: 31 @40795 has 162 MA's), (43, 40819), (52, 40834), (70, 40879), (72, 40891), (86, 40969), (89, 40981), (96, 41005), (98, 41017), (107, 41068),

Gene: Elite2014\_92 Start: 56151, Stop: 56411, Start Num: 54  
Candidate Starts for Elite2014\_92:  
(Start: 54 @56151 has 123 MA's), (64, 56172), (80, 56247), (90, 56316), (102, 56382),

Gene: Ellie\_49 Start: 37741, Stop: 37995, Start Num: 42  
Candidate Starts for Ellie\_49:  
(9, 37591), (Start: 42 @37741 has 8 MA's), (72, 37807), (92, 37915), (100, 37960),

Gene: Elph10\_94 Start: 56144, Stop: 56404, Start Num: 54  
Candidate Starts for Elph10\_94:  
(Start: 54 @56144 has 123 MA's), (64, 56165), (80, 56240), (90, 56309), (102, 56375),

Gene: Emerson\_51 Start: 37347, Stop: 37610, Start Num: 37  
Candidate Starts for Emerson\_51:  
(Start: 37 @37347 has 83 MA's), (84, 37488),

Gene: Emmina\_93 Start: 55777, Stop: 56037, Start Num: 54  
Candidate Starts for Emmina\_93:  
(Start: 54 @55777 has 123 MA's), (64, 55798), (80, 55873), (90, 55942), (102, 56008),

Gene: Empress\_57 Start: 39681, Stop: 39959, Start Num: 31

Candidate Starts for Empress\_57:

(24, 39654), (Start: 31 @39681 has 162 MA's), (71, 39765), (73, 39774), (84, 39837), (86, 39852), (89, 39864), (96, 39888), (98, 39900), (107, 39951),

Gene: Enby\_60 Start: 38955, Stop: 39239, Start Num: 31

Candidate Starts for Enby\_60:

(Start: 31 @38955 has 162 MA's), (43, 38979), (52, 38994), (70, 39039), (72, 39051), (86, 39129), (89, 39141), (96, 39165), (98, 39177), (107, 39231),

Gene: Enkosi\_48 Start: 39653, Stop: 39922, Start Num: 41

Candidate Starts for Enkosi\_48:

(Start: 41 @39653 has 31 MA's), (75, 39749), (87, 39809), (88, 39815), (89, 39818), (96, 39845), (98, 39857), (105, 39911),

Gene: Eradicator\_52 Start: 38208, Stop: 38489, Start Num: 31

Candidate Starts for Eradicator\_52:

(24, 38181), (Start: 31 @38208 has 162 MA's), (43, 38232), (52, 38247), (70, 38292), (72, 38304), (86, 38382), (89, 38394), (96, 38418), (98, 38430), (107, 38481),

Gene: Estave1\_62 Start: 41132, Stop: 41410, Start Num: 31

Candidate Starts for Estave1\_62:

(24, 41105), (Start: 31 @41132 has 162 MA's), (71, 41216), (73, 41225), (84, 41288), (86, 41303), (89, 41315), (96, 41339), (98, 41351), (107, 41402),

Gene: Eureka\_92 Start: 57064, Stop: 57324, Start Num: 54

Candidate Starts for Eureka\_92:

(Start: 54 @57064 has 123 MA's), (64, 57085), (80, 57160), (90, 57229), (102, 57295),

Gene: Evanesce\_74 Start: 48849, Stop: 49157, Start Num: 19

Candidate Starts for Evanesce\_74:

(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: FairyPath\_93 Start: 57270, Stop: 57530, Start Num: 54

Candidate Starts for FairyPath\_93:

(Start: 54 @57270 has 123 MA's), (64, 57291), (80, 57366), (90, 57435), (102, 57501),

Gene: Fancypants\_61 Start: 40646, Stop: 40930, Start Num: 31

Candidate Starts for Fancypants\_61:

(24, 40619), (Start: 31 @40646 has 162 MA's), (43, 40670), (52, 40685), (70, 40730), (72, 40742), (86, 40820), (89, 40832), (96, 40856), (98, 40868), (107, 40922),

Gene: Fastidio\_59 Start: 38748, Stop: 39026, Start Num: 31

Candidate Starts for Fastidio\_59:

(24, 38721), (Start: 31 @38748 has 162 MA's), (71, 38832), (73, 38841), (84, 38904), (86, 38919), (89, 38931), (96, 38955), (98, 38967), (107, 39018),

Gene: Fefferhead\_51 Start: 37691, Stop: 37945, Start Num: 42

Candidate Starts for Fefferhead\_51:

(9, 37541), (Start: 42 @37691 has 8 MA's), (72, 37757), (92, 37865), (100, 37910),

Gene: Filch\_95 Start: 56349, Stop: 56609, Start Num: 54

Candidate Starts for Filch\_95:

(Start: 54 @56349 has 123 MA's), (64, 56370), (80, 56445), (90, 56514), (102, 56580),

Gene: Findley\_54 Start: 39552, Stop: 39785, Start Num: 44

Candidate Starts for Findley\_54:

(Start: 44 @39552 has 12 MA's), (Start: 46 @39555 has 4 MA's), (50, 39561), (53, 39567), (81, 39657), (82, 39663), (96, 39726),

Gene: Finnry\_79 Start: 54045, Stop: 54314, Start Num: 48

Candidate Starts for Finnry\_79:

(Start: 48 @54045 has 9 MA's), (Start: 58 @54060 has 4 MA's), (89, 54195), (97, 54237), (102, 54273), (107, 54297),

Gene: FireRed\_97 Start: 57367, Stop: 57627, Start Num: 54

Candidate Starts for FireRed\_97:

(Start: 54 @57367 has 123 MA's), (64, 57388), (80, 57463), (90, 57532), (102, 57598),

Gene: Firehouse51\_60 Start: 43530, Stop: 43814, Start Num: 31

Candidate Starts for Firehouse51\_60:

(24, 43503), (Start: 31 @43530 has 162 MA's), (43, 43554), (52, 43569), (70, 43614), (72, 43626), (86, 43704), (89, 43716), (96, 43740), (98, 43752), (107, 43806),

Gene: Flypotenuse\_89 Start: 55727, Stop: 55987, Start Num: 54

Candidate Starts for Flypotenuse\_89:

(Start: 54 @55727 has 123 MA's), (64, 55748), (80, 55823), (90, 55892), (102, 55958),

Gene: Footloose\_55 Start: 31826, Stop: 32083, Start Num: 34

Candidate Starts for Footloose\_55:

(Start: 34 @31826 has 2 MA's), (40, 31838),

Gene: Forge\_68 Start: 48876, Stop: 49157, Start Num: 26

Candidate Starts for Forge\_68:

(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: FreddyB\_60 Start: 38860, Stop: 39141, Start Num: 31

Candidate Starts for FreddyB\_60:

(24, 38833), (Start: 31 @38860 has 162 MA's), (43, 38884), (52, 38899), (70, 38944), (72, 38956), (86, 39034), (89, 39046), (96, 39070), (98, 39082), (107, 39133),

Gene: Fryberger\_93 Start: 47445, Stop: 47750, Start Num: 51

Candidate Starts for Fryberger\_93:

(Start: 51 @47445 has 6 MA's), (67, 47478), (104, 47679), (112, 47703),

Gene: GMA3\_48 Start: 45185, Stop: 44973, Start Num: 48

Candidate Starts for GMA3\_48:

(Start: 48 @45185 has 9 MA's),

Gene: GUmbie\_57 Start: 39435, Stop: 39716, Start Num: 31

Candidate Starts for GUmbie\_57:

(24, 39408), (Start: 31 @39435 has 162 MA's), (43, 39459), (52, 39474), (70, 39519), (72, 39531), (86, 39609), (89, 39621), (96, 39645), (98, 39657), (107, 39708),

Gene: Gage\_95 Start: 56798, Stop: 57058, Start Num: 54  
Candidate Starts for Gage\_95:  
(Start: 54 @56798 has 123 MA's), (64, 56819), (80, 56894), (90, 56963), (102, 57029),

Gene: Galactic\_58 Start: 39901, Stop: 40179, Start Num: 31  
Candidate Starts for Galactic\_58:  
(24, 39874), (Start: 31 @39901 has 162 MA's), (71, 39985), (73, 39994), (84, 40057), (86, 40072), (89, 40084), (96, 40108), (98, 40120), (107, 40171),

Gene: Gancho\_74 Start: 48624, Stop: 48932, Start Num: 19  
Candidate Starts for Gancho\_74:  
(18, 48618), (Start: 19 @48624 has 20 MA's), (Start: 26 @48651 has 2 MA's), (Start: 36 @48684 has 8 MA's), (76, 48786), (101, 48924),

Gene: Gandolph\_62 Start: 40257, Stop: 40538, Start Num: 31  
Candidate Starts for Gandolph\_62:  
(24, 40230), (Start: 31 @40257 has 162 MA's), (43, 40281), (52, 40296), (70, 40341), (72, 40353), (86, 40431), (89, 40443), (96, 40467), (98, 40479), (107, 40530),

Gene: Ganymede\_51 Start: 37786, Stop: 38049, Start Num: 37  
Candidate Starts for Ganymede\_51:  
(Start: 37 @37786 has 83 MA's), (84, 37927),

Gene: Gator\_91 Start: 56582, Stop: 56842, Start Num: 54  
Candidate Starts for Gator\_91:  
(11, 56444), (Start: 54 @56582 has 123 MA's), (64, 56603), (90, 56747), (102, 56813),

Gene: Gemini\_98 Start: 57174, Stop: 57434, Start Num: 54  
Candidate Starts for Gemini\_98:  
(Start: 54 @57174 has 123 MA's), (64, 57195), (80, 57270), (90, 57339), (102, 57405),

Gene: Geraldini\_53 Start: 38403, Stop: 38666, Start Num: 37  
Candidate Starts for Geraldini\_53:  
(Start: 37 @38403 has 83 MA's), (67, 38457), (69, 38463), (84, 38544),

Gene: GigiOuiOui\_55 Start: 38875, Stop: 39156, Start Num: 31  
Candidate Starts for GigiOuiOui\_55:  
(24, 38848), (Start: 31 @38875 has 162 MA's), (43, 38899), (52, 38914), (70, 38959), (72, 38971), (84, 39034), (86, 39049), (89, 39061), (96, 39085), (98, 39097), (107, 39148),

Gene: Giles\_68 Start: 48849, Stop: 49157, Start Num: 19  
Candidate Starts for Giles\_68:  
(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: Girr\_57 Start: 39742, Stop: 40020, Start Num: 31  
Candidate Starts for Girr\_57:  
(24, 39715), (Start: 31 @39742 has 162 MA's), (71, 39826), (73, 39835), (84, 39898), (86, 39913), (89, 39925), (96, 39949), (98, 39961), (107, 40012),

Gene: Glexan\_92 Start: 56857, Stop: 57117, Start Num: 54  
Candidate Starts for Glexan\_92:

(Start: 54 @56857 has 123 MA's), (64, 56878), (80, 56953), (90, 57022), (102, 57088),

Gene: Gmala1\_46 Start: 43387, Stop: 43169, Start Num: 48

Candidate Starts for Gmala1\_46:

(Start: 48 @43387 has 9 MA's), (66, 43348), (73, 43318), (78, 43288),

Gene: Goku\_92 Start: 56793, Stop: 57053, Start Num: 54

Candidate Starts for Goku\_92:

(Start: 54 @56793 has 123 MA's), (64, 56814), (80, 56889), (90, 56958), (102, 57024),

Gene: GoldenSpark\_97 Start: 56657, Stop: 56917, Start Num: 54

Candidate Starts for GoldenSpark\_97:

(Start: 54 @56657 has 123 MA's), (64, 56678), (80, 56753), (90, 56822), (102, 56888),

Gene: Goldilocks\_96 Start: 56015, Stop: 56275, Start Num: 54

Candidate Starts for Goldilocks\_96:

(Start: 54 @56015 has 123 MA's), (64, 56036), (80, 56111), (90, 56180), (102, 56246),

Gene: GooberAzure\_96 Start: 56657, Stop: 56917, Start Num: 54

Candidate Starts for GooberAzure\_96:

(Start: 54 @56657 has 123 MA's), (64, 56678), (80, 56753), (90, 56822), (102, 56888),

Gene: GordDuk1\_47 Start: 43538, Stop: 43320, Start Num: 48

Candidate Starts for GordDuk1\_47:

(Start: 48 @43538 has 9 MA's), (66, 43499), (73, 43469), (78, 43439),

Gene: GordTnk2\_48 Start: 43692, Stop: 43468, Start Num: 48

Candidate Starts for GordTnk2\_48:

(Start: 48 @43692 has 9 MA's), (66, 43653), (78, 43593),

Gene: Gorge\_63 Start: 41377, Stop: 41658, Start Num: 31

Candidate Starts for Gorge\_63:

(24, 41350), (Start: 31 @41377 has 162 MA's), (43, 41401), (52, 41416), (70, 41461), (72, 41473), (86, 41551), (89, 41563), (96, 41587), (98, 41599), (107, 41650),

Gene: Gravaillia\_69 Start: 48905, Stop: 49213, Start Num: 19

Candidate Starts for Gravaillia\_69:

(18, 48899), (Start: 19 @48905 has 20 MA's), (Start: 26 @48932 has 2 MA's), (Start: 36 @48965 has 8 MA's), (76, 49067), (81, 49094), (101, 49205),

Gene: Guanica15\_53 Start: 37156, Stop: 37407, Start Num: 44

Candidate Starts for Guanica15\_53:

(Start: 37 @37144 has 83 MA's), (Start: 44 @37156 has 12 MA's), (81, 37267), (84, 37285),

Gene: Guey18\_98 Start: 48765, Stop: 49070, Start Num: 51

Candidate Starts for Guey18\_98:

