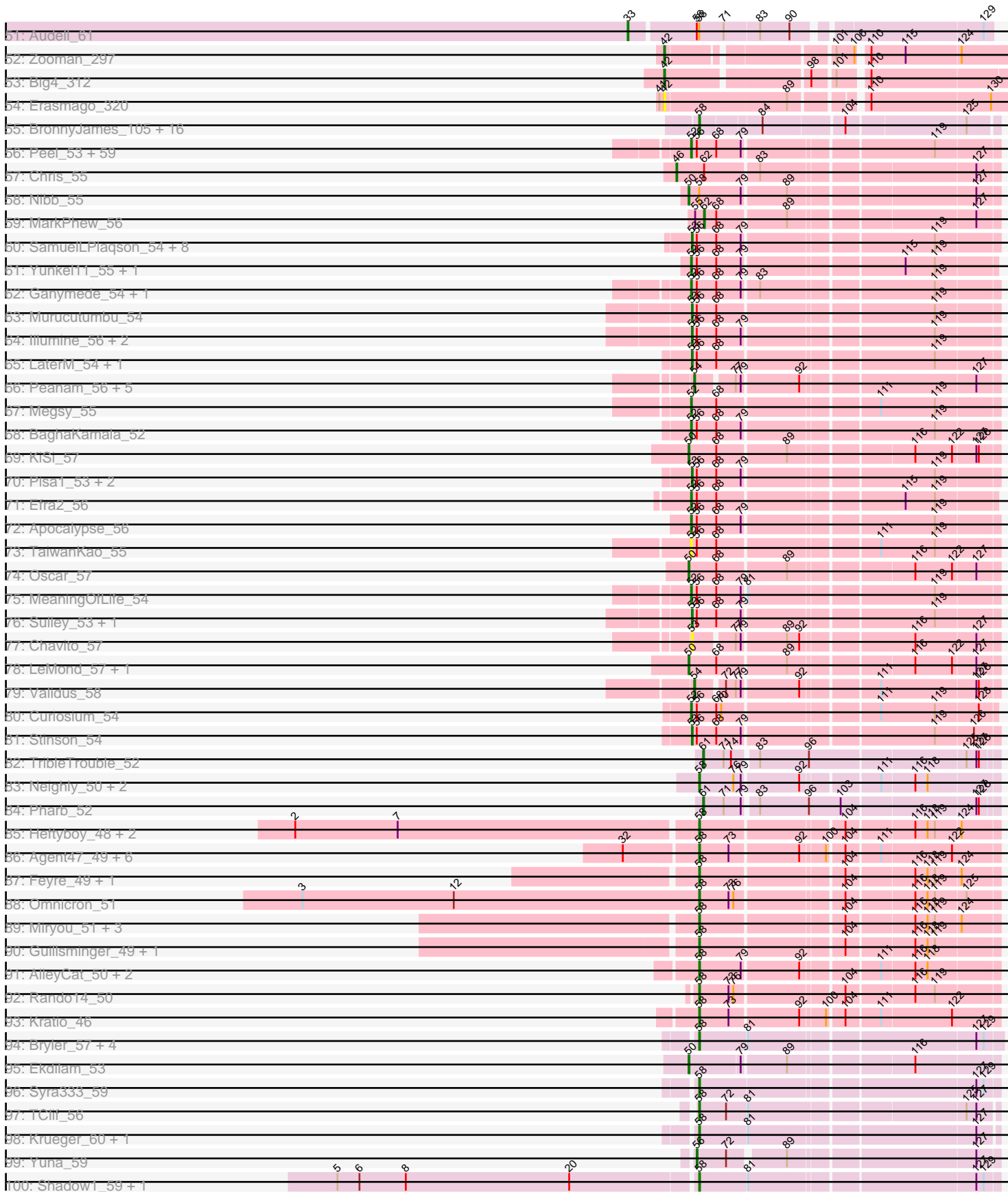
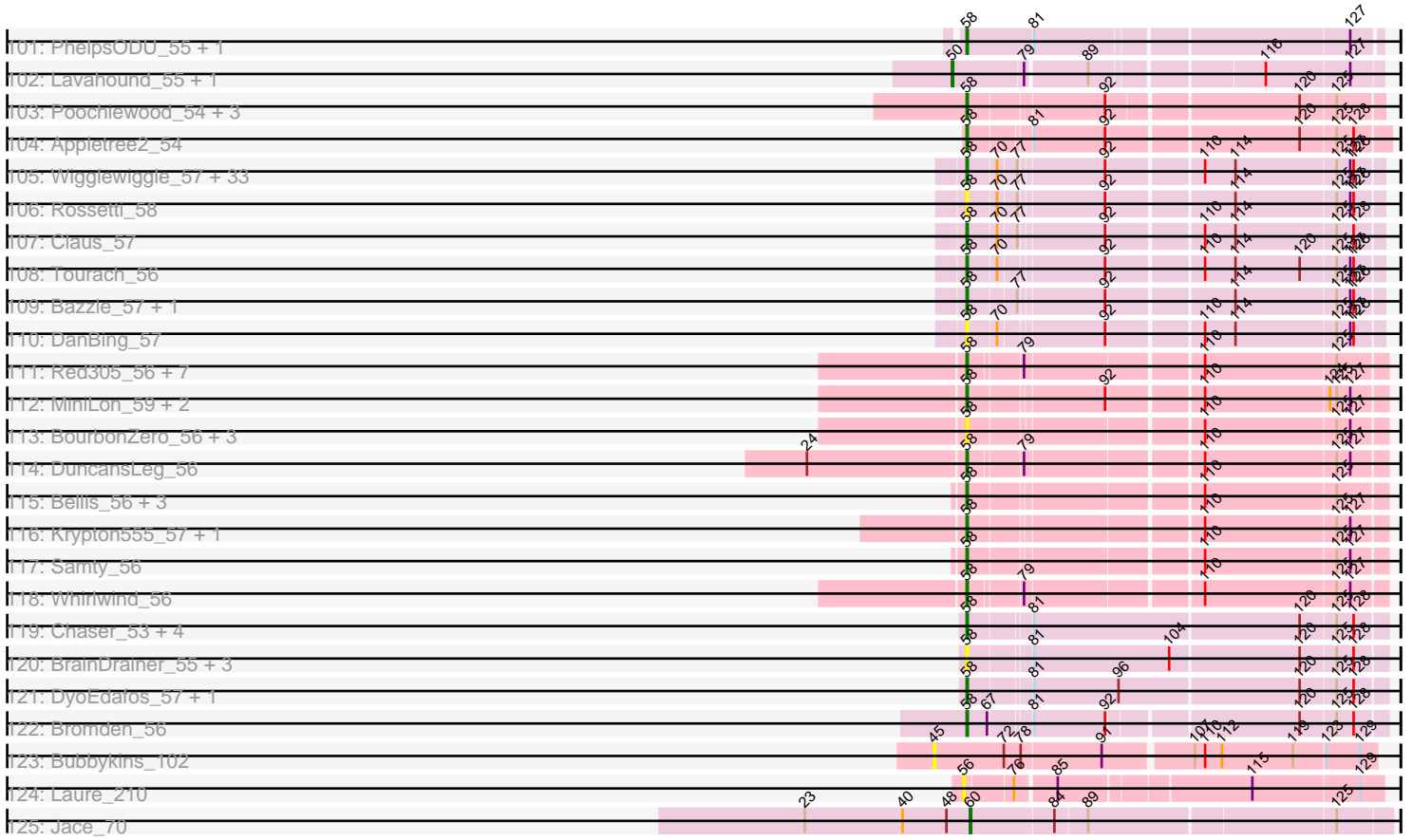




Pham 294328



Pham 294328



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 294328 Report

This analysis was run 04/18/26 on database version 643.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 294328 has 454 members, 85 are drafts.

Phages represented in each track:

- Track 1 : Dublin\_43, MarysWell\_43
- Track 2 : Theia\_42
- Track 3 : MalagasyRose\_56
- Track 4 : Nergal\_50
- Track 5 : Tophat\_98, HumptyDumpty\_97, Chubster\_97, Scavito\_98, EdgarPoe\_96, Conboy\_95, PrincessTrina\_98, JayCookie\_97, Chocolat\_97, JaNo\_96, MoyaNatalis\_96, Kabreeze\_97, Mordred\_97, RosiePosie\_97, Chipper1996\_980
- Track 6 : ArV1\_084
- Track 7 : Linus\_97
- Track 8 : Lymara\_94
- Track 9 : DrYang\_93
- Track 10 : KBurrousTX\_95
- Track 11 : Colucci\_100
- Track 12 : ThursdayNight\_27
- Track 13 : Exile\_27, Soondubu\_27
- Track 14 : Norvs\_10, Smoothie\_10, Lozinak\_10, Toniann\_10, Engineer\_10, Aphelion\_10, Cucurbita\_9
- Track 15 : PhinkBoden\_11, Geeche\_9
- Track 16 : Abscondus\_9, Dusty\_9, ClubL\_10, Culver\_9, Bachita\_11
- Track 17 : Miskis\_8
- Track 18 : WilliamBoone\_9
- Track 19 : Survivors\_57
- Track 20 : MaVan\_56, Zareef\_57, Wolfwood\_58, Azira\_56
- Track 21 : Fribs8\_56, Nibbles\_55
- Track 22 : Catfish\_55
- Track 23 : Lilbeanie\_82
- Track 24 : Hamood\_58, Chop\_58, DelRio\_58, GrandSlam\_58, NancyRae\_56, Bock\_58, Ayotoya\_58
- Track 25 : WheatThin\_56, Parada\_57, BetterKatz\_57, Nadeem\_57, Brylie\_57, Mulch\_57
- Track 26 : Pimento\_59
- Track 27 : Francois\_57
- Track 28 : LilJank\_72, Trax\_72

- Track 29 : Neville\_70
- Track 30 : ModicumRichard\_85
- Track 31 : Cafasso\_85, Aleemily\_84, Morgana\_92, ObLaDi\_85
- Track 32 : Rimmer\_66, Qualification\_66, SirDuracell\_64, GoldenSpark\_69, Icee\_66, Kanye\_62, FairyPath\_65, Harella\_65, Gemini\_70, Bask21\_65, MollyToe\_60, NelitzaMV\_63, Marshmallow\_63, Pat3\_63, Buck\_66, Glexan\_64, Cookies\_62, AmericanBeauty\_69, ChotaBhai\_65, Sassay\_60, Flypotenuse\_61, Amao\_65, Tomaszewski\_60, Sotrice96\_66, Thimble\_66, Balomoji\_65, DoctorDiddles\_64, JeTaime\_65, Argent26\_69, ShereKhan\_64, StolenFromERC\_68, Hoonter\_68, Cactus\_68, 244\_66, GooberAzure\_68, Gage\_67, Brewer\_60, HanKaySha\_65, Daikon\_67, Kimchi\_69, Holt\_70, Myrale\_65, Stark\_66, Willez\_60
- Track 33 : Youngblood\_68, MPhalcon\_66, PhatBacter\_69, Palpatine\_67, FireRed\_69, TeamEdward\_67, YassJohnny\_62, Phaux\_67, Bench\_68, Greep\_69, Lilizi\_66, Murica\_68, Mosby\_61, Bruin\_62, Nimrod\_66, HufflyPuff\_68, Petra64142\_69, Policronamos\_68, MISSy\_66, Czyszczonek\_66, RiverMonster\_65, Becksu\_64, Elph10\_65, StormChicken\_67, Maxxinista\_67, Misfit\_66, PaddyBaddy\_65, Nala\_67, Lilac\_67, FoghornLeghorn\_59, Hopey\_65, Terminus\_68, BugsBunny\_65
- Track 34 : Command613\_67, BaboJay\_62, Bogg\_65, OrionPax\_64, Pumpkin\_68, Goldilocks\_68
- Track 35 : Budgie\_73
- Track 36 : Issa7\_89, Deschain\_91, Musetta\_89, DustyDino\_94, RunningBrook\_92, Erenyeager\_90, Yuma\_89, Shroomer\_93, Necrophoxinus\_92, Lyell\_90, Casablancas\_91
- Track 37 : Fork\_86, SteakFry\_89, ASegato\_88, Welcome\_92, HollowPurple\_91
- Track 38 : StevieWelch\_91
- Track 39 : Cen1621\_32
- Track 40 : Taotie\_49
- Track 41 : PSonyx\_49
- Track 42 : Hirko\_75
- Track 43 : Makima\_61
- Track 44 : ChamoyPickle\_62, Roberts\_60, ChipsNGuac\_61, Neuville\_60, AnnabelLee\_62, CardboardBox\_61, Gerri43\_61
- Track 45 : TripleC\_60
- Track 46 : Agamoto\_62
- Track 47 : Studio\_62
- Track 48 : Ezurina\_61
- Track 49 : LastNadiia\_61
- Track 50 : TMaxx\_63
- Track 51 : Audell\_61
- Track 52 : Zooman\_297
- Track 53 : Big4\_312
- Track 54 : Erasmago\_320
- Track 55 : BronnyJames\_105, Nibley\_100, Ejimix\_105, Courthouse\_102, Halley\_113, Beem\_113, MiaZeal\_107, Redno2\_103, Lucky2013\_104, Nekros\_110, JuicyJay\_108, Porcelain\_105, Squint\_105, Ariel\_107, Shaboozey\_105, KashFlow\_104, Superphikiman\_104
- Track 56 : Peel\_53, CREW\_53, LindNT\_52, Jeckyll\_53, Bern\_54, Prithvi\_54, Atiba\_54, Capricorn\_53, Veliki\_54, Beezoo\_55, Durfee\_53, Tachez\_53, Mynx\_54, Twitch\_53, Joy99\_53, Deby\_53, Piatt\_53, Pokerus\_52, Ramen\_54, Jarvi\_53, AlishaPH\_53, Zavala\_55, Inky\_53, Lunahalos\_53, TreyKay\_54, CallaLilly\_53, Adephegia\_53, Padfoot\_53, Llorens\_53, Jayhawk\_54, Rapunzel97\_54, CaseJules\_55, Geraldini\_56, Boiiii\_53, BGIlluviae\_53, Hyperbowlee\_53, ActinUp\_53,

BEEST\_53, Zabiza\_48, Padpat\_55, Rosmarinus\_53, Slimphazie\_53, Adonis\_53, YoureAdopted\_52, Spock\_53, Anaya\_55, Emerson\_54, BarrelRoll\_53, TruffulaTree\_53, Topper\_53, Dalmuri\_53, Tiri\_54, Asayake\_53, JAWS\_53, CheetoDust\_52, Blizzard\_53, Belladonna\_53, Homura\_53, HedwigODU\_53, ShiaSurprise\_54

- Track 57 : Chris\_55
- Track 58 : Nibb\_55
- Track 59 : MarkPhew\_56
- Track 60 : SamuelLPlaqson\_54, MacKat\_48, Clipper\_56, DartGoblin\_56, TiniBug\_54, DrHayes\_54, Bella96\_54, Anma\_55, Urkel\_54
- Track 61 : Yunkel11\_55, Guanica15\_55
- Track 62 : Ganymede\_54, QuincyRose\_52
- Track 63 : Murucutumbu\_54
- Track 64 : Illumine\_56, Dole\_56, Devera\_58
- Track 65 : LaterM\_54, Ageofdapage\_55
- Track 66 : Peanam\_56, Dartin\_56, Shaobing\_56, Richo\_56, McMater\_56, Niklas\_56
- Track 67 : Megsy\_55
- Track 68 : BaghaKamala\_52
- Track 69 : KiSi\_57
- Track 70 : Pisa1\_53, Pisa4\_47, CrimD\_53
- Track 71 : Efra2\_56
- Track 72 : Apocalypse\_56
- Track 73 : TaiwanKao\_55
- Track 74 : Oscar\_57
- Track 75 : MeaningOfLife\_54
- Track 76 : Sulley\_53, Angelica\_53
- Track 77 : Chavito\_57
- Track 78 : LeMond\_57, Scarlett\_57
- Track 79 : Validus\_58
- Track 80 : Curiosium\_54
- Track 81 : Stinson\_54
- Track 82 : TribbleTrouble\_52
- Track 83 : Neighly\_50, Edugator\_47, Larva\_49
- Track 84 : Pharb\_52
- Track 85 : Heftyboy\_48, Waterfoul\_49, SoSeph\_48
- Track 86 : Agent47\_49, ViviJ\_48, InvictusManeo\_47, DoubleChamp\_46, LilDirt\_46, BananenDer11\_46, Collard\_47
- Track 87 : Feyre\_49, Thyatira\_51
- Track 88 : Omnicron\_51
- Track 89 : Miryou\_51, OkiRoe\_48, Gengar\_48, Leston\_48
- Track 90 : Guillsminger\_49, Paola\_48
- Track 91 : AlleyCat\_50, Psycho\_48, Dadosky\_50
- Track 92 : Rando14\_50
- Track 93 : Kratio\_46
- Track 94 : Bryler\_57, Tierra\_57, Cain\_57, Phrank\_57, Ximenita\_60
- Track 95 : Ekdilam\_53
- Track 96 : Syra333\_59
- Track 97 : TClif\_56
- Track 98 : Krueger\_60, Tigress9\_61
- Track 99 : Yuna\_59
- Track 100 : Shadow1\_59, Sunflower1121\_60
- Track 101 : PhelpsODU\_55, Unicorn\_55
- Track 102 : Lavahound\_55, Amgine\_54