(Start: 51 @48765 has 6 MA's), (67, 48798), (104, 48999), (112, 49023),

Gene: HH92\_74 Start: 48849, Stop: 49157, Start Num: 19

Candidate Starts for HH92\_74:

(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),



Gene: Hades\_60 Start: 40833, Stop: 41114, Start Num: 31  
Candidate Starts for Hades\_60:  
(24, 40806), (Start: 31 @40833 has 162 MA's), (43, 40857), (52, 40872), (70, 40917), (72, 40929), (86, 41007), (89, 41019), (96, 41043), (98, 41055), (107, 41106),

Gene: Hadrien\_72 Start: 48849, Stop: 49157, Start Num: 19  
Candidate Starts for Hadrien\_72:  
(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: Hail\_68 Start: 48849, Stop: 49157, Start Num: 19  
Candidate Starts for Hail\_68:  
(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: Hammy\_53 Start: 38432, Stop: 38686, Start Num: 42  
Candidate Starts for Hammy\_53:  
(3, 38114), (7, 38183), (9, 38279), (Start: 42 @38432 has 8 MA's), (72, 38498), (84, 38561), (92, 38606),

Gene: HanKaySha\_94 Start: 56224, Stop: 56484, Start Num: 54  
Candidate Starts for HanKaySha\_94:  
(Start: 54 @56224 has 123 MA's), (64, 56245), (80, 56320), (90, 56389), (102, 56455),

Gene: Harella\_93 Start: 57373, Stop: 57633, Start Num: 54  
Candidate Starts for Harella\_93:  
(Start: 54 @57373 has 123 MA's), (64, 57394), (80, 57469), (90, 57538), (102, 57604),

Gene: HedwigODU\_50 Start: 37356, Stop: 37619, Start Num: 37  
Candidate Starts for HedwigODU\_50:  
(Start: 37 @37356 has 83 MA's), (84, 37497),

Gene: Hegedechwinu\_59 Start: 39047, Stop: 39328, Start Num: 31  
Candidate Starts for Hegedechwinu\_59:  
(Start: 31 @39047 has 162 MA's), (43, 39071), (52, 39086), (70, 39131), (72, 39143), (86, 39221), (89, 39233), (96, 39257), (98, 39269), (107, 39320),

Gene: Henry\_91 Start: 56534, Stop: 56794, Start Num: 54  
Candidate Starts for Henry\_91:  
(Start: 54 @56534 has 123 MA's), (64, 56555), (80, 56630), (90, 56699), (102, 56765),

Gene: Highbury\_92 Start: 56224, Stop: 56484, Start Num: 54  
Candidate Starts for Highbury\_92:  
(Start: 54 @56224 has 123 MA's), (64, 56245), (80, 56320), (90, 56389), (102, 56455),

Gene: Hlubikazi\_55 Start: 38053, Stop: 38334, Start Num: 31  
Candidate Starts for Hlubikazi\_55:  
(24, 38026), (Start: 31 @38053 has 162 MA's), (43, 38077), (52, 38092), (70, 38137), (72, 38149), (86, 38227), (89, 38239), (96, 38263), (98, 38275), (107, 38326),

Gene: Hollow\_40 Start: 44620, Stop: 44420, Start Num: 65  
Candidate Starts for Hollow\_40:  
(Start: 65 @44620 has 9 MA's),

Gene: Holt\_98 Start: 57071, Stop: 57331, Start Num: 54

Candidate Starts for Holt\_98:

(Start: 54 @57071 has 123 MA's), (64, 57092), (80, 57167), (90, 57236), (102, 57302),

Gene: Homura\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for Homura\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: Hoonter\_96 Start: 56529, Stop: 56789, Start Num: 54

Candidate Starts for Hoonter\_96:

(Start: 54 @56529 has 123 MA's), (64, 56550), (80, 56625), (90, 56694), (102, 56760),

Gene: Hokey\_94 Start: 57035, Stop: 57295, Start Num: 54

Candidate Starts for Hokey\_94:

(Start: 54 @57035 has 123 MA's), (64, 57056), (80, 57131), (90, 57200), (102, 57266),

Gene: HufflyPuff\_95 Start: 57119, Stop: 57379, Start Num: 54

Candidate Starts for HufflyPuff\_95:

(Start: 54 @57119 has 123 MA's), (64, 57140), (80, 57215), (90, 57284), (102, 57350),

Gene: Hurricane\_53 Start: 37919, Stop: 38188, Start Num: 36

Candidate Starts for Hurricane\_53:

(7, 37679), (14, 37823), (Start: 36 @37919 has 8 MA's), (52, 37943), (84, 38063), (96, 38117),

Gene: Hyperbowlee\_50 Start: 37668, Stop: 37931, Start Num: 37

Candidate Starts for Hyperbowlee\_50:

(Start: 37 @37668 has 83 MA's), (84, 37809),

Gene: IHOP\_91 Start: 56697, Stop: 56957, Start Num: 54

Candidate Starts for IHOP\_91:

(Start: 54 @56697 has 123 MA's), (64, 56718), (80, 56793), (90, 56862), (102, 56928),

Gene: lbOuu\_60 Start: 40412, Stop: 40696, Start Num: 31

Candidate Starts for lbOuu\_60:

(Start: 31 @40412 has 162 MA's), (43, 40436), (52, 40451), (70, 40496), (72, 40508), (86, 40586), (89, 40598), (96, 40622), (98, 40634), (107, 40688),

Gene: lbhubesi\_59 Start: 40025, Stop: 40303, Start Num: 31

Candidate Starts for lbhubesi\_59:

(24, 39998), (Start: 31 @40025 has 162 MA's), (71, 40109), (73, 40118), (86, 40196), (89, 40208), (96, 40232), (98, 40244), (107, 40295),

Gene: Ibrahim\_41 Start: 31892, Stop: 32149, Start Num: 35

Candidate Starts for Ibrahim\_41:

(4, 31616), (6, 31637), (Start: 35 @31892 has 7 MA's), (72, 31976), (89, 32066),

Gene: Icee\_94 Start: 56184, Stop: 56444, Start Num: 54

Candidate Starts for Icee\_94:

(Start: 54 @56184 has 123 MA's), (64, 56205), (80, 56280), (90, 56349), (102, 56415),

Gene: IdentityCrisis\_42 Start: 29075, Stop: 29332, Start Num: 55

Candidate Starts for IdentityCrisis\_42:

(Start: 55 @29075 has 1 MA's), (Start: 62 @29090 has 4 MA's), (74, 29150), (80, 29168),

Gene: Ididsumtinwong\_41 Start: 27555, Stop: 27854, Start Num: 44

Candidate Starts for Ididsumtinwong\_41:

(5, 27267), (8, 27312), (21, 27486), (Start: 44 @27555 has 12 MA's), (89, 27717),

Gene: Illumine\_53 Start: 38105, Stop: 38368, Start Num: 37

Candidate Starts for Illumine\_53:

(7, 37853), (Start: 37 @38105 has 83 MA's), (67, 38159), (84, 38246),

Gene: Inca\_90 Start: 55186, Stop: 55446, Start Num: 54

Candidate Starts for Inca\_90:

(Start: 54 @55186 has 123 MA's), (64, 55207), (80, 55282), (90, 55351), (102, 55417),

Gene: Inky\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for Inky\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: Inventum\_54 Start: 39529, Stop: 39807, Start Num: 31

Candidate Starts for Inventum\_54:

(24, 39502), (Start: 31 @39529 has 162 MA's), (71, 39613), (73, 39622), (84, 39685), (86, 39700), (89, 39712), (96, 39736), (98, 39748), (107, 39799),

Gene: IrishSherpFalk\_60 Start: 41690, Stop: 41971, Start Num: 31

Candidate Starts for IrishSherpFalk\_60:

(24, 41663), (Start: 31 @41690 has 162 MA's), (43, 41714), (52, 41729), (70, 41774), (72, 41786), (86, 41864), (89, 41876), (96, 41900), (98, 41912), (107, 41963),

Gene: JAWS\_50 Start: 37345, Stop: 37608, Start Num: 37

Candidate Starts for JAWS\_50:

(Start: 37 @37345 has 83 MA's), (84, 37486),

Gene: Jabbawokkie\_73 Start: 41755, Stop: 42039, Start Num: 31

Candidate Starts for Jabbawokkie\_73:

(24, 41728), (Start: 31 @41755 has 162 MA's), (43, 41779), (52, 41794), (70, 41839), (72, 41851), (86, 41929), (89, 41941), (96, 41965), (98, 41977), (107, 42031),

Gene: James\_63 Start: 41502, Stop: 41783, Start Num: 31

Candidate Starts for James\_63:

(24, 41475), (Start: 31 @41502 has 162 MA's), (43, 41526), (52, 41541), (70, 41586), (72, 41598), (86, 41676), (89, 41688), (96, 41712), (98, 41724), (107, 41775),

Gene: Jarcob\_59 Start: 39980, Stop: 40264, Start Num: 31

Candidate Starts for Jarcob\_59:

(24, 39953), (Start: 31 @39980 has 162 MA's), (43, 40004), (52, 40019), (70, 40064), (72, 40076), (86, 40154), (89, 40166), (96, 40190), (98, 40202), (107, 40256),

Gene: Jarvi\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for Jarvi\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: Jayhawk\_51 Start: 37354, Stop: 37617, Start Num: 37

Candidate Starts for Jayhawk\_51:

(Start: 37 @37354 has 83 MA's), (84, 37495),

Gene: JeTaime\_94 Start: 57387, Stop: 57647, Start Num: 54

Candidate Starts for JeTaime\_94:

(Start: 54 @57387 has 123 MA's), (64, 57408), (80, 57483), (90, 57552), (102, 57618),

Gene: Jeckyll\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for Jeckyll\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: Jinglebell\_64 Start: 42540, Stop: 42818, Start Num: 31

Candidate Starts for Jinglebell\_64:

(24, 42513), (Start: 31 @42540 has 162 MA's), (71, 42624), (73, 42633), (84, 42696), (86, 42711), (89, 42723), (96, 42747), (98, 42759), (107, 42810),

Gene: Job42\_61 Start: 41920, Stop: 42201, Start Num: 31

Candidate Starts for Job42\_61:

(24, 41893), (Start: 31 @41920 has 162 MA's), (71, 42004), (73, 42013), (84, 42076), (86, 42091), (89, 42103), (96, 42127), (98, 42139), (107, 42193),

Gene: Jobypre\_80 Start: 53794, Stop: 54063, Start Num: 48

Candidate Starts for Jobypre\_80:

(Start: 48 @53794 has 9 MA's), (Start: 58 @53809 has 4 MA's), (89, 53944), (97, 53986), (102, 54022), (107, 54046),

Gene: JoeyJr\_54 Start: 38435, Stop: 38713, Start Num: 31

Candidate Starts for JoeyJr\_54:

(24, 38408), (Start: 31 @38435 has 162 MA's), (71, 38519), (73, 38528), (84, 38591), (86, 38606), (89, 38618), (96, 38642), (98, 38654), (107, 38705),

Gene: Journey\_43 Start: 30217, Stop: 30516, Start Num: 31

Candidate Starts for Journey\_43:

(Start: 31 @30217 has 162 MA's), (39, 30235), (60, 30271), (Start: 68 @30286 has 1 MA's), (84, 30382), (96, 30433), (100, 30469), (105, 30502), (108, 30508),

Gene: Joy99\_50 Start: 37400, Stop: 37663, Start Num: 37

Candidate Starts for Joy99\_50:

(Start: 37 @37400 has 83 MA's), (84, 37541),

Gene: Jubie\_78 Start: 53929, Stop: 54198, Start Num: 48

Candidate Starts for Jubie\_78:

(Start: 48 @53929 has 9 MA's), (Start: 58 @53944 has 4 MA's), (89, 54079), (97, 54121), (102, 54157), (107, 54181),

Gene: Jumbo\_47 Start: 48027, Stop: 47818, Start Num: 48

Candidate Starts for Jumbo\_47:

(Start: 48 @48027 has 9 MA's),

Gene: Kanye\_90 Start: 56281, Stop: 56541, Start Num: 54

Candidate Starts for Kanye\_90:

(Start: 54 @56281 has 123 MA's), (64, 56302), (80, 56377), (90, 56446), (102, 56512),

Gene: Karhdo\_56 Start: 39525, Stop: 39809, Start Num: 31

Candidate Starts for Karhdo\_56:

(24, 39498), (Start: 31 @39525 has 162 MA's), (43, 39549), (52, 39564), (70, 39609), (72, 39621), (86, 39699), (89, 39711), (96, 39735), (98, 39747), (107, 39801),

Gene: Katyusha\_39 Start: 44274, Stop: 44074, Start Num: 65

Candidate Starts for Katyusha\_39:

(Start: 65 @44274 has 9 MA's),

Gene: Keelan\_94 Start: 48287, Stop: 48550, Start Num: 51

Candidate Starts for Keelan\_94:

(Start: 51 @48287 has 6 MA's), (74, 48365), (84, 48419), (111, 48542),

Gene: Kersh\_61 Start: 42278, Stop: 42559, Start Num: 31

Candidate Starts for Kersh\_61:

(24, 42251), (Start: 31 @42278 has 162 MA's), (43, 42302), (52, 42317), (70, 42362), (72, 42374), (96, 42488), (98, 42500), (107, 42551),

Gene: Keshu\_55 Start: 37986, Stop: 38255, Start Num: 36

Candidate Starts for Keshu\_55:

(7, 37746), (Start: 36 @37986 has 8 MA's), (52, 38010), (84, 38130), (96, 38184),

Gene: KiSi\_55 Start: 38687, Stop: 38956, Start Num: 45

Candidate Starts for KiSi\_55:

(Start: 41 @38681 has 31 MA's), (Start: 45 @38687 has 2 MA's), (67, 38729), (72, 38753), (92, 38861), (110, 38945),

Gene: Kimberlium\_62 Start: 41811, Stop: 42092, Start Num: 31

Candidate Starts for Kimberlium\_62:

(22, 41775), (Start: 31 @41811 has 162 MA's), (43, 41835), (70, 41892), (72, 41904), (86, 41982), (89, 41994), (96, 42018), (98, 42030), (107, 42084),

Gene: Kimchi\_97 Start: 56801, Stop: 57061, Start Num: 54

Candidate Starts for Kimchi\_97:

(Start: 54 @56801 has 123 MA's), (64, 56822), (80, 56897), (90, 56966), (102, 57032),

Gene: Kinbote\_73 Start: 48849, Stop: 49157, Start Num: 19

Candidate Starts for Kinbote\_73:

(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: KingMidas\_58 Start: 40097, Stop: 40375, Start Num: 31

Candidate Starts for KingMidas\_58:

(24, 40070), (Start: 31 @40097 has 162 MA's), (71, 40181), (73, 40190), (84, 40253), (86, 40268), (89, 40280), (96, 40304), (98, 40316), (107, 40367),

Gene: Kingsolomon\_77 Start: 53801, Stop: 54070, Start Num: 48

Candidate Starts for Kingsolomon\_77:

(Start: 48 @53801 has 9 MA's), (Start: 58 @53816 has 4 MA's), (89, 53951), (97, 53993), (102, 54029), (107, 54053),

Gene: Koella\_53 Start: 35910, Stop: 36194, Start Num: 31

Candidate Starts for Koella\_53:

(24, 35883), (Start: 31 @35910 has 162 MA's), (43, 35934), (52, 35949), (70, 35994), (72, 36006), (86, 36084), (89, 36096), (96, 36120), (98, 36132), (107, 36186),

Gene: Kostya\_93 Start: 56799, Stop: 57059, Start Num: 54

Candidate Starts for Kostya\_93:

(Start: 54 @56799 has 123 MA's), (64, 56820), (80, 56895), (90, 56964), (102, 57030),

Gene: KristaRAM\_62 Start: 42482, Stop: 42763, Start Num: 31

Candidate Starts for KristaRAM\_62:

(24, 42455), (Start: 31 @42482 has 162 MA's), (43, 42506), (52, 42521), (70, 42566), (72, 42578), (86, 42656), (89, 42668), (96, 42692), (98, 42704), (107, 42755),

Gene: Krueger\_57 Start: 38145, Stop: 38396, Start Num: 41

Candidate Starts for Krueger\_57:

(Start: 41 @38145 has 31 MA's), (Start: 45 @38151 has 2 MA's), (81, 38265), (82, 38271), (84, 38283),

Gene: Kvothe\_39 Start: 44173, Stop: 43973, Start Num: 65

Candidate Starts for Kvothe\_39:

(Start: 65 @44173 has 9 MA's),

Gene: LastHope\_53 Start: 36640, Stop: 36891, Start Num: 44

Candidate Starts for LastHope\_53:

(Start: 37 @36628 has 83 MA's), (Start: 44 @36640 has 12 MA's), (67, 36682), (81, 36751), (84, 36769),

Gene: LastJedi\_53 Start: 37230, Stop: 37511, Start Num: 31

Candidate Starts for LastJedi\_53:

(24, 37203), (Start: 31 @37230 has 162 MA's), (43, 37254), (52, 37269), (70, 37314), (72, 37326), (86, 37404), (89, 37416), (96, 37440), (98, 37452), (107, 37503),

Gene: LaterM\_51 Start: 38233, Stop: 38496, Start Num: 37

Candidate Starts for LaterM\_51:

(Start: 37 @38233 has 83 MA's), (67, 38287), (84, 38374),

Gene: Latretium\_61 Start: 40556, Stop: 40837, Start Num: 31

Candidate Starts for Latretium\_61:

(24, 40529), (Start: 31 @40556 has 162 MA's), (43, 40580), (52, 40595), (70, 40640), (72, 40652), (86, 40730), (89, 40742), (96, 40766), (98, 40778), (107, 40829),

Gene: LeMond\_55 Start: 38671, Stop: 38940, Start Num: 45

Candidate Starts for LeMond\_55:

(Start: 41 @38665 has 31 MA's), (Start: 45 @38671 has 2 MA's), (67, 38713), (72, 38737), (92, 38845), (110, 38929),

Gene: Leozinho\_58 Start: 39315, Stop: 39593, Start Num: 31

Candidate Starts for Leozinho\_58:

(24, 39288), (Start: 31 @39315 has 162 MA's), (71, 39399), (73, 39408), (84, 39471), (86, 39486), (89, 39498), (96, 39522), (98, 39534), (107, 39585),

Gene: Leperchaun\_51 Start: 37665, Stop: 37943, Start Num: 31

Candidate Starts for Leperchaun\_51:

(24, 37638), (Start: 31 @37665 has 162 MA's), (71, 37749), (73, 37758), (84, 37821), (86, 37836), (89, 37848), (96, 37872), (98, 37884), (107, 37935),

Gene: LilHazelnut\_75 Start: 48849, Stop: 49157, Start Num: 19

Candidate Starts for LilHazelnut\_75:

(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: LilMoolah\_57 Start: 39425, Stop: 39706, Start Num: 31

Candidate Starts for LilMoolah\_57:

(24, 39398), (Start: 31 @39425 has 162 MA's), (71, 39509), (73, 39518), (84, 39581), (86, 39596), (89, 39608), (96, 39632), (98, 39644), (107, 39698),

Gene: LilPharaoh\_46 Start: 36768, Stop: 37037, Start Num: 41

Candidate Starts for LilPharaoh\_46:

(Start: 41 @36768 has 31 MA's), (75, 36864), (87, 36924), (88, 36930), (89, 36933), (96, 36960), (98, 36972), (105, 37026),

Gene: Lilac\_96 Start: 56626, Stop: 56886, Start Num: 54

Candidate Starts for Lilac\_96:

(Start: 54 @56626 has 123 MA's), (64, 56647), (80, 56722), (90, 56791), (102, 56857),

Gene: Lilizi\_94 Start: 56263, Stop: 56523, Start Num: 54

Candidate Starts for Lilizi\_94:

(Start: 54 @56263 has 123 MA's), (64, 56284), (80, 56359), (90, 56428), (102, 56494),

Gene: Lilpickle\_92 Start: 56151, Stop: 56411, Start Num: 54

Candidate Starts for Lilpickle\_92:

(Start: 54 @56151 has 123 MA's), (64, 56172), (80, 56247), (90, 56316), (102, 56382),

Gene: LindNT\_49 Start: 37556, Stop: 37819, Start Num: 37

Candidate Starts for LindNT\_49:

(Start: 37 @37556 has 83 MA's), (67, 37610), (84, 37697),

Gene: LittleShirley\_58 Start: 40469, Stop: 40753, Start Num: 31

Candidate Starts for LittleShirley\_58:

(24, 40442), (Start: 31 @40469 has 162 MA's), (43, 40493), (52, 40508), (70, 40553), (72, 40565), (86, 40643), (89, 40655), (96, 40679), (98, 40691), (107, 40745),

Gene: Lizziana\_65 Start: 40983, Stop: 41264, Start Num: 31

Candidate Starts for Lizziana\_65:

(24, 40956), (Start: 31 @40983 has 162 MA's), (43, 41007), (52, 41022), (70, 41067), (72, 41079), (86, 41157), (89, 41169), (96, 41193), (98, 41205), (107, 41256),

Gene: Llama\_64 Start: 42394, Stop: 42672, Start Num: 31

Candidate Starts for Llama\_64:

(24, 42367), (Start: 31 @42394 has 162 MA's), (71, 42478), (73, 42487), (84, 42550), (86, 42565), (89, 42577), (96, 42601), (98, 42613), (107, 42664),

Gene: Llij\_55 Start: 38833, Stop: 39117, Start Num: 31

Candidate Starts for Llij\_55:

(24, 38806), (Start: 31 @38833 has 162 MA's), (43, 38857), (52, 38872), (70, 38917), (72, 38929), (86, 39007), (89, 39019), (96, 39043), (98, 39055), (107, 39109),

Gene: Llorens\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for Llorens\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: Lorde\_59 Start: 38120, Stop: 38404, Start Num: 31

Candidate Starts for Lorde\_59:

(24, 38093), (Start: 31 @38120 has 162 MA's), (43, 38144), (52, 38159), (70, 38204), (72, 38216), (86, 38294), (89, 38306), (96, 38330), (98, 38342), (107, 38396),

Gene: Luke\_72 Start: 48804, Stop: 49112, Start Num: 19

Candidate Starts for Luke\_72:

(18, 48798), (Start: 19 @48804 has 20 MA's), (Start: 26 @48831 has 2 MA's), (Start: 36 @48864 has 8 MA's), (76, 48966), (81, 48993), (101, 49104),

Gene: Luna22\_68 Start: 48833, Stop: 49141, Start Num: 19

Candidate Starts for Luna22\_68:

(18, 48827), (Start: 19 @48833 has 20 MA's), (Start: 26 @48860 has 2 MA's), (Start: 36 @48893 has 8 MA's), (76, 48995), (81, 49022), (101, 49133),

Gene: LunaBlu\_61 Start: 40560, Stop: 40838, Start Num: 31

Candidate Starts for LunaBlu\_61:

(24, 40533), (Start: 31 @40560 has 162 MA's), (71, 40644), (73, 40653), (84, 40716), (86, 40731), (89, 40743), (96, 40767), (98, 40779), (107, 40830),

Gene: LunaStella\_58 Start: 39407, Stop: 39685, Start Num: 31

Candidate Starts for LunaStella\_58:

(21, 39371), (Start: 31 @39407 has 162 MA's), (Start: 38 @39416 has 1 MA's), (67, 39473), (71, 39491), (73, 39500), (84, 39563), (86, 39578), (89, 39590), (96, 39614), (98, 39626), (107, 39677),

Gene: Lunahalos\_50 Start: 37471, Stop: 37734, Start Num: 37

Candidate Starts for Lunahalos\_50:

(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: MISSy\_94 Start: 56379, Stop: 56639, Start Num: 54

Candidate Starts for MISSy\_94:

(Start: 54 @56379 has 123 MA's), (64, 56400), (80, 56475), (90, 56544), (102, 56610),

Gene: MPhalcon\_94 Start: 56372, Stop: 56632, Start Num: 54

Candidate Starts for MPhalcon\_94:

(Start: 54 @56372 has 123 MA's), (64, 56393), (80, 56468), (90, 56537), (102, 56603),

Gene: MacnCheese\_55 Start: 38928, Stop: 39194, Start Num: 36

Candidate Starts for MacnCheese\_55:

(7, 38688), (Start: 36 @38928 has 8 MA's), (52, 38949), (56, 38955), (84, 39069), (92, 39114), (96, 39123),

Gene: MadMen\_57 Start: 39757, Stop: 40041, Start Num: 31

Candidate Starts for MadMen\_57:

(24, 39730), (Start: 31 @39757 has 162 MA's), (43, 39781), (52, 39796), (70, 39841), (72, 39853), (86, 39931), (89, 39943), (96, 39967), (98, 39979), (107, 40033),

Gene: MadamMonkfish\_93 Start: 55878, Stop: 56138, Start Num: 54



Candidate Starts for MadamMonkfish\_93:

(Start: 54 @55878 has 123 MA's), (64, 55899), (80, 55974), (90, 56043), (102, 56109),

Gene: Madiba\_57 Start: 39006, Stop: 39290, Start Num: 31

Candidate Starts for Madiba\_57:

(24, 38979), (Start: 31 @39006 has 162 MA's), (43, 39030), (52, 39045), (70, 39090), (72, 39102), (86, 39180), (89, 39192), (96, 39216), (98, 39228), (107, 39282),

Gene: Mahavrat\_57 Start: 39385, Stop: 39666, Start Num: 31

Candidate Starts for Mahavrat\_57:

(24, 39358), (Start: 31 @39385 has 162 MA's), (43, 39409), (52, 39424), (70, 39469), (72, 39481), (86, 39559), (89, 39571), (96, 39595), (98, 39607), (107, 39658),

Gene: Manda\_95 Start: 57955, Stop: 58215, Start Num: 54

Candidate Starts for Manda\_95:

(Start: 54 @57955 has 123 MA's), (64, 57976), (80, 58051), (90, 58120), (102, 58186),

Gene: Mandlovu\_55 Start: 37995, Stop: 38276, Start Num: 31

Candidate Starts for Mandlovu\_55:

(24, 37968), (Start: 31 @37995 has 162 MA's), (43, 38019), (52, 38034), (70, 38079), (72, 38091), (86, 38169), (89, 38181), (96, 38205), (98, 38217), (107, 38268),

Gene: Maravista\_60 Start: 41432, Stop: 41713, Start Num: 31

Candidate Starts for Maravista\_60:

(24, 41405), (Start: 31 @41432 has 162 MA's), (43, 41456), (52, 41471), (70, 41516), (72, 41528), (86, 41606), (89, 41618), (96, 41642), (98, 41654), (107, 41705),

Gene: Marcoliusprime\_54 Start: 39559, Stop: 39792, Start Num: 44

Candidate Starts for Marcoliusprime\_54:

(Start: 44 @39559 has 12 MA's), (Start: 46 @39562 has 4 MA's), (50, 39568), (53, 39574), (81, 39664), (82, 39670), (96, 39733),

Gene: MarkPhew\_54 Start: 38124, Stop: 38393, Start Num: 41

Candidate Starts for MarkPhew\_54:

(Start: 41 @38124 has 31 MA's), (61, 38151), (67, 38166), (72, 38190), (92, 38298), (110, 38382),

Gene: Marker\_61 Start: 40100, Stop: 40384, Start Num: 31

Candidate Starts for Marker\_61:

(24, 40073), (Start: 31 @40100 has 162 MA's), (43, 40124), (52, 40139), (70, 40184), (72, 40196), (86, 40274), (89, 40286), (96, 40310), (98, 40322), (107, 40376),

Gene: Marshawn\_53 Start: 38262, Stop: 38522, Start Num: 41

Candidate Starts for Marshawn\_53:

(3, 37941), (7, 38010), (9, 38106), (Start: 41 @38262 has 31 MA's), (69, 38319), (89, 38427), (100, 38490),

Gene: Marshmallow\_91 Start: 57427, Stop: 57687, Start Num: 54

Candidate Starts for Marshmallow\_91:

(Start: 54 @57427 has 123 MA's), (64, 57448), (80, 57523), (90, 57592), (102, 57658),

Gene: Martik\_59 Start: 39936, Stop: 40217, Start Num: 31

Candidate Starts for Martik\_59:

(24, 39909), (Start: 31 @39936 has 162 MA's), (43, 39960), (52, 39975), (70, 40020), (72, 40032), (86, 40110), (89, 40122), (96, 40146), (98, 40158), (107, 40209),

Gene: Mattes\_63 Start: 41502, Stop: 41783, Start Num: 31

Candidate Starts for Mattes\_63:

(24, 41475), (Start: 31 @41502 has 162 MA's), (43, 41526), (52, 41541), (70, 41586), (72, 41598), (86, 41676), (89, 41688), (96, 41712), (98, 41724), (107, 41775),

Gene: Maxxinista\_96 Start: 56793, Stop: 57053, Start Num: 54

Candidate Starts for Maxxinista\_96:

(Start: 54 @56793 has 123 MA's), (64, 56814), (80, 56889), (90, 56958), (102, 57024),

Gene: Mbo2\_39 Start: 36317, Stop: 36114, Start Num: 66

Candidate Starts for Mbo2\_39:

(66, 36317),

Gene: McMater\_53 Start: 38285, Stop: 38548, Start Num: 41

Candidate Starts for McMater\_53:

(1, 37805), (3, 37961), (7, 38030), (Start: 41 @38285 has 31 MA's), (77, 38387), (81, 38405), (84, 38423), (96, 38477), (100, 38513), (105, 38537),

Gene: Mdavu\_47 Start: 37029, Stop: 37298, Start Num: 41

Candidate Starts for Mdavu\_47:

(Start: 41 @37029 has 31 MA's), (75, 37125), (87, 37185), (88, 37191), (89, 37194), (96, 37221), (98, 37233), (105, 37287),

Gene: MeaningOfLife\_51 Start: 38280, Stop: 38543, Start Num: 37

Candidate Starts for MeaningOfLife\_51:

(Start: 37 @38280 has 83 MA's), (84, 38421),

Gene: Megsy\_52 Start: 37615, Stop: 37878, Start Num: 37

Candidate Starts for Megsy\_52:

(Start: 37 @37615 has 83 MA's), (67, 37669), (84, 37756),

Gene: Mendokysei\_39 Start: 30983, Stop: 31297, Start Num: 35

Candidate Starts for Mendokysei\_39:

(Start: 35 @30983 has 7 MA's), (47, 30998), (67, 31037),

Gene: Milly\_54 Start: 39532, Stop: 39765, Start Num: 44

Candidate Starts for Milly\_54:

(Start: 44 @39532 has 12 MA's), (Start: 46 @39535 has 4 MA's), (50, 39541), (53, 39547), (81, 39637), (82, 39643), (96, 39706),

Gene: Mindy\_92 Start: 55700, Stop: 55960, Start Num: 54

Candidate Starts for Mindy\_92:

(Start: 54 @55700 has 123 MA's), (64, 55721), (80, 55796), (90, 55865), (102, 55931),

Gene: MiniLon\_83 Start: 53899, Stop: 54165, Start Num: 48

Candidate Starts for MiniLon\_83:

(Start: 48 @53899 has 9 MA's), (Start: 58 @53914 has 4 MA's), (97, 54091), (107, 54151),

Gene: MinionDave\_58 Start: 40283, Stop: 40564, Start Num: 31

Candidate Starts for MinionDave\_58:

(Start: 31 @40283 has 162 MA's), (43, 40307), (52, 40322), (70, 40367), (72, 40379), (86, 40457), (89, 40469), (96, 40493), (98, 40505), (107, 40556),

Gene: Miniwave\_88 Start: 56195, Stop: 56455, Start Num: 54

Candidate Starts for Miniwave\_88:

(Start: 54 @56195 has 123 MA's), (64, 56216), (80, 56291), (90, 56360), (102, 56426),

Gene: Misfit\_94 Start: 57669, Stop: 57929, Start Num: 54

Candidate Starts for Misfit\_94:

(Start: 54 @57669 has 123 MA's), (64, 57690), (80, 57765), (90, 57834), (102, 57900),

Gene: MisterCuddles\_57 Start: 39742, Stop: 40020, Start Num: 31

Candidate Starts for MisterCuddles\_57:

(24, 39715), (Start: 31 @39742 has 162 MA's), (71, 39826), (73, 39835), (84, 39898), (86, 39913), (89, 39925), (96, 39949), (98, 39961), (107, 40012),

Gene: Modragons\_63 Start: 42384, Stop: 42662, Start Num: 31

Candidate Starts for Modragons\_63:

(24, 42357), (Start: 31 @42384 has 162 MA's), (71, 42468), (73, 42477), (84, 42540), (86, 42555), (89, 42567), (96, 42591), (98, 42603), (107, 42654),

Gene: Moldemort\_96 Start: 56336, Stop: 56596, Start Num: 54

Candidate Starts for Moldemort\_96:

(Start: 54 @56336 has 123 MA's), (64, 56357), (80, 56432), (90, 56501), (102, 56567),

Gene: Moostard\_77 Start: 53811, Stop: 54065, Start Num: 58

Candidate Starts for Moostard\_77:

(Start: 48 @53796 has 9 MA's), (Start: 58 @53811 has 4 MA's), (89, 53946), (97, 53988), (102, 54024), (107, 54048),

Gene: Morrill\_7 Start: 5168, Stop: 4911, Start Num: 62

Candidate Starts for Morrill\_7:

(30, 5228), (Start: 62 @5168 has 4 MA's), (79, 5096), (84, 5054), (99, 4979), (106, 4934),

Gene: Mosby\_89 Start: 55952, Stop: 56212, Start Num: 54

Candidate Starts for Mosby\_89:

(Start: 54 @55952 has 123 MA's), (64, 55973), (80, 56048), (90, 56117), (102, 56183),

Gene: Mova\_60 Start: 39510, Stop: 39794, Start Num: 31

Candidate Starts for Mova\_60:

(24, 39483), (Start: 31 @39510 has 162 MA's), (43, 39534), (52, 39549), (70, 39594), (72, 39606), (86, 39684), (89, 39696), (96, 39720), (98, 39732), (107, 39786),

Gene: Mozy\_68 Start: 42517, Stop: 42798, Start Num: 31

Candidate Starts for Mozy\_68:

(24, 42490), (Start: 31 @42517 has 162 MA's), (43, 42541), (52, 42556), (70, 42601), (72, 42613), (86, 42691), (89, 42703), (96, 42727), (98, 42739), (107, 42790),

Gene: MsGreen\_79 Start: 53793, Stop: 54062, Start Num: 48

Candidate Starts for MsGreen\_79:

(Start: 48 @53793 has 9 MA's), (Start: 58 @53808 has 4 MA's), (89, 53943), (97, 53985), (102, 54021), (107, 54045),

Gene: Mufasa\_54 Start: 39116, Stop: 39349, Start Num: 46

Candidate Starts for Mufasa\_54:

(Start: 44 @39113 has 12 MA's), (Start: 46 @39116 has 4 MA's), (50, 39122), (53, 39128), (81, 39218), (82, 39224), (96, 39287), (105, 39338),

Gene: MulchExplorer\_66 Start: 41810, Stop: 42091, Start Num: 31

Candidate Starts for MulchExplorer\_66:

(22, 41774), (Start: 31 @41810 has 162 MA's), (43, 41834), (70, 41891), (72, 41903), (86, 41981), (89, 41993), (96, 42017), (98, 42029), (107, 42083),

Gene: Murica\_96 Start: 57595, Stop: 57855, Start Num: 54

Candidate Starts for Murica\_96:

(Start: 54 @57595 has 123 MA's), (64, 57616), (80, 57691), (90, 57760), (102, 57826),

Gene: Murphy\_93 Start: 57036, Stop: 57296, Start Num: 54

Candidate Starts for Murphy\_93:

(Start: 54 @57036 has 123 MA's), (64, 57057), (80, 57132), (90, 57201), (102, 57267),

Gene: Murucutumbu\_51 Start: 38326, Stop: 38589, Start Num: 37

Candidate Starts for Murucutumbu\_51:

(7, 38074), (Start: 37 @38326 has 83 MA's), (67, 38380), (84, 38467),

Gene: Mutaforma13\_63 Start: 42840, Stop: 43124, Start Num: 31

Candidate Starts for Mutaforma13\_63:

(24, 42813), (Start: 31 @42840 has 162 MA's), (43, 42864), (52, 42879), (70, 42924), (72, 42936), (86, 43014), (89, 43026), (96, 43050), (98, 43062), (107, 43116),

Gene: Mynx\_51 Start: 37672, Stop: 37935, Start Num: 37

Candidate Starts for Mynx\_51:

(Start: 37 @37672 has 83 MA's), (84, 37813),

Gene: Myrale\_93 Start: 57158, Stop: 57418, Start Num: 54

Candidate Starts for Myrale\_93:

(Start: 54 @57158 has 123 MA's), (64, 57179), (80, 57254), (90, 57323), (102, 57389),

Gene: Nairb\_40 Start: 31446, Stop: 31703, Start Num: 35

Candidate Starts for Nairb\_40:

(4, 31170), (6, 31191), (Start: 35 @31446 has 7 MA's), (72, 31530), (89, 31620),

Gene: Nala\_95 Start: 56881, Stop: 57141, Start Num: 54

Candidate Starts for Nala\_95:

(Start: 54 @56881 has 123 MA's), (64, 56902), (80, 56977), (90, 57046), (102, 57112),

Gene: NelitzaMV\_91 Start: 56241, Stop: 56501, Start Num: 54

Candidate Starts for NelitzaMV\_91:

(Start: 54 @56241 has 123 MA's), (64, 56262), (80, 56337), (90, 56406), (102, 56472),

Gene: Nergal\_48 Start: 36024, Stop: 36272, Start Num: 37

Candidate Starts for Nergal\_48:

(Start: 37 @36024 has 83 MA's), (81, 36138), (84, 36156), (91, 36189), (102, 36246),

Gene: Niagara\_39 Start: 44231, Stop: 44031, Start Num: 65

Candidate Starts for Niagara\_39:

(Start: 65 @44231 has 9 MA's),

Gene: Nibb\_53 Start: 37813, Stop: 38082, Start Num: 41

Candidate Starts for Nibb\_53:

(Start: 41 @37813 has 31 MA's), (61, 37840), (92, 37987), (110, 38071),

Gene: Nicholas\_77 Start: 53801, Stop: 54070, Start Num: 48

Candidate Starts for Nicholas\_77:

(Start: 48 @53801 has 9 MA's), (Start: 58 @53816 has 4 MA's), (89, 53951), (97, 53993), (102, 54029), (107, 54053),

Gene: Nikao\_49 Start: 39653, Stop: 39922, Start Num: 41

Candidate Starts for Nikao\_49:

(Start: 41 @39653 has 31 MA's), (75, 39749), (87, 39809), (88, 39815), (89, 39818), (96, 39845), (98, 39857), (105, 39911),

Gene: Niklas\_53 Start: 38346, Stop: 38609, Start Num: 41

Candidate Starts for Niklas\_53:

(1, 37866), (3, 38022), (7, 38091), (Start: 41 @38346 has 31 MA's), (77, 38448), (81, 38466), (84, 38484), (96, 38538), (100, 38574), (105, 38598),

Gene: Nimrod\_94 Start: 57584, Stop: 57844, Start Num: 54

Candidate Starts for Nimrod\_94:

(Start: 54 @57584 has 123 MA's), (64, 57605), (80, 57680), (90, 57749), (102, 57815),

Gene: Nitzel\_57 Start: 39291, Stop: 39521, Start Num: 31

Candidate Starts for Nitzel\_57:

(24, 39264), (Start: 31 @39291 has 162 MA's), (71, 39375), (84, 39444), (89, 39471), (96, 39495),

Gene: Nivrat\_55 Start: 39298, Stop: 39579, Start Num: 31

Candidate Starts for Nivrat\_55:

(24, 39271), (Start: 31 @39298 has 162 MA's), (71, 39382), (73, 39391), (84, 39454), (86, 39469), (89, 39481), (96, 39505), (98, 39517), (107, 39571),

Gene: NoSleep\_94 Start: 56218, Stop: 56478, Start Num: 54

Candidate Starts for NoSleep\_94:

(Start: 54 @56218 has 123 MA's), (64, 56239), (80, 56314), (90, 56383), (102, 56449),

Gene: NormanBulbieJr\_59 Start: 39923, Stop: 40207, Start Num: 31

Candidate Starts for NormanBulbieJr\_59:

(24, 39896), (Start: 31 @39923 has 162 MA's), (43, 39947), (52, 39962), (70, 40007), (72, 40019), (86, 40097), (89, 40109), (96, 40133), (98, 40145), (107, 40199),

Gene: Nutello\_46 Start: 37040, Stop: 37309, Start Num: 41

Candidate Starts for Nutello\_46:

(Start: 41 @37040 has 31 MA's), (75, 37136), (87, 37196), (88, 37202), (89, 37205), (96, 37232), (98, 37244), (105, 37298),

Gene: OBUpride\_74 Start: 48893, Stop: 49201, Start Num: 19

Candidate Starts for OBUpride\_74:

(18, 48887), (Start: 19 @48893 has 20 MA's), (Start: 26 @48920 has 2 MA's), (Start: 36 @48953 has 8 MA's), (76, 49055), (81, 49082), (101, 49193),