- Track 103 : Poochiewood\_54, Wyatt2\_55, Rose5\_54, Tyson\_54
- Track 104 : Appletree2\_54
- Track 105 : Wigglewiggles\_57, Zakai\_58, SoJulia\_59, Gabriela\_54, ZhongYanYuan\_55, Winky\_57, OverPar\_58, BigCheese\_57, Faith1\_57, Vetric\_57, DrSeegs\_57, GuuelaD\_56, Hafay\_58, Crossroads\_57, Soap141\_57, Nicholasp3\_57, Itos\_56, Finemlucis\_57, Loadrie\_56, MkaliMitinis3\_58, Lewan\_58, Sarshaun\_57, Baoshan\_56, Breezona\_57, Lynnae\_58, DHan\_58, BobsGarage\_57, Netyap\_58, Wilder\_58, Miley16\_57, Gardann\_58, LilDestine\_57, Kahlid\_57, Rumpelstiltskin\_56
- Track 106 : Rossetti\_58
- Track 107 : Claus\_57
- Track 108 : Tourach\_56
- Track 109 : Bazzle\_57, Archie\_57
- Track 110 : DanBing\_57
- Track 111 : Red305\_56, Lumos\_57, MsGreen\_56, Jobypre\_56, Jubie\_55, TriFive\_57, Clautastrophe\_55, Snenia\_55
- Track 112 : MiniLon\_59, MiniMac\_59, Lolly9\_55
- Track 113 : BourbonZero\_56, KirDoubleO7\_54, Ellson\_55, LiyuLake\_55
- Track 114 : DuncansLeg\_56
- Track 115 : Bellis\_56, Nicholas\_55, Moostard\_55, Kingsolomon\_55
- Track 116 : Krypton555\_57, Finnry\_56
- Track 117 : Samty\_56
- Track 118 : Whirlwind\_56
- Track 119 : Chaser\_53, FarmResident\_56, Douge\_55, Quby\_54, ChutneyChips\_53
- Track 120 : BrainDrainer\_55, Douzhi\_55, PYPDinur\_53, Sheng711\_55
- Track 121 : DyoEdafos\_57, Kropertea\_53
- Track 122 : Bromden\_56
- Track 123 : Bubbykins\_102
- Track 124 : Laure\_210
- Track 125 : Jace\_70

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

The start number called the most often in the published annotations is 58, it was called in 195 of the 369 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_66, Agent47\_49, AlleyCat\_50, Amao\_65, AmericanBeauty\_69, Appletree2\_54, Archie\_57, Argent26\_69, Ariel\_107, Ayotoya\_58, BaboJay\_62, Balomoji\_65, BananenDer11\_46, Baoshan\_56, Bask21\_65, Bazzle\_57, Becksu\_64, Beem\_113, Bellis\_56, Bench\_68, BetterKatz\_57, BigCheese\_57, BobsGarage\_57, Bock\_58, Bogg\_65, BourbonZero\_56, BrainDrainer\_55, Breezona\_57, Brewer\_60, Bromden\_56, BronnyJames\_105, Bruin\_62, Bryler\_57, Brylie\_57, Buck\_66, Budgie\_73, BugsBunny\_65, Cactus\_68, Cain\_57, Catfish\_55, Chaser\_53, Chop\_58, ChotaBhai\_65, ChutneyChips\_53, Claus\_57, Clautastrophe\_55, Collard\_47, Command613\_67, Cookies\_62, Courthouse\_102, Crossroads\_57, Czyszczon1\_66, DHan\_58, Dadosky\_50, Daikon\_67, DanBing\_57, DelRio\_58, DoctorDiddles\_64, DoubleChamp\_46, Douge\_55, Douzhi\_55, DrSeegs\_57, DuncansLeg\_56, DyoEdafos\_57, Edugator\_47, Ejimix\_105, Ellson\_55, Elph10\_65, FairyPath\_65, Faith1\_57, FarmResident\_56, Feyre\_49, Finemlucis\_57, Finnry\_56, FireRed\_69, Flypotenuse\_61, FoghornLeghorn\_59, Francois\_57, Gabriela\_54, Gage\_67,

Gardann\_58, Gemini\_70, Gengar\_48, Glexan\_64, GoldenSpark\_69, Goldilocks\_68, GooberAzure\_68, GrandSlam\_58, Greep\_69, Guillsminger\_49, GuuelaD\_56, Hafay\_58, Halley\_113, Hamood\_58, HanKaySha\_65, Harella\_65, Heftyboy\_48, Holt\_70, Hoonter\_68, Hopey\_65, HufflyPuff\_68, Icee\_66, InvictusManeo\_47, Itos\_56, JeTaimé\_65, Jobypre\_56, Jubie\_55, JuicyJay\_108, Kahlid\_57, Kanye\_62, KashFlow\_104, Kimchi\_69, Kingsolomon\_55, KirDoubleO7\_54, Kratio\_46, Kropertea\_53, Krueger\_60, Krypton555\_57, Larva\_49, Leston\_48, Lewan\_58, LilDestine\_57, LilDirt\_46, LilJank\_72, Lilac\_67, Lilbeanie\_82, Lilizi\_66, LiyuLake\_55, Loadrie\_56, Lolly9\_55, Lucky2013\_104, Lumos\_57, Lynnae\_58, MISSy\_66, MPhalcon\_66, Marshmallow\_63, Maxxinsta\_67, MiaZeal\_107, Miley16\_57, MiniLon\_59, MiniMac\_59, Miryou\_51, Misfit\_66, MkaliMitinis3\_58, MollyToe\_60, Moostard\_55, Mosby\_61, MsGreen\_56, Mulch\_57, Murica\_68, Myrale\_65, Nadeem\_57, Nala\_67, NancyRae\_56, Neighly\_50, Nekros\_110, NelitzaMV\_63, Nergal\_50, Netyap\_58, Neville\_70, Nibley\_100, Nicholas\_55, Nicholasp3\_57, Nimrod\_66, OkiRoe\_48, Omnicron\_51, OrionPax\_64, OverPar\_58, PYPDinur\_53, PaddyBaddy\_65, Palpatine\_67, Paola\_48, Parada\_57, Pat3\_63, Petra64142\_69, PhatBacter\_69, Phaux\_67, PhelpsODU\_55, Phrank\_57, Pimento\_59, Policronamos\_68, Poochiewood\_54, Porcelain\_105, Psycho\_48, Pumpkin\_68, Quallification\_66, Quby\_54, Rando14\_50, Red305\_56, Redno2\_103, Rimmer\_66, RiverMonster\_65, Rose5\_54, Rossetti\_58, Rumpelstiltskin\_56, Samty\_56, Sarshaun\_57, Sassay\_60, Shaboozey\_105, Shadow1\_59, Sheng711\_55, ShereKhan\_64, SirDuracell\_64, Snenia\_55, SoJulia\_59, SoSeph\_48, Soap141\_57, Sotrice96\_66, Squint\_105, Stark\_66, StolenFromERC\_68, StormChicken\_67, Sunflower1121\_60, Superphikiman\_104, Syra333\_59, TClif\_56, TeamEdward\_67, Terminus\_68, Thimble\_66, Thyatira\_51, Tierra\_57, Tigress9\_61, Tomaszewski\_60, Tourach\_56, Trax\_72, TriFive\_57, Tyson\_54, Unicorn\_55, Vetrix\_57, ViviJ\_48, Waterfoul\_49, WheatThin\_56, Whirlwind\_56, Wigglewiggles\_57, Wilder\_58, Willez\_60, Winky\_57, Wyatt2\_55, Ximenita\_60, YassJohnny\_62, Youngblood\_68, Zakai\_58, ZhongYanYuan\_55,

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

- Audell\_61, Nibb\_55,

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

- ASegato\_88, Abscondus\_9, ActinUp\_53, Adephagia\_53, Adonis\_53, Agamoto\_62, Ageofdapage\_55, Aleemily\_84, AlishaPH\_53, Amgine\_54, Anaya\_55, Angelica\_53, Anma\_55, AnnabelLee\_62, Aphelion\_10, Apocalypse\_56, ArV1\_084, Asayake\_53, Atiba\_54, Azira\_56, BEEEST\_53, BGIlluviae\_53, Bachita\_11, BaghaKamala\_52, BarrelRoll\_53, Beezoo\_55, Bella96\_54, Belladonna\_53, Bern\_54, Big4\_312, Blizzard\_53, Boiiii\_53, Bubbykins\_102, CREW\_53, Cafasso\_85, CallaLilly\_53, Capricorn\_53, CardboardBox\_61, Casablanacas\_91, CaseJules\_55, Cen1621\_32, ChamoyPickle\_62, Chavito\_57, CheetoDust\_52, Chipper1996\_980, ChipsNGuac\_61, Chocolat\_97, Chris\_55, Chubster\_97, Clipper\_56, ClubL\_10, Colucci\_100, Conboy\_95, CrimD\_53, Cucurbita\_9, Culver\_9, Curiosium\_54, Dalmuri\_53, DartGoblin\_56, Dartin\_56, Deby\_53, Deschain\_91, Devera\_58, Dole\_56, DrHayes\_54, DrYang\_93, Dublin\_43, Durfee\_53, DustyDino\_94, Dusty\_9, EdgarPoe\_96, Efra2\_56, Ekdilam\_53, Emerson\_54, Engineer\_10, Erasmago\_320, Erenyeager\_90, Exile\_27, Ezurina\_61, Fork\_86, Fribs8\_56, Ganymede\_54, Geeche\_9, Geraldini\_56, Gerri43\_61, Guanica15\_55, HedwigODU\_53, Hirko\_75, HollowPurple\_91, Homura\_53, HumptyDumpty\_97, Hyperbowlee\_53, Illumine\_56, Inky\_53, Issa7\_89, JAWS\_53, JaNo\_96, Jace\_70, Jarvi\_53, JayCookie\_97, Jayhawk\_54, Jeckyll\_53, Joy99\_53, KBurrousTX\_95, Kabreeze\_97, KiSi\_57, LastNadiia\_61, LaterM\_54, Laure\_210, Lavahound\_55, LeMond\_57, LindNT\_52,