Gene: Ochi17\_62 Start: 41991, Stop: 42269, Start Num: 31

Candidate Starts for Ochi17\_62:

(24, 41964), (Start: 31 @41991 has 162 MA's), (71, 42075), (73, 42084), (84, 42147), (86, 42162), (89, 42174), (96, 42198), (98, 42210), (107, 42261),

Gene: OfUltron\_64 Start: 42540, Stop: 42818, Start Num: 31

Candidate Starts for OfUltron\_64:

(24, 42513), (Start: 31 @42540 has 162 MA's), (71, 42624), (73, 42633), (84, 42696), (86, 42711), (89, 42723), (96, 42747), (98, 42759), (107, 42810),

Gene: Oksu\_63 Start: 42803, Stop: 43081, Start Num: 31

Candidate Starts for Oksu\_63:

(24, 42776), (Start: 31 @42803 has 162 MA's), (71, 42887), (73, 42896), (84, 42959), (86, 42974), (89, 42986), (96, 43010), (98, 43022), (107, 43073),

Gene: OldBen\_56 Start: 39848, Stop: 40132, Start Num: 31

Candidate Starts for OldBen\_56:

(24, 39821), (Start: 31 @39848 has 162 MA's), (43, 39872), (52, 39887), (70, 39932), (72, 39944), (86, 40022), (89, 40034), (96, 40058), (98, 40070), (107, 40124),

Gene: OlympiaSaint\_61 Start: 40444, Stop: 40725, Start Num: 31

Candidate Starts for OlympiaSaint\_61:

(24, 40417), (Start: 31 @40444 has 162 MA's), (43, 40468), (52, 40483), (70, 40528), (72, 40540), (86, 40618), (89, 40630), (96, 40654), (98, 40666), (107, 40717),

Gene: OrionPax\_92 Start: 55969, Stop: 56229, Start Num: 54

Candidate Starts for OrionPax\_92:

(Start: 54 @55969 has 123 MA's), (64, 55990), (80, 56065), (90, 56134), (102, 56200),

Gene: Oscar\_55 Start: 38567, Stop: 38842, Start Num: 41

Candidate Starts for Oscar\_55:

(Start: 41 @38567 has 31 MA's), (Start: 45 @38573 has 2 MA's), (67, 38615), (72, 38639), (92, 38747), (110, 38831),

Gene: OwlsT2W\_59 Start: 40166, Stop: 40444, Start Num: 31

Candidate Starts for OwlsT2W\_59:

(24, 40139), (Start: 31 @40166 has 162 MA's), (71, 40250), (84, 40322), (86, 40337), (89, 40349), (96, 40373), (98, 40385), (107, 40436),

Gene: PHappiness\_54 Start: 38211, Stop: 38489, Start Num: 31

Candidate Starts for PHappiness\_54:

(24, 38184), (Start: 31 @38211 has 162 MA's), (71, 38295), (73, 38304), (84, 38367), (86, 38382), (89, 38394), (96, 38418), (98, 38430), (107, 38481),

Gene: PMC\_56 Start: 40550, Stop: 40834, Start Num: 31

Candidate Starts for PMC\_56:

(24, 40523), (Start: 31 @40550 has 162 MA's), (43, 40574), (52, 40589), (70, 40634), (72, 40646), (86, 40724), (89, 40736), (96, 40760), (98, 40772), (107, 40826),

Gene: Pacc40\_53 Start: 38285, Stop: 38563, Start Num: 31

Candidate Starts for Pacc40\_53:

(24, 38258), (Start: 31 @38285 has 162 MA's), (71, 38369), (73, 38378), (84, 38441), (86, 38456), (89, 38468), (96, 38492), (98, 38504), (107, 38555),

Gene: Padfoot\_50 Start: 37668, Stop: 37931, Start Num: 37

Candidate Starts for Padfoot\_50:

(Start: 37 @37668 has 83 MA's), (84, 37809),

Gene: Padpat\_52 Start: 37347, Stop: 37610, Start Num: 37

Candidate Starts for Padpat\_52:

(Start: 37 @37347 has 83 MA's), (84, 37488),

Gene: Palpatine\_95 Start: 57622, Stop: 57882, Start Num: 54

Candidate Starts for Palpatine\_95:

(Start: 54 @57622 has 123 MA's), (64, 57643), (80, 57718), (90, 57787), (102, 57853),

Gene: PapayaSalad\_40 Start: 27840, Stop: 28139, Start Num: 44

Candidate Starts for PapayaSalad\_40:

(5, 27552), (8, 27597), (21, 27771), (Start: 44 @27840 has 12 MA's), (89, 28002),

Gene: Paperbeatsrock\_92 Start: 56873, Stop: 57133, Start Num: 54

Candidate Starts for Paperbeatsrock\_92:

(Start: 54 @56873 has 123 MA's), (64, 56894), (80, 56969), (90, 57038), (102, 57104),

Gene: Pat3\_90 Start: 55071, Stop: 55331, Start Num: 54

Candidate Starts for Pat3\_90:

(11, 54933), (Start: 54 @55071 has 123 MA's), (64, 55092), (90, 55236), (102, 55302),

Gene: Peanam\_53 Start: 38304, Stop: 38567, Start Num: 41

Candidate Starts for Peanam\_53:

(1, 37824), (3, 37980), (7, 38049), (Start: 41 @38304 has 31 MA's), (77, 38406), (81, 38424), (84, 38442), (96, 38496), (100, 38532), (105, 38556),

Gene: Peel\_50 Start: 37473, Stop: 37736, Start Num: 37

Candidate Starts for Peel\_50:

(Start: 37 @37473 has 83 MA's), (84, 37614),

Gene: Petra64142\_98 Start: 58076, Stop: 58336, Start Num: 54

Candidate Starts for Petra64142\_98:

(11, 57938), (Start: 54 @58076 has 123 MA's), (64, 58097), (90, 58241), (102, 58307),

Gene: Phaja\_91 Start: 56699, Stop: 56959, Start Num: 54

Candidate Starts for Phaja\_91:

(Start: 54 @56699 has 123 MA's), (64, 56720), (80, 56795), (90, 56864), (102, 56930),

Gene: Pharb\_50 Start: 36682, Stop: 36942, Start Num: 36

Candidate Starts for Pharb\_50:

(1, 36217), (7, 36442), (Start: 36 @36682 has 8 MA's), (52, 36697), (96, 36871),

Gene: Pharsalus\_90 Start: 56673, Stop: 56933, Start Num: 54

Candidate Starts for Pharsalus\_90:

(Start: 54 @56673 has 123 MA's), (64, 56694), (80, 56769), (90, 56838), (102, 56904),

Gene: Phasih\_57 Start: 40355, Stop: 40633, Start Num: 31

Candidate Starts for Phasih\_57:

(24, 40328), (Start: 31 @40355 has 162 MA's), (71, 40439), (73, 40448), (84, 40511), (86, 40526), (89, 40538), (96, 40562), (98, 40574), (107, 40625),

Gene: PhatBacter\_97 Start: 57367, Stop: 57627, Start Num: 54

Candidate Starts for PhatBacter\_97:

(Start: 54 @57367 has 123 MA's), (64, 57388), (80, 57463), (90, 57532), (102, 57598),

Gene: Phatniss\_57 Start: 39928, Stop: 40212, Start Num: 31

Candidate Starts for Phatniss\_57:

(24, 39901), (Start: 31 @39928 has 162 MA's), (43, 39952), (52, 39967), (70, 40012), (72, 40024), (86, 40102), (89, 40114), (96, 40138), (98, 40150), (107, 40204),

Gene: Phaux\_96 Start: 57909, Stop: 58169, Start Num: 54

Candidate Starts for Phaux\_96:

(Start: 54 @57909 has 123 MA's), (64, 57930), (80, 58005), (90, 58074), (102, 58140),

Gene: PhelpsODU\_53 Start: 37175, Stop: 37432, Start Num: 41

Candidate Starts for PhelpsODU\_53:

(Start: 41 @37175 has 31 MA's), (Start: 54 @37196 has 123 MA's), (72, 37250), (84, 37313), (85, 37322), (100, 37400),

Gene: Philus\_62 Start: 41088, Stop: 41369, Start Num: 31

Candidate Starts for Philus\_62:

(24, 41061), (Start: 31 @41088 has 162 MA's), (71, 41172), (73, 41181), (84, 41244), (86, 41259), (89, 41271), (96, 41295), (98, 41307), (107, 41361),

Gene: Phrank\_54 Start: 37132, Stop: 37389, Start Num: 41

Candidate Starts for Phrank\_54:

(Start: 41 @37132 has 31 MA's), (Start: 54 @37153 has 123 MA's), (72, 37207), (84, 37270), (85, 37279), (100, 37357),

Gene: Phrux\_91 Start: 56185, Stop: 56445, Start Num: 54

Candidate Starts for Phrux\_91:

(Start: 54 @56185 has 123 MA's), (64, 56206), (80, 56281), (90, 56350), (102, 56416),

Gene: Piatt\_50 Start: 37668, Stop: 37931, Start Num: 37

Candidate Starts for Piatt\_50:

(Start: 37 @37668 has 83 MA's), (84, 37809),

Gene: Pippy\_57 Start: 38794, Stop: 39075, Start Num: 31

Candidate Starts for Pippy\_57:

(24, 38767), (Start: 31 @38794 has 162 MA's), (43, 38818), (52, 38833), (70, 38878), (72, 38890), (86, 38968), (89, 38980), (96, 39004), (98, 39016), (107, 39067),

Gene: Pixie\_52 Start: 37451, Stop: 37720, Start Num: 36

Candidate Starts for Pixie\_52:

(7, 37211), (Start: 36 @37451 has 8 MA's), (52, 37475), (84, 37595), (96, 37649),

Gene: Plumbus\_61 Start: 40255, Stop: 40533, Start Num: 31

Candidate Starts for Plumbus\_61:

(24, 40228), (Start: 31 @40255 has 162 MA's), (71, 40339), (73, 40348), (84, 40411), (86, 40426), (89, 40438), (96, 40462), (98, 40474), (107, 40525),



Gene: Poenanya\_59 Start: 41112, Stop: 41390, Start Num: 31

Candidate Starts for Poenanya\_59:

(24, 41085), (Start: 31 @41112 has 162 MA's), (71, 41196), (73, 41205), (84, 41268), (86, 41283), (89, 41295), (96, 41319), (98, 41331), (107, 41382),

Gene: Pokerus\_49 Start: 37394, Stop: 37657, Start Num: 37

Candidate Starts for Pokerus\_49:

(Start: 37 @37394 has 83 MA's), (67, 37448), (84, 37535),

Gene: Policronamos\_97 Start: 57640, Stop: 57900, Start Num: 54

Candidate Starts for Policronamos\_97:

(Start: 54 @57640 has 123 MA's), (64, 57661), (80, 57736), (90, 57805), (102, 57871),

Gene: Polka14\_57 Start: 39308, Stop: 39586, Start Num: 31

Candidate Starts for Polka14\_57:

(24, 39281), (Start: 31 @39308 has 162 MA's), (71, 39392), (73, 39401), (84, 39464), (86, 39479), (89, 39491), (96, 39515), (98, 39527), (107, 39578),

Gene: Pollywog\_60 Start: 40759, Stop: 41043, Start Num: 31

Candidate Starts for Pollywog\_60:

(24, 40732), (Start: 31 @40759 has 162 MA's), (43, 40783), (52, 40798), (70, 40843), (72, 40855), (86, 40933), (89, 40945), (96, 40969), (98, 40981), (107, 41035),

Gene: Porky\_92 Start: 55785, Stop: 56045, Start Num: 54

Candidate Starts for Porky\_92:

(Start: 54 @55785 has 123 MA's), (64, 55806), (80, 55881), (90, 55950), (102, 56016),

Gene: Priscilla\_59 Start: 40022, Stop: 40306, Start Num: 31

Candidate Starts for Priscilla\_59:

(24, 39995), (Start: 31 @40022 has 162 MA's), (43, 40046), (52, 40061), (70, 40106), (72, 40118), (86, 40196), (89, 40208), (96, 40232), (98, 40244), (107, 40298),

Gene: Prithvi\_51 Start: 37556, Stop: 37819, Start Num: 37

Candidate Starts for Prithvi\_51:

(Start: 37 @37556 has 83 MA's), (67, 37610), (84, 37697),

Gene: Pumpkin\_97 Start: 57561, Stop: 57821, Start Num: 54

Candidate Starts for Pumpkin\_97:

(Start: 54 @57561 has 123 MA's), (64, 57582), (80, 57657), (90, 57726), (102, 57792),

Gene: Pupper\_53 Start: 18336, Stop: 18617, Start Num: 25

Candidate Starts for Pupper\_53:

(Start: 25 @18336 has 3 MA's), (Start: 41 @18372 has 31 MA's), (72, 18447),

Gene: Quallification\_94 Start: 57281, Stop: 57541, Start Num: 54

Candidate Starts for Quallification\_94:

(Start: 54 @57281 has 123 MA's), (64, 57302), (80, 57377), (90, 57446), (102, 57512),

Gene: QuickMath\_61 Start: 42034, Stop: 42315, Start Num: 31

Candidate Starts for QuickMath\_61:

(22, 41998), (Start: 31 @42034 has 162 MA's), (43, 42058), (70, 42115), (72, 42127), (86, 42205), (89, 42217), (96, 42241), (98, 42253), (107, 42307),

Gene: QuincyRose\_49 Start: 37786, Stop: 38049, Start Num: 37  
Candidate Starts for QuincyRose\_49:  
(Start: 37 @37786 has 83 MA's), (84, 37927),

Gene: Radiance\_58 Start: 40047, Stop: 40328, Start Num: 31  
Candidate Starts for Radiance\_58:  
(24, 40020), (Start: 31 @40047 has 162 MA's), (43, 40071), (52, 40086), (70, 40131), (72, 40143), (86, 40221), (89, 40233), (96, 40257), (98, 40269), (107, 40320),

Gene: Rakim\_94 Start: 56610, Stop: 56870, Start Num: 54  
Candidate Starts for Rakim\_94:  
(Start: 54 @56610 has 123 MA's), (64, 56631), (80, 56706), (90, 56775), (102, 56841),

Gene: Ramen\_51 Start: 37358, Stop: 37621, Start Num: 37  
Candidate Starts for Ramen\_51:  
(Start: 37 @37358 has 83 MA's), (84, 37499),

Gene: Rapunzel97\_51 Start: 37354, Stop: 37617, Start Num: 37  
Candidate Starts for Rapunzel97\_51:  
(Start: 37 @37354 has 83 MA's), (84, 37495),

Gene: RedBird\_57 Start: 39343, Stop: 39624, Start Num: 31  
Candidate Starts for RedBird\_57:  
(24, 39316), (Start: 31 @39343 has 162 MA's), (71, 39427), (73, 39436), (84, 39499), (86, 39514), (89, 39526), (96, 39550), (98, 39562),

Gene: Renaud18\_65 Start: 40812, Stop: 41093, Start Num: 31  
Candidate Starts for Renaud18\_65:  
(23, 40776), (Start: 31 @40812 has 162 MA's), (Start: 38 @40827 has 1 MA's), (52, 40851), (70, 40896), (72, 40908), (96, 41022), (98, 41034), (107, 41085),

Gene: Reynauld\_48 Start: 45364, Stop: 45140, Start Num: 57  
Candidate Starts for Reynauld\_48:  
(2, 45808), (Start: 57 @45364 has 2 MA's), (66, 45340),

Gene: Rialto\_65 Start: 42826, Stop: 43110, Start Num: 31  
Candidate Starts for Rialto\_65:  
(24, 42799), (Start: 31 @42826 has 162 MA's), (43, 42850), (52, 42865), (70, 42910), (72, 42922), (86, 43000), (89, 43012), (96, 43036), (98, 43048), (107, 43102),

Gene: Richo\_53 Start: 38285, Stop: 38548, Start Num: 41  
Candidate Starts for Richo\_53:  
(1, 37805), (3, 37961), (7, 38030), (Start: 41 @38285 has 31 MA's), (77, 38387), (81, 38405), (84, 38423), (96, 38477), (100, 38513), (105, 38537),

Gene: Rimmer\_91 Start: 56182, Stop: 56442, Start Num: 54  
Candidate Starts for Rimmer\_91:  
(11, 56044), (Start: 54 @56182 has 123 MA's), (64, 56203), (90, 56347), (102, 56413),

Gene: Rita\_60 Start: 38653, Stop: 38937, Start Num: 31  
Candidate Starts for Rita\_60:  
(24, 38626), (Start: 31 @38653 has 162 MA's), (43, 38677), (52, 38692), (70, 38737), (72, 38749), (86, 38827), (89, 38839), (96, 38863), (98, 38875), (107, 38929),

Gene: RitaG\_54 Start: 38556, Stop: 38834, Start Num: 31

Candidate Starts for RitaG\_54:

(24, 38529), (Start: 31 @38556 has 162 MA's), (71, 38640), (73, 38649), (84, 38712), (86, 38727), (89, 38739), (96, 38763), (98, 38775), (107, 38826),

Gene: RiverMonster\_94 Start: 57081, Stop: 57341, Start Num: 54

Candidate Starts for RiverMonster\_94:

(Start: 54 @57081 has 123 MA's), (64, 57102), (80, 57177), (90, 57246), (102, 57312),

Gene: RobinSparkles\_47 Start: 44442, Stop: 44158, Start Num: 20

Candidate Starts for RobinSparkles\_47:

(Start: 20 @44442 has 1 MA's), (81, 44256),

Gene: Rockne\_60 Start: 40562, Stop: 40846, Start Num: 31

Candidate Starts for Rockne\_60:

(24, 40535), (Start: 31 @40562 has 162 MA's), (43, 40586), (52, 40601), (70, 40646), (72, 40658), (86, 40736), (89, 40748), (96, 40772), (98, 40784), (107, 40838),

Gene: RockyHorror\_60 Start: 39611, Stop: 39892, Start Num: 31

Candidate Starts for RockyHorror\_60:

(24, 39584), (Start: 31 @39611 has 162 MA's), (43, 39635), (52, 39650), (70, 39695), (72, 39707), (89, 39797), (96, 39821), (98, 39833), (107, 39884),

Gene: RonRayGun\_41 Start: 31892, Stop: 32149, Start Num: 35

Candidate Starts for RonRayGun\_41:

(4, 31616), (6, 31637), (Start: 35 @31892 has 7 MA's), (72, 31976), (89, 32066),

Gene: Ronaldo\_96 Start: 48347, Stop: 48652, Start Num: 51

Candidate Starts for Ronaldo\_96:

(Start: 51 @48347 has 6 MA's), (67, 48380), (104, 48581), (112, 48605),

Gene: Rosmarinus\_50 Start: 37459, Stop: 37722, Start Num: 37

Candidate Starts for Rosmarinus\_50:

(Start: 37 @37459 has 83 MA's), (84, 37600),

Gene: Ruby\_55 Start: 39743, Stop: 40021, Start Num: 31

Candidate Starts for Ruby\_55:

(24, 39716), (Start: 31 @39743 has 162 MA's), (71, 39827), (73, 39836), (84, 39899), (86, 39914), (89, 39926), (96, 39950), (98, 39962), (107, 40013),

Gene: SCentae\_53 Start: 18353, Stop: 18634, Start Num: 25

Candidate Starts for SCentae\_53:

(Start: 25 @18353 has 3 MA's), (Start: 41 @18389 has 31 MA's), (72, 18464),

Gene: SG4\_56 Start: 39440, Stop: 39724, Start Num: 31

Candidate Starts for SG4\_56:

(Start: 31 @39440 has 162 MA's), (43, 39464), (52, 39479), (70, 39524), (72, 39536), (86, 39614), (89, 39626), (96, 39650), (98, 39662), (107, 39716),

Gene: Saal\_61 Start: 41196, Stop: 41477, Start Num: 31

Candidate Starts for Saal\_61:

(24, 41169), (Start: 31 @41196 has 162 MA's), (43, 41220), (52, 41235), (70, 41280), (72, 41292), (86, 41370), (89, 41382), (96, 41406), (98, 41418), (107, 41469),

Gene: Sabbb\_63 Start: 40884, Stop: 41165, Start Num: 31

Candidate Starts for Sabbb\_63:

(24, 40857), (Start: 31 @40884 has 162 MA's), (43, 40908), (52, 40923), (70, 40968), (72, 40980), (86, 41058), (89, 41070), (96, 41094), (98, 41106), (107, 41157),

Gene: Saints25\_92 Start: 56224, Stop: 56484, Start Num: 54

Candidate Starts for Saints25\_92:

(Start: 54 @56224 has 123 MA's), (64, 56245), (80, 56320), (90, 56389), (102, 56455),

Gene: Samty\_78 Start: 53804, Stop: 54058, Start Num: 58

Candidate Starts for Samty\_78:

(Start: 48 @53789 has 9 MA's), (Start: 58 @53804 has 4 MA's), (89, 53939), (97, 53981), (102, 54017), (107, 54041),

Gene: SamuelLPlaqson\_51 Start: 38242, Stop: 38505, Start Num: 37

Candidate Starts for SamuelLPlaqson\_51:

(7, 37990), (Start: 37 @38242 has 83 MA's), (67, 38296), (81, 38365), (84, 38383),

Gene: Sassafras\_57 Start: 39528, Stop: 39806, Start Num: 31

Candidate Starts for Sassafras\_57:

(24, 39501), (Start: 31 @39528 has 162 MA's), (71, 39612), (73, 39621), (84, 39684), (86, 39699), (89, 39711), (96, 39735), (98, 39747), (107, 39798),

Gene: Sassay\_88 Start: 54914, Stop: 55174, Start Num: 54

Candidate Starts for Sassay\_88:

(Start: 54 @54914 has 123 MA's), (64, 54935), (80, 55010), (90, 55079), (102, 55145),

Gene: Sbash\_53 Start: 39707, Stop: 40006, Start Num: 31

Candidate Starts for Sbash\_53:

(Start: 31 @39707 has 162 MA's), (39, 39725), (60, 39761), (Start: 68 @39776 has 1 MA's), (84, 39872), (96, 39923), (100, 39959), (108, 39998),

Gene: Scarlett\_55 Start: 38559, Stop: 38834, Start Num: 41

Candidate Starts for Scarlett\_55:

(Start: 41 @38559 has 31 MA's), (Start: 45 @38565 has 2 MA's), (67, 38607), (72, 38631), (92, 38739), (110, 38823),

Gene: Scottish\_57 Start: 39568, Stop: 39852, Start Num: 31

Candidate Starts for Scottish\_57:

(24, 39541), (Start: 31 @39568 has 162 MA's), (43, 39592), (52, 39607), (70, 39652), (72, 39664), (86, 39742), (89, 39754), (96, 39778), (98, 39790), (107, 39844),

Gene: Seabastian\_64 Start: 42541, Stop: 42819, Start Num: 31

Candidate Starts for Seabastian\_64:

(24, 42514), (Start: 31 @42541 has 162 MA's), (71, 42625), (73, 42634), (84, 42697), (86, 42712), (89, 42724), (96, 42748), (98, 42760), (107, 42811),

Gene: Sejanus\_58 Start: 47696, Stop: 47995, Start Num: 31

Candidate Starts for Sejanus\_58:

(Start: 31 @47696 has 162 MA's), (39, 47714), (60, 47750), (Start: 68 @47765 has 1 MA's), (84, 47861), (96, 47912), (100, 47948), (105, 47981), (108, 47987),

Gene: SgtBeansprout\_46 Start: 37040, Stop: 37309, Start Num: 41

Candidate Starts for SgtBeansprout\_46:

(Start: 41 @37040 has 31 MA's), (75, 37136), (87, 37196), (88, 37202), (89, 37205), (96, 37232), (98, 37244), (105, 37298),

Gene: Shadow1\_56 Start: 38290, Stop: 38541, Start Num: 41

Candidate Starts for Shadow1\_56:

(Start: 41 @38290 has 31 MA's), (Start: 45 @38296 has 2 MA's), (84, 38428),

Gene: ShamWow\_93 Start: 57094, Stop: 57354, Start Num: 54

Candidate Starts for ShamWow\_93:

(Start: 54 @57094 has 123 MA's), (64, 57115), (80, 57190), (90, 57259), (102, 57325),

Gene: Shaobing\_53 Start: 38322, Stop: 38585, Start Num: 41

Candidate Starts for Shaobing\_53:

(1, 37842), (3, 37998), (7, 38067), (Start: 41 @38322 has 31 MA's), (77, 38424), (81, 38442), (84, 38460), (96, 38514), (100, 38550), (105, 38574),

Gene: ShedlockHolmes\_54 Start: 37976, Stop: 38245, Start Num: 36

Candidate Starts for ShedlockHolmes\_54:

(7, 37736), (Start: 36 @37976 has 8 MA's), (52, 38000), (84, 38120), (96, 38174),

Gene: ShereKhan\_91 Start: 57206, Stop: 57466, Start Num: 54

Candidate Starts for ShereKhan\_91:

(Start: 54 @57206 has 123 MA's), (64, 57227), (80, 57302), (90, 57371), (102, 57437),

Gene: ShiLan\_58 Start: 39969, Stop: 40253, Start Num: 31

Candidate Starts for ShiLan\_58:

(24, 39942), (Start: 31 @39969 has 162 MA's), (43, 39993), (52, 40008), (70, 40053), (72, 40065), (86, 40143), (89, 40155), (96, 40179), (98, 40191), (107, 40245),

Gene: ShiaSurprise\_51 Start: 37668, Stop: 37931, Start Num: 37

Candidate Starts for ShiaSurprise\_51:

(Start: 37 @37668 has 83 MA's), (84, 37809),

Gene: ShowerHandel\_62 Start: 39936, Stop: 40217, Start Num: 31

Candidate Starts for ShowerHandel\_62:

(24, 39909), (Start: 31 @39936 has 162 MA's), (43, 39960), (52, 39975), (70, 40020), (72, 40032), (86, 40110), (89, 40122), (96, 40146), (98, 40158), (107, 40209),

Gene: ShroomBoi\_61 Start: 40896, Stop: 41177, Start Num: 31

Candidate Starts for ShroomBoi\_61:

(24, 40869), (Start: 31 @40896 has 162 MA's), (43, 40920), (52, 40935), (70, 40980), (72, 40992), (86, 41070), (89, 41082), (96, 41106), (98, 41118), (107, 41169),

Gene: Shweta\_42 Start: 30626, Stop: 30925, Start Num: 31

Candidate Starts for Shweta\_42:

(Start: 31 @30626 has 162 MA's), (39, 30644), (60, 30680), (Start: 68 @30695 has 1 MA's), (84, 30791), (96, 30842), (100, 30878), (105, 30911),

Gene: SiSi\_57 Start: 39342, Stop: 39626, Start Num: 31

Candidate Starts for SiSi\_57:

(24, 39315), (Start: 31 @39342 has 162 MA's), (43, 39366), (52, 39381), (70, 39426), (72, 39438), (86, 39516), (89, 39528), (96, 39552), (98, 39564), (107, 39618),

Gene: Simpliphy\_92 Start: 56214, Stop: 56474, Start Num: 54

Candidate Starts for Simpliphy\_92:

(Start: 54 @56214 has 123 MA's), (64, 56235), (80, 56310), (90, 56379), (102, 56445),

Gene: SimranZ1\_59 Start: 40122, Stop: 40400, Start Num: 31

Candidate Starts for SimranZ1\_59:

(24, 40095), (Start: 31 @40122 has 162 MA's), (71, 40206), (73, 40215), (84, 40278), (86, 40293), (89, 40305), (96, 40329), (98, 40341), (107, 40392),