Linus\_97, Llorens\_53, Lozinak\_10, Lunahalos\_53, Lyell\_90, Lymara\_94, MaVan\_56, MacKat\_48, Makima\_61, MalagasyRose\_56, MarkPhew\_56, MarysWell\_43, McMater\_56, MeaningOfLife\_54, Megsy\_55, Miskis\_8, ModicumRichard\_85, Mordred\_97, Morgana\_92, MoyaNatalis\_96, Murucutumbu\_54, Musetta\_89, Mynx\_54, Necrophoxinus\_92, Neuville\_60, Nibbles\_55, Niklas\_56, Norvs\_10, ObLaDi\_85, Oscar\_57, PSonyx\_49, Padfoot\_53, Padpat\_55, Peanam\_56, Peel\_53, Pharb\_52, PhinkBoden\_11, Piatt\_53, Pisa1\_53, Pisa4\_47, Pokerus\_52, PrincessTrina\_98, Prithvi\_54, QuincyRose\_52, Ramen\_54, Rapunzel97\_54, Richo\_56, Roberts\_60, RosiePosie\_97, Rosmarinus\_53, RunningBrook\_92, SamuelLPlaqson\_54, Scarlett\_57, Scavito\_98, Shaobing\_56, ShiaSurprise\_54, Shroomer\_93, Slimphazie\_53, Smoothie\_10, Soondubu\_27, Spock\_53, SteakFry\_89, StevieWelch\_91, Stinson\_54, Studio\_62, Sulley\_53, Survivors\_57, TMaxx\_63, Tachez\_53, TaiwanKao\_55, Taotie\_49, Theia\_42, ThursdayNight\_27, TiniBug\_54, Tiri\_54, Toniann\_10, Tophat\_98, Topper\_53, TreyKay\_54, TripleTrouble\_52, TripleC\_60, TruffulaTree\_53, Twitch\_53, Urkel\_54, Validus\_58, Veliki\_54, Welcome\_92, WilliamBoone\_9, Wolfwood\_58, YoureAdopted\_52, Yuma\_89, Yuna\_59, Yunkel11\_55, Zabiza\_48, Zareef\_57, Zavala\_55, Zooman\_297,

### Summary by start number:

#### Start 33:

- Found in 1 of 454 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Audell\_61 (FR),

#### Start 35:

- Found in 1 of 454 ( 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: Makima\_61 (FR),

#### Start 36:

- Found in 13 of 454 ( 2.9% ) of genes in pham
- Manual Annotations of this start: 2 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Agamoto\_62 (FR), AnnabelleLee\_62 (FR), CardboardBox\_61 (FR), ChamoyPickle\_62 (FR), ChipsNGuac\_61 (FR), Ezurina\_61 (FR), Gerri43\_61 (FR), LastNadiia\_61 (FR), Neuville\_60 (FR), Roberts\_60 (FR), Studio\_62 (FR), TMaxx\_63 (FR), TripleC\_60 (FR),

#### Start 42:

- Found in 3 of 454 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 2 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Big4\_312 (GD2), Erasmago\_320 (GD2), Zooman\_297 (GD2),

#### Start 43:

- Found in 21 of 454 ( 4.6% ) of genes in pham
- Manual Annotations of this start: 19 of 369
- Called 100.0% of time when present

- Phage (with cluster) where this start called: ArV1\_084 (AR), Chipper1996\_980 (AR), Chocolat\_97 (AR), Chubster\_97 (AR), Colucci\_100 (AR), Conboy\_95 (AR), DrYang\_93 (AR), EdgarPoe\_96 (AR), HumptyDumpty\_97 (AR), JaNo\_96 (AR), JayCookie\_97 (AR), KBurrousTX\_95 (AR), Kabreeze\_97 (AR), Linus\_97 (AR), Lymara\_94 (AR), Mordred\_97 (AR), MoyaNatalis\_96 (AR), PrincessTrina\_98 (AR), RosiePosie\_97 (AR), Scavito\_98 (AR), Tophat\_98 (AR),

#### Start 44:

- Found in 36 of 454 ( 7.9% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 2.8% of time when present
- Phage (with cluster) where this start called: Hirko\_75 (FL),

#### Start 45:

- Found in 1 of 454 ( 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: Bubbykins\_102 (UNK),

#### Start 46:

- Found in 1 of 454 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Chris\_55 (K1),

#### Start 49:

- Found in 5 of 454 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 5 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aleemily\_84 (DZ), Cafasso\_85 (DZ), ModicumRichard\_85 (DZ), Morgana\_92 (DZ), ObLaDi\_85 (DZ),

#### Start 50:

- Found in 8 of 454 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 7 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amgine\_54 (K6), Ekdilam\_53 (K6), KiSi\_57 (K1), Lavahound\_55 (K6), LeMond\_57 (K1), Nibb\_55 (K1), Oscar\_57 (K1), Scarlett\_57 (K1),

#### Start 51:

- Found in 1 of 454 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_56 (AG),

#### Start 52:

- Found in 71 of 454 ( 15.6% ) of genes in pham
- Manual Annotations of this start: 70 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ActinUp\_53 (K1), Adephegia\_53 (K1), Adonis\_53 (K1), AlishaPH\_53 (K1), Anaya\_55 (K1), Apocalypse\_56 (K1), Asayake\_53 (K1), Atiba\_54 (K1), BEEST\_53 (K1), BGlluviae\_53 (K1),

BaghaKamala\_52 (K1), BarrelRoll\_53 (K1), Beezoo\_55 (K1), Belladonna\_53 (K1), Bern\_54 (K1), Blizzard\_53 (K1), Boiiii\_53 (K1), CREW\_53 (K1), CallaLilly\_53 (K1), Capricorn\_53 (K1), CaseJules\_55 (K1), CheetoDust\_52 (K1), Curiosium\_54 (K1), Dalmuri\_53 (K1), Deby\_53 (K1), Durfee\_53 (K1), Efra2\_56 (K1), Emerson\_54 (K1), Ganymede\_54 (K1), Geraldini\_56 (K1), Guanica15\_55 (K1), HedwigODU\_53 (K1), Homura\_53 (K1), Hyperbowlee\_53 (K1), Inky\_53 (K1), JAWS\_53 (K1), Jarvi\_53 (K1), Jayhawk\_54 (K1), Jeckyll\_53 (K1), Joy99\_53 (K1), LindNT\_52 (K1), Llorens\_53 (K1), Lunahalos\_53 (K1), MeaningOfLife\_54 (K1), Megsy\_55 (K1), Mynx\_54 (K1), Padfoot\_53 (K1), Padpat\_55 (K1), Peel\_53 (K1), Piatt\_53 (K1), Pokerus\_52 (K1), Prithvi\_54 (K1), QuincyRose\_52 (K1), Ramen\_54 (K1), Rapunzel97\_54 (K1), Rosmarinus\_53 (K1), ShiaSurprise\_54 (K1), Slimphazie\_53 (K1), Spock\_53 (K1), Tachez\_53 (K1), TaiwanKao\_55 (K1), Tiri\_54 (K1), Topper\_53 (K1), TreyKay\_54 (K1), TruffulaTree\_53 (K1), Twitch\_53 (K1), Veliki\_54 (K1), YoureAdopted\_52 (K1), Yunkel11\_55 (K1), Zabiza\_48 (K1), Zavala\_55 (K1),

#### Start 53:

- Found in 22 of 454 ( 4.8% ) of genes in pham
- Manual Annotations of this start: 17 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ageofdapage\_55 (K1), Angelica\_53 (K1), Anma\_55 (K1), Bella96\_54 (K1), Chavito\_57 (K1), Clipper\_56 (K1), CrimD\_53 (K1), DartGoblin\_56 (K1), Devera\_58 (K1), Dole\_56 (K1), DrHayes\_54 (K1), Illumine\_56 (K1), LaterM\_54 (K1), MacKat\_48 (K1), Murucutumbu\_54 (K1), Pisa1\_53 (K1), Pisa4\_47 (K1), SamuelLPlaqson\_54 (K1), Stinson\_54 (K1), Sulley\_53 (K1), TiniBug\_54 (K1), Urkel\_54 (K1),

#### Start 54:

- Found in 7 of 454 ( 1.5% ) of genes in pham
- Manual Annotations of this start: 4 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dartin\_56 (K1), McMater\_56 (K1), Niklas\_56 (K1), Peanam\_56 (K1), Richo\_56 (K1), Shaobing\_56 (K1), Validus\_58 (K1),

#### Start 56:

- Found in 118 of 454 ( 26.0% ) of genes in pham
- Manual Annotations of this start: 16 of 369
- Called 21.2% of time when present
- Phage (with cluster) where this start called: ASegato\_88 (ED2), Casablanacas\_91 (ED2), Cen1621\_32 (EH), Deschain\_91 (ED2), DustyDino\_94 (ED2), Erenyeager\_90 (ED2), Exile\_27 (AZ6), Fork\_86 (ED2), HollowPurple\_91 (ED2), Issa7\_89 (ED2), Laure\_210 (UNK), Lyell\_90 (ED2), Musetta\_89 (ED2), Necrophoxinus\_92 (ED2), PSonyx\_49 (EQ), RunningBrook\_92 (ED2), Shroomer\_93 (ED2), Soondubu\_27 (AZ6), SteakFry\_89 (ED2), StevieWelch\_91 (ED2), Taotie\_49 (EQ), ThursdayNight\_27 (AZ), Welcome\_92 (ED2), Yuma\_89 (ED2), Yuna\_59 (K6),