Gene: SirDuracell\_93 Start: 55587, Stop: 55847, Start Num: 54

Candidate Starts for SirDuracell\_93:

(Start: 54 @55587 has 123 MA's), (64, 55608), (80, 55683), (90, 55752), (102, 55818),

Gene: SirPhilip\_53 Start: 38679, Stop: 38936, Start Num: 41

Candidate Starts for SirPhilip\_53:

(Start: 41 @38679 has 31 MA's), (81, 38799), (83, 38808), (84, 38817), (98, 38880), (100, 38904),

Gene: SkinnyPete\_42 Start: 29948, Stop: 30178, Start Num: 68

Candidate Starts for SkinnyPete\_42:

(Start: 31 @29879 has 162 MA's), (39, 29897), (60, 29933), (Start: 68 @29948 has 1 MA's), (84, 30044), (96, 30095), (100, 30131), (105, 30164), (108, 30170),

Gene: Slimphazie\_50 Start: 37354, Stop: 37617, Start Num: 37

Candidate Starts for Slimphazie\_50:

(Start: 37 @37354 has 83 MA's), (84, 37495),

Gene: Snenia\_78 Start: 53795, Stop: 54064, Start Num: 48

Candidate Starts for Snenia\_78:

(Start: 48 @53795 has 9 MA's), (Start: 58 @53810 has 4 MA's), (89, 53945), (97, 53987), (102, 54023), (107, 54047),

Gene: SophKB\_90 Start: 55892, Stop: 56152, Start Num: 54

Candidate Starts for SophKB\_90:

(Start: 54 @55892 has 123 MA's), (64, 55913), (80, 55988), (90, 56057), (102, 56123),

Gene: Sotrice96\_94 Start: 56480, Stop: 56740, Start Num: 54

Candidate Starts for Sotrice96\_94:

(Start: 54 @56480 has 123 MA's), (64, 56501), (80, 56576), (90, 56645), (102, 56711),

Gene: Soul22\_65 Start: 41527, Stop: 41811, Start Num: 31

Candidate Starts for Soul22\_65:

(24, 41500), (Start: 31 @41527 has 162 MA's), (43, 41551), (52, 41566), (70, 41611), (72, 41623), (86, 41701), (89, 41713), (96, 41737), (98, 41749), (107, 41803),

Gene: Spartacus\_61 Start: 40606, Stop: 40887, Start Num: 31

Candidate Starts for Spartacus\_61:

(24, 40579), (Start: 31 @40606 has 162 MA's), (43, 40630), (52, 40645), (70, 40690), (72, 40702), (86, 40780), (89, 40792), (96, 40816), (98, 40828), (107, 40879),

Gene: Spikelee\_66 Start: 42226, Stop: 42507, Start Num: 31

Candidate Starts for Spikelee\_66:

(24, 42199), (Start: 31 @42226 has 162 MA's), (43, 42250), (52, 42265), (70, 42310), (72, 42322), (86, 42400), (89, 42412), (96, 42436), (98, 42448), (107, 42499),

Gene: Spock\_50 Start: 37472, Stop: 37735, Start Num: 37

Candidate Starts for Spock\_50:

(Start: 37 @37472 has 83 MA's), (84, 37613),

Gene: Spoonbill\_56 Start: 38516, Stop: 38794, Start Num: 31

Candidate Starts for Spoonbill\_56:

(24, 38489), (Start: 31 @38516 has 162 MA's), (71, 38600), (73, 38609), (84, 38672), (86, 38687), (89, 38699), (96, 38723), (98, 38735), (107, 38786),

Gene: Squiddly\_71 Start: 45719, Stop: 45979, Start Num: 28

Candidate Starts for Squiddly\_71:

(16, 45680), (Start: 28 @45719 has 1 MA's), (67, 45782), (70, 45794), (81, 45851), (89, 45896), (103, 45971),

Gene: Stank\_95 Start: 56873, Stop: 57133, Start Num: 54

Candidate Starts for Stank\_95:

(Start: 54 @56873 has 123 MA's), (64, 56894), (80, 56969), (90, 57038), (102, 57104),

Gene: Stap\_57 Start: 39317, Stop: 39595, Start Num: 31

Candidate Starts for Stap\_57:

(24, 39290), (Start: 31 @39317 has 162 MA's), (71, 39401), (73, 39410), (84, 39473), (86, 39488), (89, 39500), (96, 39524), (98, 39536), (107, 39587),

Gene: Starcevich\_59 Start: 40105, Stop: 40383, Start Num: 31

Candidate Starts for Starcevich\_59:

(22, 40069), (Start: 31 @40105 has 162 MA's), (43, 40129), (70, 40186), (72, 40198), (86, 40276), (89, 40288), (96, 40312), (98, 40324), (107, 40375),

Gene: Stark\_95 Start: 56964, Stop: 57224, Start Num: 54

Candidate Starts for Stark\_95:

(Start: 54 @56964 has 123 MA's), (64, 56985), (80, 57060), (90, 57129), (102, 57195),

Gene: StellaBean\_91 Start: 56418, Stop: 56678, Start Num: 54

Candidate Starts for StellaBean\_91:

(Start: 54 @56418 has 123 MA's), (64, 56439), (80, 56514), (90, 56583), (102, 56649),

Gene: Stinson\_51 Start: 37846, Stop: 38109, Start Num: 37

Candidate Starts for Stinson\_51:

(7, 37594), (Start: 37 @37846 has 83 MA's), (67, 37900), (84, 37987),

Gene: StolenFromERC\_96 Start: 56798, Stop: 57058, Start Num: 54

Candidate Starts for StolenFromERC\_96:

(Start: 54 @56798 has 123 MA's), (64, 56819), (80, 56894), (90, 56963), (102, 57029),

Gene: Strobilo\_54 Start: 39537, Stop: 39767, Start Num: 46

Candidate Starts for Strobilo\_54:

(Start: 44 @39534 has 12 MA's), (Start: 46 @39537 has 4 MA's), (50, 39543), (53, 39549), (81, 39639), (82, 39645), (96, 39708),

Gene: Strokeseat\_55 Start: 38052, Stop: 38333, Start Num: 31

Candidate Starts for Strokeseat\_55:

(24, 38025), (Start: 31 @38052 has 162 MA's), (43, 38076), (52, 38091), (70, 38136), (72, 38148), (86, 38226), (89, 38238), (96, 38262), (98, 38274), (107, 38325),

Gene: Sulley\_50 Start: 37598, Stop: 37861, Start Num: 37

Candidate Starts for Sulley\_50:

(Start: 37 @37598 has 83 MA's), (84, 37739),

Gene: Sunflower1121\_57 Start: 38391, Stop: 38642, Start Num: 41

Candidate Starts for Sunflower1121\_57:

(Start: 41 @38391 has 31 MA's), (Start: 45 @38397 has 2 MA's), (84, 38529),

Gene: SwagPigglett\_64 Start: 42244, Stop: 42525, Start Num: 31

Candidate Starts for SwagPigglett\_64:

(24, 42217), (Start: 31 @42244 has 162 MA's), (43, 42268), (52, 42283), (70, 42328), (72, 42340), (86, 42418), (89, 42430), (96, 42454), (98, 42466), (107, 42517),

Gene: Syra333\_56 Start: 38055, Stop: 38306, Start Num: 41

Candidate Starts for Syra333\_56:

(Start: 41 @38055 has 31 MA's), (Start: 45 @38061 has 2 MA's), (82, 38181), (84, 38193),

Gene: TBond007\_51 Start: 37450, Stop: 37719, Start Num: 36

Candidate Starts for TBond007\_51:

(7, 37210), (Start: 36 @37450 has 8 MA's), (52, 37474), (84, 37594), (96, 37648),

Gene: TBrady12\_96 Start: 56634, Stop: 56894, Start Num: 54

Candidate Starts for TBrady12\_96:

(Start: 54 @56634 has 123 MA's), (64, 56655), (80, 56730), (90, 56799), (102, 56865),

Gene: TChen\_60 Start: 41367, Stop: 41636, Start Num: 38

Candidate Starts for TChen\_60:

(21, 41322), (Start: 31 @41358 has 162 MA's), (Start: 38 @41367 has 1 MA's), (67, 41424), (71, 41442), (73, 41451), (84, 41514), (86, 41529), (89, 41541), (96, 41565), (98, 41577), (107, 41628),

Gene: TClif\_54 Start: 38425, Stop: 38685, Start Num: 42

Candidate Starts for TClif\_54:

(Start: 42 @38425 has 8 MA's), (67, 38467), (89, 38581), (92, 38599), (105, 38674),

Gene: TM4\_49 Start: 33917, Stop: 34147, Start Num: 46

Candidate Starts for TM4\_49:

(Start: 44 @33914 has 12 MA's), (Start: 46 @33917 has 4 MA's), (50, 33923), (53, 33929), (81, 34019), (82, 34025), (96, 34088),

Gene: Tachez\_50 Start: 37316, Stop: 37579, Start Num: 37

Candidate Starts for Tachez\_50:

(Start: 37 @37316 has 83 MA's), (84, 37457),

Gene: TaiwanKao\_52 Start: 37612, Stop: 37875, Start Num: 37

Candidate Starts for TaiwanKao\_52:



(Start: 37 @37612 has 83 MA's), (84, 37753),

Gene: Taj\_63 Start: 41748, Stop: 41978, Start Num: 59

Candidate Starts for Taj\_63:

(Start: 59 @41748 has 1 MA's), (63, 41757), (86, 41871), (89, 41883), (96, 41907), (98, 41919), (107, 41970),

Gene: Tarkin\_92 Start: 56882, Stop: 57142, Start Num: 54

Candidate Starts for Tarkin\_92:

(Start: 54 @56882 has 123 MA's), (64, 56903), (80, 56978), (90, 57047), (102, 57113),

Gene: TeardropMSU\_89 Start: 55882, Stop: 56142, Start Num: 54

Candidate Starts for TeardropMSU\_89:

(Start: 54 @55882 has 123 MA's), (64, 55903), (80, 55978), (90, 56047), (102, 56113),

Gene: Teaspoon\_94 Start: 56734, Stop: 56994, Start Num: 54

Candidate Starts for Teaspoon\_94:

(Start: 54 @56734 has 123 MA's), (64, 56755), (80, 56830), (90, 56899), (102, 56965),

Gene: Teatealatte\_40 Start: 44176, Stop: 43976, Start Num: 65

Candidate Starts for Teatealatte\_40:

(Start: 65 @44176 has 9 MA's),

Gene: Teech\_40 Start: 43977, Stop: 43777, Start Num: 65

Candidate Starts for Teech\_40:

(Start: 65 @43977 has 9 MA's),

Gene: Terminus\_96 Start: 57669, Stop: 57929, Start Num: 54

Candidate Starts for Terminus\_96:

(Start: 54 @57669 has 123 MA's), (64, 57690), (80, 57765), (90, 57834), (102, 57900),

Gene: ThetaBob\_64 Start: 41432, Stop: 41710, Start Num: 31

Candidate Starts for ThetaBob\_64:

(21, 41396), (Start: 31 @41432 has 162 MA's), (Start: 38 @41441 has 1 MA's), (67, 41498), (71, 41516), (73, 41525), (84, 41588), (86, 41603), (89, 41615), (96, 41639), (98, 41651), (107, 41702),

Gene: ThirteenKH\_7 Start: 5168, Stop: 4911, Start Num: 62

Candidate Starts for ThirteenKH\_7:

(30, 5228), (Start: 62 @5168 has 4 MA's), (79, 5096), (84, 5054), (99, 4979), (106, 4934),

Gene: Thresher\_96 Start: 57744, Stop: 58004, Start Num: 54

Candidate Starts for Thresher\_96:

(Start: 54 @57744 has 123 MA's), (64, 57765), (80, 57840), (90, 57909), (102, 57975),

Gene: Tierra\_54 Start: 37943, Stop: 38200, Start Num: 41

Candidate Starts for Tierra\_54:

(Start: 41 @37943 has 31 MA's), (Start: 54 @37964 has 123 MA's), (72, 38018), (84, 38081), (85, 38090), (100, 38168),

Gene: TingHuaYa\_51 Start: 36397, Stop: 36660, Start Num: 37

Candidate Starts for TingHuaYa\_51:

(Start: 37 @36397 has 83 MA's), (Start: 44 @36409 has 12 MA's), (81, 36520), (84, 36538),

Gene: TiniBug\_51 Start: 38238, Stop: 38501, Start Num: 37  
Candidate Starts for TiniBug\_51:  
(7, 37986), (Start: 37 @38238 has 83 MA's), (67, 38292), (81, 38361), (84, 38379),

Gene: TinyDot\_55 Start: 34530, Stop: 34790, Start Num: 34  
Candidate Starts for TinyDot\_55:  
(Start: 34 @34530 has 2 MA's), (98, 34740),

Gene: Tiri\_51 Start: 37646, Stop: 37909, Start Num: 37  
Candidate Starts for Tiri\_51:  
(Start: 37 @37646 has 83 MA's), (67, 37700), (84, 37787),

Gene: Tomaszewski\_88 Start: 56045, Stop: 56305, Start Num: 54  
Candidate Starts for Tomaszewski\_88:  
(Start: 54 @56045 has 123 MA's), (64, 56066), (80, 56141), (90, 56210), (102, 56276),

Gene: Tootsieroll\_60 Start: 39265, Stop: 39549, Start Num: 31  
Candidate Starts for Tootsieroll\_60:  
(24, 39238), (Start: 31 @39265 has 162 MA's), (43, 39289), (52, 39304), (70, 39349), (72, 39361), (86, 39439), (89, 39451), (96, 39475), (98, 39487), (107, 39541),

Gene: Topper\_50 Start: 37471, Stop: 37734, Start Num: 37  
Candidate Starts for Topper\_50:  
(Start: 37 @37471 has 83 MA's), (84, 37612),