#### Start 57:

- Found in 16 of 454 ( 3.5% ) of genes in pham
- Manual Annotations of this start: 14 of 369
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Abscondus\_9 (CQ1), Aphelion\_10 (CQ1), Bachita\_11 (CQ1), ClubL\_10 (CQ1), Cucurbita\_9 (CQ1), Culver\_9 (CQ1), Dusty\_9 (CQ1), Engineer\_10 (CQ1), Geeche\_9 (CQ1), Lozinak\_10 (CQ1), Norvs\_10

(CQ1), PhinkBoden\_11 (CQ1), Smoothie\_10 (CQ1), Toniann\_10 (CQ1), WilliamBoone\_9 (CQ1),

Start 58:

- Found in 245 of 454 ( 54.0% ) of genes in pham
- Manual Annotations of this start: 195 of 369
- Called 99.2% of time when present
- Phage (with cluster) where this start called: 244\_66 (E), Agent47\_49 (K5), AlleyCat\_50 (K5), Amao\_65 (E), AmericanBeauty\_69 (E), Appletree2\_54 (L1), Archie\_57 (L2), Argent26\_69 (E), Ariel\_107 (J), Ayotoya\_58 (DI), BaboJay\_62 (E), Balomoji\_65 (E), BananenDer11\_46 (K5), Baoshan\_56 (L2), Bask21\_65 (E), Bazzle\_57 (L2), Becksu\_64 (E), Beem\_113 (J), Bellis\_56 (L3), Bench\_68 (E), BetterKatz\_57 (DI), BigCheese\_57 (L2), BobsGarage\_57 (L2), Bock\_58 (DI), Bogg\_65 (E), BourbonZero\_56 (L3), BrainDrainer\_55 (L4), Breezona\_57 (L2), Brewer\_60 (E), Bromden\_56 (L4), BronnyJames\_105 (J), Bruin\_62 (E), Bryler\_57 (K6), Brylie\_57 (DI), Buck\_66 (E), Budgie\_73 (E), BugsBunny\_65 (E), Cactus\_68 (E), Cain\_57 (K6), Catfish\_55 (CU5), Chaser\_53 (L4), Chop\_58 (DI), ChotaBhai\_65 (E), ChutneyChips\_53 (L4), Claus\_57 (L2), Clautastrophe\_55 (L3), Collard\_47 (K5), Command613\_67 (E), Cookies\_62 (E), Courthouse\_102 (J), Crossroads\_57 (L2), Czczyszczon1\_66 (E), DHan\_58 (L2), Dadosky\_50 (K5), Daikon\_67 (E), DanBing\_57 (L2), DelRio\_58 (DI), DoctorDiddles\_64 (E), DoubleChamp\_46 (K5), Douge\_55 (L4), Douzhi\_55 (L4), DrSeegs\_57 (L2), DuncansLeg\_56 (L3), DyoEdafos\_57 (L4), Edugator\_47 (K5), Ejimix\_105 (J), Ellson\_55 (L3), Elph10\_65 (E), FairyPath\_65 (E), Faith1\_57 (L2), FarmResident\_56 (L4), Feyre\_49 (K5), Finemlucis\_57 (L2), Finnry\_56 (L3), FireRed\_69 (E), Flypotenuse\_61 (E), FoghornLeghorn\_59 (E), Francois\_57 (DI), Gabriela\_54 (L2), Gage\_67 (E), Gardann\_58 (L2), Gemini\_70 (E), Gengar\_48 (K5), Glexan\_64 (E), GoldenSpark\_69 (E), Goldilocks\_68 (E), GooberAzure\_68 (E), GrandSlam\_58 (DI), Greep\_69 (E), Guillsminger\_49 (K5), GuuelaD\_56 (L2), Hafay\_58 (L2), Halley\_113 (J), Hamood\_58 (DI), HankaySha\_65 (E), Harella\_65 (E), Heftyboy\_48 (K5), Holt\_70 (E), Hoonter\_68 (E), Hopey\_65 (E), HufflyPuff\_68 (E), Icee\_66 (E), InvictusManeo\_47 (K5), Itos\_56 (L2), JeTaime\_65 (E), Jobypre\_56 (L3), Jubie\_55 (L3), JuicyJay\_108 (J), Kahlid\_57 (L2), Kanye\_62 (E), KashFlow\_104 (J), Kimchi\_69 (E), Kingsolomon\_55 (L3), KirDoubleO7\_54 (L3), Kratio\_46 (K5), Kropertea\_53 (L4), Krueger\_60 (K6), Krypton555\_57 (L3), Larva\_49 (K5), Leston\_48 (K5), Lewan\_58 (L2), LilDestine\_57 (L2), LilDirt\_46 (K5), LilJank\_72 (DU2), Lilac\_67 (E), Lilbeanie\_82 (DE5), Lilizi\_66 (E), LiyuLake\_55 (L3), Loadrie\_56 (L2), Lolly9\_55 (L3), Lucky2013\_104 (J), Lumos\_57 (L3), Lynnae\_58 (L2), MISSy\_66 (E), MPhalcon\_66 (E), Marshmallow\_63 (E), Maxxinista\_67 (E), MiaZeal\_107 (J), Miley16\_57 (L2), MiniLon\_59 (L3), MiniMac\_59 (L3), Miryou\_51 (K5), Misfit\_66 (E), MkaliMitinis3\_58 (L2), MollyToe\_60 (E), Moostard\_55 (L3), Mosby\_61 (E), MsGreen\_56 (L3), Mulch\_57 (DI), Murica\_68 (E), Myrale\_65 (E), Nadeem\_57 (DI), Nala\_67 (E), NancyRae\_56 (DI), Neighly\_50 (K3), Nekros\_110 (J), NelitzaMV\_63 (E), Nergal\_50 (AG), Netyap\_58 (L2), Neville\_70 (DU2), Nibley\_100 (J), Nicholas\_55 (L3), Nicholasp3\_57 (L2), Nimrod\_66 (E), OkiRoe\_48 (K5), Omnicron\_51 (K5), OrionPax\_64 (E), OverPar\_58 (L2), PYPDinur\_53 (L4), PaddyBaddy\_65 (E), Palpatine\_67 (E), Paola\_48 (K5), Parada\_57 (DI), Pat3\_63 (E), Petra64142\_69 (E), PhatBacter\_69 (E), Phaux\_67 (E), PhelpsODU\_55 (K6), Phrank\_57 (K6), Pimento\_59 (DI), Policronamos\_68 (E), Poochiewood\_54 (L1), Porcelain\_105 (J), Psycho\_48 (K5), Pumpkin\_68 (E), Quallification\_66 (E), Quby\_54 (L4), Rando14\_50 (K5), Red305\_56 (L3), Redno2\_103 (J), Rimmer\_66 (E), RiverMonster\_65 (E), Rose5\_54 (L1), Rossetti\_58 (L2), Rumpelstiltskin\_56 (L2), Samty\_56 (L3), Sarshaun\_57 (L2), Sassay\_60 (E), Shaboozey\_105 (J), Shadow1\_59 (K6), Sheng711\_55 (L4), ShereKhan\_64 (E), SirDuracell\_64 (E), Snenia\_55 (L3), SoJulia\_59 (L2), SoSeph\_48

(K5), Soap141\_57 (L2), Sotrice96\_66 (E), Squint\_105 (J), Stark\_66 (E), StolenFromERC\_68 (E), StormChicken\_67 (E), Sunflower1121\_60 (K6), Superphikiman\_104 (J), Syra333\_59 (K6), TClif\_56 (K6), TeamEdward\_67 (E), Terminus\_68 (E), Thimble\_66 (E), Thyatira\_51 (K5), Tierra\_57 (K6), Tigress9\_61 (K6), Tomaszewski\_60 (E), Tourach\_56 (L2), Trax\_72 (DU2), TriFive\_57 (L3), Tyson\_54 (L1), Unicorn\_55 (K6), Vetrix\_57 (L2), ViviJ\_48 (K5), Waterfoul\_49 (K5), WheatThin\_56 (DI), Whirlwind\_56 (L3), Wigglewobble\_57 (L2), Wilder\_58 (L2), Willez\_60 (E), Winky\_57 (L2), Wyatt2\_55 (L1), Ximenita\_60 (K6), YassJohnny\_62 (E), Youngblood\_68 (E), Zakai\_58 (L2), ZhongYanYuan\_55 (L2),

Start 60:

- Found in 8 of 454 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 7 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azira\_56 (CT), Fribs8\_56 (CT), Jace\_70 (singleton), MaVan\_56 (CT), Nibbles\_55 (CT), Survivors\_57 (CT), Wolfwood\_58 (CT), Zareef\_57 (CT),

Start 61:

- Found in 2 of 454 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pharb\_52 (K3), TripleTrouble\_52 (K3),

Start 62:

- Found in 2 of 454 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 50.0% of time when present
- Phage (with cluster) where this start called: MarkPhew\_56 (K1),

Start 64:

- Found in 3 of 454 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 3 of 369
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dublin\_43 (A5), MarysWell\_43 (A5), Theia\_42 (A5),

Start 84:

- Found in 139 of 454 ( 30.6% ) of genes in pham
- Manual Annotations of this start: 1 of 369
- Called 0.7% of time when present
- Phage (with cluster) where this start called: Miskis\_8 (CQ1),

### **Summary by clusters:**

There are 30 clusters represented in this pham: FR, DI, GD2, K3, K1, DZ, K6, K5, FL, CU5, AZ, A5, DU2, E, EH, AG, J, L4, AR, L2, L3, L1, singleton, UNK, EQ, CQ1, CT, ED2, DE5, AZ6,

Info for manual annotations of cluster A5:

- Start number 64 was manually annotated 3 times for cluster A5.

Info for manual annotations of cluster AG:

- Start number 51 was manually annotated 1 time for cluster AG.
- Start number 58 was manually annotated 1 time for cluster AG.

Info for manual annotations of cluster AR:

- Start number 43 was manually annotated 19 times for cluster AR.

Info for manual annotations of cluster AZ6:

- Start number 56 was manually annotated 1 time for cluster AZ6.

Info for manual annotations of cluster CQ1:

- Start number 57 was manually annotated 14 times for cluster CQ1.
- Start number 84 was manually annotated 1 time for cluster CQ1.

Info for manual annotations of cluster CT:

- Start number 60 was manually annotated 6 times for cluster CT.

Info for manual annotations of cluster CU5:

- Start number 58 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster DE5:

- Start number 58 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DI:

- Start number 58 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DU2:

- Start number 58 was manually annotated 2 times for cluster DU2.

Info for manual annotations of cluster DZ:

- Start number 49 was manually annotated 5 times for cluster DZ.

Info for manual annotations of cluster E:

- Start number 58 was manually annotated 70 times for cluster E.

Info for manual annotations of cluster ED2:

- Start number 56 was manually annotated 12 times for cluster ED2.

Info for manual annotations of cluster EH:

- Start number 56 was manually annotated 1 time for cluster EH.

Info for manual annotations of cluster EQ:

- Start number 56 was manually annotated 1 time for cluster EQ.

Info for manual annotations of cluster FL:

- Start number 44 was manually annotated 1 time for cluster FL.

Info for manual annotations of cluster FR:

- Start number 33 was manually annotated 1 time for cluster FR.
- Start number 36 was manually annotated 2 times for cluster FR.

Info for manual annotations of cluster GD2:

- Start number 42 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster J:

- Start number 58 was manually annotated 13 times for cluster J.

Info for manual annotations of cluster K1:

- Start number 46 was manually annotated 1 time for cluster K1.
- Start number 50 was manually annotated 5 times for cluster K1.
- Start number 52 was manually annotated 70 times for cluster K1.
- Start number 53 was manually annotated 17 times for cluster K1.
- Start number 54 was manually annotated 4 times for cluster K1.
- Start number 62 was manually annotated 1 time for cluster K1.

Info for manual annotations of cluster K3:

- Start number 61 was manually annotated 2 times for cluster K3.

Info for manual annotations of cluster K5:

- Start number 58 was manually annotated 23 times for cluster K5.

Info for manual annotations of cluster K6:

- Start number 50 was manually annotated 2 times for cluster K6.
- Start number 56 was manually annotated 1 time for cluster K6.
- Start number 58 was manually annotated 12 times for cluster K6.

Info for manual annotations of cluster L1:

- Start number 58 was manually annotated 4 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 58 was manually annotated 30 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 58 was manually annotated 19 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 58 was manually annotated 4 times for cluster L4.

**Gene Information:**

Gene: 244\_66 Start: 43538, Stop: 43870, Start Num: 58

Candidate Starts for 244\_66:

(Start: 58 @43538 has 195 MA's), (Start: 84 @43604 has 1 MA's), (89, 43634), (117, 43781), (125, 43835),

Gene: ASegato\_88 Start: 51131, Stop: 50784, Start Num: 56

Candidate Starts for ASegato\_88:

(34, 51209), (Start: 56 @51131 has 16 MA's), (72, 51095), (77, 51083), (89, 51020), (92, 51005), (95, 50999), (106, 50954), (109, 50948),

Gene: Abscondus\_9 Start: 2199, Stop: 2537, Start Num: 57

Candidate Starts for Abscondus\_9:

(Start: 57 @2199 has 14 MA's), (75, 2232), (Start: 84 @2268 has 1 MA's), (123, 2487),

Gene: ActinUp\_53 Start: 38771, Stop: 39121, Start Num: 52

Candidate Starts for ActinUp\_53:

(Start: 52 @38771 has 70 MA's), (Start: 56 @38777 has 16 MA's), (68, 38801), (79, 38831), (119, 39047),

Gene: Adephagia\_53 Start: 38768, Stop: 39118, Start Num: 52

Candidate Starts for Adephagia\_53:

(Start: 52 @38768 has 70 MA's), (Start: 56 @38774 has 16 MA's), (68, 38798), (79, 38828), (119, 39044),

Gene: Adonis\_53 Start: 39012, Stop: 39362, Start Num: 52

Candidate Starts for Adonis\_53:

(Start: 52 @39012 has 70 MA's), (Start: 56 @39018 has 16 MA's), (68, 39042), (79, 39072), (119, 39288),

Gene: Agamoto\_62 Start: 39521, Stop: 39132, Start Num: 36

Candidate Starts for Agamoto\_62:

(Start: 36 @39521 has 2 MA's), (47, 39482), (67, 39440), (110, 39275), (128, 39146), (129, 39140),

Gene: Agent47\_49 Start: 37072, Stop: 37413, Start Num: 58

Candidate Starts for Agent47\_49:

(32, 36988), (Start: 58 @37072 has 195 MA's), (73, 37108), (92, 37189), (100, 37216), (104, 37234), (111, 37273), (122, 37357),

Gene: Ageofdapage\_55 Start: 39761, Stop: 40111, Start Num: 53

Candidate Starts for Ageofdapage\_55:

(Start: 53 @39761 has 17 MA's), (Start: 56 @39767 has 16 MA's), (68, 39791), (119, 40037),

Gene: Aleemily\_84 Start: 51825, Stop: 52172, Start Num: 49

Candidate Starts for Aleemily\_84:

(Start: 49 @51825 has 5 MA's), (70, 51858), (78, 51879), (Start: 84 @51906 has 1 MA's),

Gene: AlishaPH\_53 Start: 39029, Stop: 39379, Start Num: 52

Candidate Starts for AlishaPH\_53:

(Start: 52 @39029 has 70 MA's), (Start: 56 @39035 has 16 MA's), (68, 39059), (79, 39089), (119, 39305),

Gene: AlleyCat\_50 Start: 37151, Stop: 37489, Start Num: 58

Candidate Starts for AlleyCat\_50:

(Start: 58 @37151 has 195 MA's), (79, 37202), (92, 37268), (111, 37352), (116, 37391), (118, 37406),

Gene: Amao\_65 Start: 43296, Stop: 43628, Start Num: 58

Candidate Starts for Amao\_65:

(Start: 58 @43296 has 195 MA's), (Start: 84 @43362 has 1 MA's), (89, 43392), (117, 43539), (125, 43593),

Gene: AmericanBeauty\_69 Start: 44051, Stop: 44383, Start Num: 58

Candidate Starts for AmericanBeauty\_69:

(Start: 58 @44051 has 195 MA's), (Start: 84 @44117 has 1 MA's), (89, 44147), (117, 44294), (125, 44348),

Gene: Amgine\_54 Start: 40020, Stop: 40364, Start Num: 50

Candidate Starts for Amgine\_54:

(Start: 50 @40020 has 7 MA's), (79, 40077), (89, 40128), (116, 40266), (127, 40338),

Gene: Anaya\_55 Start: 39287, Stop: 39637, Start Num: 52

Candidate Starts for Anaya\_55:

(Start: 52 @39287 has 70 MA's), (Start: 56 @39293 has 16 MA's), (68, 39317), (79, 39347), (119, 39563),

Gene: Angelica\_53 Start: 38918, Stop: 39268, Start Num: 53

Candidate Starts for Angelica\_53:

(Start: 53 @38918 has 17 MA's), (Start: 56 @38924 has 16 MA's), (68, 38948), (79, 38978), (119, 39194),

Gene: Anma\_55 Start: 39665, Stop: 40015, Start Num: 53

Candidate Starts for Anma\_55:

(Start: 53 @39665 has 17 MA's), (Start: 56 @39671 has 16 MA's), (68, 39695), (79, 39725), (119, 39941),

Gene: AnnabelLee\_62 Start: 35926, Stop: 35531, Start Num: 36

Candidate Starts for AnnabelLee\_62:

(21, 36007), (28, 35956), (31, 35950), (Start: 36 @35926 has 2 MA's), (76, 35815), (77, 35812), (83, 35785), (93, 35734),

Gene: Aphelion\_10 Start: 2375, Stop: 2713, Start Num: 57

Candidate Starts for Aphelion\_10:

(Start: 57 @2375 has 14 MA's), (Start: 84 @2444 has 1 MA's), (123, 2663),

Gene: Apocalypse\_56 Start: 39698, Stop: 40048, Start Num: 52

Candidate Starts for Apocalypse\_56:

(Start: 52 @39698 has 70 MA's), (Start: 56 @39704 has 16 MA's), (68, 39728), (79, 39758), (119, 39974),

Gene: Appletree2\_54 Start: 40568, Stop: 40909, Start Num: 58

Candidate Starts for Appletree2\_54:

(Start: 58 @40568 has 195 MA's), (81, 40613), (92, 40676), (120, 40835), (125, 40865), (128, 40880),

Gene: ArV1\_084 Start: 61126, Stop: 61506, Start Num: 43

Candidate Starts for ArV1\_084:

(Start: 43 @61126 has 19 MA's), (63, 61174), (65, 61177), (72, 61198), (77, 61210), (78, 61213), (81, 61222), (88, 61267), (91, 61282), (94, 61294), (102, 61318), (104, 61327), (108, 61351),