Gene: Toron\_68 Start: 42444, Stop: 42677, Start Num: 58  
Candidate Starts for Toron\_68:  
(Start: 58 @42444 has 4 MA's), (Start: 62 @42456 has 4 MA's), (95, 42621), (98, 42636), (101, 42666),

Gene: Toron\_67 Start: 42166, Stop: 42447, Start Num: 27  
Candidate Starts for Toron\_67:  
(17, 42130), (27, 42166), (60, 42241), (100, 42427), (107, 42439),

Gene: Torres\_48 Start: 39654, Stop: 39923, Start Num: 41  
Candidate Starts for Torres\_48:  
(Start: 41 @39654 has 31 MA's), (75, 39750), (87, 39810), (88, 39816), (89, 39819), (96, 39846), (98, 39858), (105, 39912),

Gene: Totinger\_58 Start: 39195, Stop: 39479, Start Num: 31  
Candidate Starts for Totinger\_58:  
(24, 39168), (Start: 31 @39195 has 162 MA's), (43, 39219), (52, 39234), (70, 39279), (72, 39291), (86, 39369), (89, 39381), (96, 39405), (98, 39417), (107, 39471),

Gene: Toto\_91 Start: 57094, Stop: 57354, Start Num: 54  
Candidate Starts for Toto\_91:  
(Start: 54 @57094 has 123 MA's), (64, 57115), (80, 57190), (90, 57259), (102, 57325),

Gene: Traaww1\_89 Start: 55902, Stop: 56162, Start Num: 54  
Candidate Starts for Traaww1\_89:  
(Start: 54 @55902 has 123 MA's), (64, 55923), (80, 55998), (90, 56067), (102, 56133),

Gene: Tredge\_40 Start: 44176, Stop: 43976, Start Num: 65

Candidate Starts for Tredge\_40:  
(Start: 65 @44176 has 9 MA's),

Gene: TreyKay\_51 Start: 37556, Stop: 37819, Start Num: 37  
Candidate Starts for TreyKay\_51:  
(Start: 37 @37556 has 83 MA's), (67, 37610), (84, 37697),

Gene: TribbleTrouble\_50 Start: 37335, Stop: 37601, Start Num: 36  
Candidate Starts for TribbleTrouble\_50:  
(Start: 36 @37335 has 8 MA's), (52, 37356), (56, 37362), (84, 37476), (92, 37521), (96, 37530),

Gene: TrippleS\_7 Start: 5168, Stop: 4911, Start Num: 62  
Candidate Starts for TrippleS\_7:  
(30, 5228), (Start: 62 @5168 has 4 MA's), (79, 5096), (84, 5054), (99, 4979), (106, 4934),

Gene: Trogglehumper\_64 Start: 53677, Stop: 53435, Start Num: 57  
Candidate Starts for Trogglehumper\_64:  
(Start: 57 @53677 has 2 MA's), (66, 53653),

Gene: TruffulaTree\_50 Start: 37350, Stop: 37613, Start Num: 37  
Candidate Starts for TruffulaTree\_50:  
(Start: 37 @37350 has 83 MA's), (84, 37491),

Gene: Tuco\_94 Start: 57641, Stop: 57901, Start Num: 54  
Candidate Starts for Tuco\_94:  
(Start: 54 @57641 has 123 MA's), (64, 57662), (80, 57737), (90, 57806), (102, 57872),

Gene: Twitch\_50 Start: 37473, Stop: 37736, Start Num: 37  
Candidate Starts for Twitch\_50:  
(Start: 37 @37473 has 83 MA's), (84, 37614),

Gene: Ubuntu\_75 Start: 48849, Stop: 49157, Start Num: 19  
Candidate Starts for Ubuntu\_75:  
(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: Ukulele\_88 Start: 56027, Stop: 56287, Start Num: 54  
Candidate Starts for Ukulele\_88:  
(Start: 54 @56027 has 123 MA's), (64, 56048), (80, 56123), (90, 56192), (102, 56258),

Gene: UncleRicky\_58 Start: 40176, Stop: 40460, Start Num: 31  
Candidate Starts for UncleRicky\_58:  
(24, 40149), (Start: 31 @40176 has 162 MA's), (43, 40200), (52, 40215), (70, 40260), (72, 40272), (86, 40350), (89, 40362), (96, 40386), (98, 40398), (107, 40452),

Gene: Unicorn\_53 Start: 37175, Stop: 37432, Start Num: 41  
Candidate Starts for Unicorn\_53:  
(Start: 41 @37175 has 31 MA's), (Start: 54 @37196 has 123 MA's), (72, 37250), (84, 37313), (85, 37322), (100, 37400),

Gene: Urkel\_51 Start: 38242, Stop: 38505, Start Num: 37  
Candidate Starts for Urkel\_51:  
(7, 37990), (Start: 37 @38242 has 83 MA's), (67, 38296), (81, 38365), (84, 38383),

Gene: VRedHorse\_59 Start: 39252, Stop: 39533, Start Num: 31

Candidate Starts for VRedHorse\_59:

(24, 39225), (Start: 31 @39252 has 162 MA's), (43, 39276), (52, 39291), (70, 39336), (72, 39348), (86, 39426), (89, 39438), (96, 39462), (98, 39474), (107, 39525),

Gene: VWB\_44 Start: 35402, Stop: 35647, Start Num: 46

Candidate Starts for VWB\_44:

(10, 35270), (12, 35279), (13, 35282), (29, 35369), (Start: 44 @35399 has 12 MA's), (Start: 46 @35402 has 4 MA's), (84, 35531), (90, 35564), (96, 35582),

Gene: Validus\_55 Start: 38351, Stop: 38623, Start Num: 41

Candidate Starts for Validus\_55:

(Start: 41 @38351 has 31 MA's), (49, 38363), (77, 38453), (81, 38471), (84, 38489), (89, 38516), (103, 38594),

Gene: Veliki\_51 Start: 37390, Stop: 37653, Start Num: 37

Candidate Starts for Veliki\_51:

(Start: 37 @37390 has 83 MA's), (84, 37531),

Gene: Veteran\_56 Start: 38956, Stop: 39237, Start Num: 31

Candidate Starts for Veteran\_56:

(24, 38929), (Start: 31 @38956 has 162 MA's), (71, 39040), (73, 39049), (86, 39127), (89, 39139), (96, 39163), (98, 39175), (107, 39229),

Gene: Volt\_97 Start: 48511, Stop: 48816, Start Num: 51

Candidate Starts for Volt\_97:

(Start: 51 @48511 has 6 MA's), (67, 48544), (104, 48745), (112, 48769),

Gene: Webster2\_75 Start: 48849, Stop: 49157, Start Num: 19

Candidate Starts for Webster2\_75:

(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: Wee\_63 Start: 41773, Stop: 42054, Start Num: 31

Candidate Starts for Wee\_63:

(Start: 31 @41773 has 162 MA's), (43, 41797), (52, 41812), (70, 41857), (72, 41869), (86, 41947), (89, 41959), (96, 41983), (98, 41995), (107, 42046),

Gene: Wee\_60 Start: 40789, Stop: 41067, Start Num: 31

Candidate Starts for Wee\_60:

(Start: 31 @40789 has 162 MA's), (33, 40795), (Start: 35 @40798 has 7 MA's), (49, 40822), (89, 40981), (94, 40996), (96, 41002),

Gene: Whouxphf\_56 Start: 39848, Stop: 40129, Start Num: 31

Candidate Starts for Whouxphf\_56:

(24, 39821), (Start: 31 @39848 has 162 MA's), (43, 39872), (52, 39887), (70, 39932), (72, 39944), (86, 40022), (89, 40034), (96, 40058), (98, 40070), (107, 40121),

Gene: Wiggin\_95 Start: 56303, Stop: 56563, Start Num: 54

Candidate Starts for Wiggin\_95:

(Start: 54 @56303 has 123 MA's), (64, 56324), (80, 56399), (90, 56468), (102, 56534),

Gene: WillSterrel\_60 Start: 41723, Stop: 42004, Start Num: 31

Candidate Starts for WillSterrel\_60:

(24, 41696), (Start: 31 @41723 has 162 MA's), (43, 41747), (52, 41762), (70, 41807), (72, 41819), (86, 41897), (89, 41909), (96, 41933), (98, 41945), (107, 41996),

Gene: Willez\_88 Start: 54914, Stop: 55174, Start Num: 54

Candidate Starts for Willez\_88:

(Start: 54 @54914 has 123 MA's), (64, 54935), (80, 55010), (90, 55079), (102, 55145),

Gene: Wishmaker\_68 Start: 48876, Stop: 49157, Start Num: 26

Candidate Starts for Wishmaker\_68:

(18, 48843), (Start: 19 @48849 has 20 MA's), (Start: 26 @48876 has 2 MA's), (Start: 36 @48909 has 8 MA's), (76, 49011), (81, 49038), (101, 49149),

Gene: Xandras\_92 Start: 56126, Stop: 56386, Start Num: 54

Candidate Starts for Xandras\_92:

(Start: 54 @56126 has 123 MA's), (64, 56147), (80, 56222), (90, 56291), (102, 56357),

Gene: Ximenita\_57 Start: 38244, Stop: 38495, Start Num: 41

Candidate Starts for Ximenita\_57:

(Start: 41 @38244 has 31 MA's), (Start: 45 @38250 has 2 MA's), (84, 38382),

Gene: Yafa\_7 Start: 5183, Stop: 4926, Start Num: 62

Candidate Starts for Yafa\_7:

(30, 5243), (Start: 62 @5183 has 4 MA's), (79, 5111), (84, 5069), (99, 4994), (106, 4949),

Gene: YassJohnny\_90 Start: 55767, Stop: 56027, Start Num: 54

Candidate Starts for YassJohnny\_90:

(Start: 54 @55767 has 123 MA's), (64, 55788), (80, 55863), (90, 55932), (102, 55998),

Gene: Yorick\_58 Start: 40310, Stop: 40591, Start Num: 31

Candidate Starts for Yorick\_58:

(24, 40283), (Start: 31 @40310 has 162 MA's), (43, 40334), (52, 40349), (70, 40394), (72, 40406), (86, 40484), (89, 40496), (96, 40520), (98, 40532), (107, 40583),

Gene: Yoshi\_72 Start: 41696, Stop: 41974, Start Num: 31

Candidate Starts for Yoshi\_72:

(21, 41660), (Start: 31 @41696 has 162 MA's), (Start: 38 @41705 has 1 MA's), (67, 41762), (71, 41780), (73, 41789), (84, 41852), (86, 41867), (89, 41879), (96, 41903), (98, 41915), (107, 41966),

Gene: Youngblood\_96 Start: 57596, Stop: 57856, Start Num: 54

Candidate Starts for Youngblood\_96:

(Start: 54 @57596 has 123 MA's), (64, 57617), (80, 57692), (90, 57761), (102, 57827),

Gene: YoureAdopted\_49 Start: 37555, Stop: 37818, Start Num: 37

Candidate Starts for YoureAdopted\_49:

(Start: 37 @37555 has 83 MA's), (84, 37696),

Gene: Yuna\_57 Start: 39151, Stop: 39429, Start Num: 41

Candidate Starts for Yuna\_57:

(9, 39004), (Start: 41 @39151 has 31 MA's), (84, 39280), (92, 39325), (96, 39334),

Gene: Yunkel11\_53 Start: 37143, Stop: 37406, Start Num: 37

Candidate Starts for Yunkel11\_53:

(Start: 37 @37143 has 83 MA's), (Start: 44 @37155 has 12 MA's), (81, 37266), (84, 37284),

Gene: Zabiza\_45 Start: 33661, Stop: 33924, Start Num: 37

Candidate Starts for Zabiza\_45:

(Start: 37 @33661 has 83 MA's), (84, 33802),

Gene: Zapner\_72 Start: 41849, Stop: 42133, Start Num: 31

Candidate Starts for Zapner\_72:

(24, 41822), (Start: 31 @41849 has 162 MA's), (43, 41873), (52, 41888), (70, 41933), (72, 41945), (86, 42023), (89, 42035), (96, 42059), (98, 42071), (107, 42125),

Gene: Zavala\_52 Start: 37632, Stop: 37895, Start Num: 37

Candidate Starts for Zavala\_52:

(Start: 37 @37632 has 83 MA's), (84, 37773),

Gene: ZenTime222\_40 Start: 31446, Stop: 31703, Start Num: 35

Candidate Starts for ZenTime222\_40:

(4, 31170), (6, 31191), (Start: 35 @31446 has 7 MA's), (72, 31530), (89, 31620),

Gene: Zerg\_59 Start: 39720, Stop: 40004, Start Num: 31

Candidate Starts for Zerg\_59:

(24, 39693), (Start: 31 @39720 has 162 MA's), (43, 39744), (52, 39759), (70, 39804), (72, 39816), (86, 39894), (89, 39906), (96, 39930), (98, 39942), (107, 39996),

Gene: Ziko\_96 Start: 48332, Stop: 48637, Start Num: 51

Candidate Starts for Ziko\_96:

(Start: 51 @48332 has 6 MA's), (67, 48365), (104, 48566), (112, 48590),

Gene: Zizzle\_63 Start: 41563, Stop: 41847, Start Num: 31

Candidate Starts for Zizzle\_63:

(24, 41536), (Start: 31 @41563 has 162 MA's), (43, 41587), (52, 41602), (70, 41647), (72, 41659), (86, 41737), (89, 41749), (96, 41773), (98, 41785), (107, 41839),

Gene: ZoeJ\_53 Start: 39008, Stop: 39238, Start Num: 46

Candidate Starts for ZoeJ\_53:

(Start: 44 @39005 has 12 MA's), (Start: 46 @39008 has 4 MA's), (50, 39014), (53, 39020), (81, 39110), (82, 39116), (96, 39179),

Gene: xkcd\_96 Start: 57780, Stop: 58040, Start Num: 54

Candidate Starts for xkcd\_96:

(Start: 54 @57780 has 123 MA's), (64, 57801), (80, 57876), (90, 57945), (102, 58011),