Gene: Archie\_57 Start: 42703, Stop: 43038, Start Num: 58

Candidate Starts for Archie\_57:

(Start: 58 @42703 has 195 MA's), (77, 42742), (92, 42811), (114, 42913), (125, 43000), (127, 43012), (128, 43015),

Gene: Argent26\_69 Start: 43689, Stop: 44021, Start Num: 58

Candidate Starts for Argent26\_69:

(Start: 58 @43689 has 195 MA's), (Start: 84 @43755 has 1 MA's), (89, 43785), (117, 43932), (125, 43986),

Gene: Ariel\_107 Start: 59024, Stop: 59359, Start Num: 58

Candidate Starts for Ariel\_107:

(Start: 58 @59024 has 195 MA's), (Start: 84 @59093 has 1 MA's), (104, 59186), (125, 59324),

Gene: Asayake\_53 Start: 39083, Stop: 39433, Start Num: 52

Candidate Starts for Asayake\_53:

(Start: 52 @39083 has 70 MA's), (Start: 56 @39089 has 16 MA's), (68, 39113), (79, 39143), (119, 39359),

Gene: Atiba\_54 Start: 38731, Stop: 39081, Start Num: 52

Candidate Starts for Atiba\_54:

(Start: 52 @38731 has 70 MA's), (Start: 56 @38737 has 16 MA's), (68, 38761), (79, 38791), (119, 39007),

Gene: Audell\_61 Start: 39182, Stop: 38775, Start Num: 33

Candidate Starts for Audell\_61:

(Start: 33 @39182 has 1 MA's), (Start: 56 @39107 has 16 MA's), (Start: 58 @39104 has 195 MA's), (71, 39074), (83, 39032), (90, 38996), (129, 38786),

Gene: Ayotoya\_58 Start: 39851, Stop: 40183, Start Num: 58

Candidate Starts for Ayotoya\_58:

(Start: 44 @39815 has 1 MA's), (Start: 58 @39851 has 195 MA's), (73, 39884), (80, 39905), (89, 39956), (104, 40016),

Gene: Azira\_56 Start: 41880, Stop: 42218, Start Num: 60

Candidate Starts for Azira\_56:

(10, 41559), (11, 41571), (Start: 60 @41880 has 7 MA's), (72, 41907), (80, 41931), (Start: 84 @41949 has 1 MA's), (110, 42069), (115, 42108), (129, 42201),

Gene: BEEST\_53 Start: 39083, Stop: 39433, Start Num: 52

Candidate Starts for BEEST\_53:

(Start: 52 @39083 has 70 MA's), (Start: 56 @39089 has 16 MA's), (68, 39113), (79, 39143), (119, 39359),

Gene: BGlluviae\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for BGlluviae\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: BaboJay\_62 Start: 43082, Stop: 43414, Start Num: 58

Candidate Starts for BaboJay\_62:

(Start: 58 @43082 has 195 MA's), (Start: 84 @43148 has 1 MA's), (89, 43178), (117, 43325), (125, 43379),

Gene: Bachita\_11 Start: 2875, Stop: 3213, Start Num: 57

Candidate Starts for Bachita\_11:

(Start: 57 @2875 has 14 MA's), (75, 2908), (Start: 84 @2944 has 1 MA's), (123, 3163),

Gene: BaghaKamala\_52 Start: 38130, Stop: 38480, Start Num: 52

Candidate Starts for BaghaKamala\_52:

(Start: 52 @38130 has 70 MA's), (Start: 56 @38136 has 16 MA's), (68, 38160), (79, 38190), (119, 38406),

Gene: Balomoji\_65 Start: 44015, Stop: 44347, Start Num: 58

Candidate Starts for Balomoji\_65:

(Start: 58 @44015 has 195 MA's), (Start: 84 @44081 has 1 MA's), (89, 44111), (117, 44258), (125, 44312),

Gene: BananenDer11\_46 Start: 37033, Stop: 37374, Start Num: 58

Candidate Starts for BananenDer11\_46:

(32, 36949), (Start: 58 @37033 has 195 MA's), (73, 37069), (92, 37150), (100, 37177), (104, 37195), (111, 37234), (122, 37318),

Gene: Baoshan\_56 Start: 42377, Stop: 42712, Start Num: 58

Candidate Starts for Baoshan\_56:

(Start: 58 @42377 has 195 MA's), (70, 42401), (77, 42416), (92, 42485), (110, 42560), (114, 42587), (125, 42674), (127, 42686), (128, 42689),

Gene: BarrelRoll\_53 Start: 38754, Stop: 39104, Start Num: 52

Candidate Starts for BarrelRoll\_53:

(Start: 52 @38754 has 70 MA's), (Start: 56 @38760 has 16 MA's), (68, 38784), (79, 38814), (119, 39030),

Gene: Bask21\_65 Start: 42856, Stop: 43188, Start Num: 58

Candidate Starts for Bask21\_65:

(Start: 58 @42856 has 195 MA's), (Start: 84 @42922 has 1 MA's), (89, 42952), (117, 43099), (125, 43153),

Gene: Bazzle\_57 Start: 42773, Stop: 43108, Start Num: 58

Candidate Starts for Bazzle\_57:

(Start: 58 @42773 has 195 MA's), (77, 42812), (92, 42881), (114, 42983), (125, 43070), (127, 43082), (128, 43085),

Gene: Becksu\_64 Start: 44084, Stop: 44416, Start Num: 58

Candidate Starts for Becksu\_64:

(13, 43814), (16, 43832), (22, 43940), (Start: 58 @44084 has 195 MA's), (Start: 84 @44150 has 1 MA's), (89, 44180), (117, 44327), (125, 44381),

Gene: Beem\_113 Start: 64609, Stop: 64944, Start Num: 58

Candidate Starts for Beem\_113:

(Start: 58 @64609 has 195 MA's), (Start: 84 @64678 has 1 MA's), (104, 64771), (125, 64909),

Gene: Beezoo\_55 Start: 39729, Stop: 40079, Start Num: 52

Candidate Starts for Beezoo\_55:

(Start: 52 @39729 has 70 MA's), (Start: 56 @39735 has 16 MA's), (68, 39759), (79, 39789), (119, 40005),

Gene: Bella96\_54 Start: 39510, Stop: 39860, Start Num: 53

Candidate Starts for Bella96\_54:

(Start: 53 @39510 has 17 MA's), (Start: 56 @39516 has 16 MA's), (68, 39540), (79, 39570), (119, 39786),

Gene: Belladonna\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for Belladonna\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: Bellis\_56 Start: 42642, Stop: 42983, Start Num: 58

Candidate Starts for Bellis\_56:

(Start: 58 @42642 has 195 MA's), (110, 42828), (125, 42942),

Gene: Bench\_68 Start: 43519, Stop: 43851, Start Num: 58

Candidate Starts for Bench\_68:

(13, 43249), (16, 43267), (22, 43375), (Start: 58 @43519 has 195 MA's), (Start: 84 @43585 has 1 MA's), (89, 43615), (117, 43762), (125, 43816),

Gene: Bern\_54 Start: 37720, Stop: 38070, Start Num: 52

Candidate Starts for Bern\_54:

(Start: 52 @37720 has 70 MA's), (Start: 56 @37726 has 16 MA's), (68, 37750), (79, 37780), (119, 37996),

Gene: BetterKatz\_57 Start: 39050, Stop: 39382, Start Num: 58

Candidate Starts for BetterKatz\_57:

(38, 38987), (Start: 44 @39014 has 1 MA's), (Start: 58 @39050 has 195 MA's), (73, 39083), (80, 39104), (89, 39155), (104, 39215),

Gene: Big4\_312 Start: 167840, Stop: 168223, Start Num: 42

Candidate Starts for Big4\_312:

(Start: 42 @167840 has 2 MA's), (98, 168002), (101, 168026), (110, 168056),

Gene: BigCheese\_57 Start: 42443, Stop: 42778, Start Num: 58

Candidate Starts for BigCheese\_57:

(Start: 58 @42443 has 195 MA's), (70, 42467), (77, 42482), (92, 42551), (110, 42626), (114, 42653), (125, 42740), (127, 42752), (128, 42755),

Gene: Blizzard\_53 Start: 39083, Stop: 39433, Start Num: 52

Candidate Starts for Blizzard\_53:

(Start: 52 @39083 has 70 MA's), (Start: 56 @39089 has 16 MA's), (68, 39113), (79, 39143), (119, 39359),

Gene: BobsGarage\_57 Start: 42443, Stop: 42778, Start Num: 58

Candidate Starts for BobsGarage\_57:

(Start: 58 @42443 has 195 MA's), (70, 42467), (77, 42482), (92, 42551), (110, 42626), (114, 42653), (125, 42740), (127, 42752), (128, 42755),

Gene: Bock\_58 Start: 39083, Stop: 39415, Start Num: 58

Candidate Starts for Bock\_58:

(Start: 44 @39047 has 1 MA's), (Start: 58 @39083 has 195 MA's), (73, 39116), (80, 39137), (89, 39188), (104, 39248),

Gene: Bogg\_65 Start: 42834, Stop: 43166, Start Num: 58

Candidate Starts for Bogg\_65:

(Start: 58 @42834 has 195 MA's), (Start: 84 @42900 has 1 MA's), (89, 42930), (117, 43077), (125, 43131),

Gene: Boiiii\_53 Start: 39085, Stop: 39435, Start Num: 52

Candidate Starts for Boiiii\_53:

(Start: 52 @39085 has 70 MA's), (Start: 56 @39091 has 16 MA's), (68, 39115), (79, 39145), (119, 39361),

Gene: BourbonZero\_56 Start: 42690, Stop: 43031, Start Num: 58

Candidate Starts for BourbonZero\_56:

(Start: 58 @42690 has 195 MA's), (110, 42876), (125, 42990), (127, 43002),

Gene: BrainDrainer\_55 Start: 41309, Stop: 41656, Start Num: 58

Candidate Starts for BrainDrainer\_55:

(Start: 58 @41309 has 195 MA's), (81, 41354), (104, 41474), (120, 41585), (125, 41615), (128, 41630),

Gene: Breezona\_57 Start: 42443, Stop: 42778, Start Num: 58

Candidate Starts for Breezona\_57:

(Start: 58 @42443 has 195 MA's), (70, 42467), (77, 42482), (92, 42551), (110, 42626), (114, 42653), (125, 42740), (127, 42752), (128, 42755),

Gene: Brewer\_60 Start: 42351, Stop: 42683, Start Num: 58

Candidate Starts for Brewer\_60:

(Start: 58 @42351 has 195 MA's), (Start: 84 @42417 has 1 MA's), (89, 42447), (117, 42594), (125, 42648),

Gene: Bromden\_56 Start: 41981, Stop: 42316, Start Num: 58

Candidate Starts for Bromden\_56:

(Start: 58 @41981 has 195 MA's), (67, 41999), (81, 42026), (92, 42089), (120, 42245), (125, 42275), (128, 42290),

Gene: BronnyJames\_105 Start: 59510, Stop: 59845, Start Num: 58

Candidate Starts for BronnyJames\_105:

(Start: 58 @59510 has 195 MA's), (Start: 84 @59579 has 1 MA's), (104, 59672), (125, 59810),

Gene: Bruin\_62 Start: 42428, Stop: 42760, Start Num: 58

Candidate Starts for Bruin\_62:

(13, 42158), (16, 42176), (22, 42284), (Start: 58 @42428 has 195 MA's), (Start: 84 @42494 has 1 MA's), (89, 42524), (117, 42671), (125, 42725),

Gene: Bryler\_57 Start: 38538, Stop: 38885, Start Num: 58

Candidate Starts for Bryler\_57:

(Start: 58 @38538 has 195 MA's), (81, 38595), (127, 38856), (129, 38865),

Gene: Brylie\_57 Start: 38831, Stop: 39163, Start Num: 58

Candidate Starts for Brylie\_57:

(38, 38768), (Start: 44 @38795 has 1 MA's), (Start: 58 @38831 has 195 MA's), (73, 38864), (80, 38885), (89, 38936), (104, 38996),

Gene: Bubbykins\_102 Start: 61342, Stop: 61716, Start Num: 45

Candidate Starts for Bubbykins\_102:

(45, 61342), (72, 61402), (78, 61417), (91, 61486), (107, 61558), (110, 61567), (112, 61582), (119, 61645), (123, 61672), (129, 61702),

Gene: Buck\_66 Start: 44136, Stop: 44468, Start Num: 58

Candidate Starts for Buck\_66:

(Start: 58 @44136 has 195 MA's), (Start: 84 @44202 has 1 MA's), (89, 44232), (117, 44379), (125, 44433),

Gene: Budgie\_73 Start: 44067, Stop: 44399, Start Num: 58

Candidate Starts for Budgie\_73:

(15, 43809), (25, 43941), (Start: 58 @44067 has 195 MA's), (Start: 84 @44133 has 1 MA's), (89, 44163), (125, 44364),

Gene: BugsBunny\_65 Start: 43966, Stop: 44298, Start Num: 58

Candidate Starts for BugsBunny\_65:

(13, 43696), (16, 43714), (22, 43822), (Start: 58 @43966 has 195 MA's), (Start: 84 @44032 has 1 MA's), (89, 44062), (117, 44209), (125, 44263),

Gene: CREW\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for CREW\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: Cactus\_68 Start: 42909, Stop: 43241, Start Num: 58

Candidate Starts for Cactus\_68:

(Start: 58 @42909 has 195 MA's), (Start: 84 @42975 has 1 MA's), (89, 43005), (117, 43152), (125, 43206),

Gene: Cafasso\_85 Start: 51977, Stop: 52324, Start Num: 49

Candidate Starts for Cafasso\_85:

(Start: 49 @51977 has 5 MA's), (70, 52010), (78, 52031), (Start: 84 @52058 has 1 MA's),

Gene: Cain\_57 Start: 38526, Stop: 38873, Start Num: 58

Candidate Starts for Cain\_57:

(Start: 58 @38526 has 195 MA's), (81, 38583), (127, 38844), (129, 38853),

Gene: CallaLilly\_53 Start: 38809, Stop: 39159, Start Num: 52

Candidate Starts for CallaLilly\_53:

(Start: 52 @38809 has 70 MA's), (Start: 56 @38815 has 16 MA's), (68, 38839), (79, 38869), (119, 39085),

Gene: Capricorn\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for Capricorn\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: CardboardBox\_61 Start: 35929, Stop: 35534, Start Num: 36

Candidate Starts for CardboardBox\_61:

(21, 36010), (28, 35959), (31, 35953), (Start: 36 @35929 has 2 MA's), (76, 35818), (77, 35815), (83, 35788), (93, 35737),

Gene: Casablancas\_91 Start: 51047, Stop: 50700, Start Num: 56

Candidate Starts for Casablancas\_91:

(34, 51125), (Start: 56 @51047 has 16 MA's), (72, 51011), (77, 50999), (89, 50936), (92, 50921), (95, 50915), (115, 50819),

Gene: CaseJules\_55 Start: 39083, Stop: 39433, Start Num: 52

Candidate Starts for CaseJules\_55:

(Start: 52 @39083 has 70 MA's), (Start: 56 @39089 has 16 MA's), (68, 39113), (79, 39143), (119, 39359),

Gene: Catfish\_55 Start: 38322, Stop: 38657, Start Num: 58

Candidate Starts for Catfish\_55:

(Start: 58 @38322 has 195 MA's), (Start: 84 @38400 has 1 MA's), (89, 38430), (95, 38451), (105, 38484), (107, 38499), (125, 38619), (127, 38631),

Gene: Cen1621\_32 Start: 22941, Stop: 23279, Start Num: 56

Candidate Starts for Cen1621\_32:

(1, 22122), (4, 22497), (29, 22845), (Start: 56 @22941 has 16 MA's), (74, 22980), (89, 23043), (97, 23067), (130, 23268),

Gene: ChamoyPickle\_62 Start: 36469, Stop: 36074, Start Num: 36

Candidate Starts for ChamoyPickle\_62:

(21, 36550), (28, 36499), (31, 36493), (Start: 36 @36469 has 2 MA's), (76, 36358), (77, 36355), (83, 36328), (93, 36277),

Gene: Chaser\_53 Start: 41066, Stop: 41413, Start Num: 58

Candidate Starts for Chaser\_53:

(Start: 58 @41066 has 195 MA's), (81, 41111), (120, 41342), (125, 41372), (128, 41387),

Gene: Chavito\_57 Start: 40188, Stop: 40529, Start Num: 53

Candidate Starts for Chavito\_57:

(Start: 53 @40188 has 17 MA's), (77, 40233), (79, 40239), (89, 40290), (92, 40305), (116, 40431), (127, 40503),

Gene: CheetoDust\_52 Start: 38174, Stop: 38524, Start Num: 52

Candidate Starts for CheetoDust\_52:

(Start: 52 @38174 has 70 MA's), (Start: 56 @38180 has 16 MA's), (68, 38204), (79, 38234), (119, 38450),

Gene: Chipper1996\_980 Start: 62828, Stop: 63211, Start Num: 43

Candidate Starts for Chipper1996\_980:

(Start: 43 @62828 has 19 MA's), (Start: 44 @62834 has 1 MA's), (63, 62879), (72, 62903), (78, 62918), (81, 62927), (88, 62972), (91, 62987), (94, 62999), (102, 63023), (104, 63032), (107, 63053), (113, 63086), (121, 63149),

Gene: ChipsNGuac\_61 Start: 35929, Stop: 35534, Start Num: 36

Candidate Starts for ChipsNGuac\_61:

(21, 36010), (28, 35959), (31, 35953), (Start: 36 @35929 has 2 MA's), (76, 35818), (77, 35815), (83, 35788), (93, 35737),

Gene: Chocolat\_97 Start: 62535, Stop: 62918, Start Num: 43

Candidate Starts for Chocolat\_97:

(Start: 43 @62535 has 19 MA's), (Start: 44 @62541 has 1 MA's), (63, 62586), (72, 62610), (78, 62625), (81, 62634), (88, 62679), (91, 62694), (94, 62706), (102, 62730), (104, 62739), (107, 62760), (113, 62793), (121, 62856),

Gene: Chop\_58 Start: 39602, Stop: 39934, Start Num: 58

Candidate Starts for Chop\_58:

(Start: 44 @39566 has 1 MA's), (Start: 58 @39602 has 195 MA's), (73, 39635), (80, 39656), (89, 39707), (104, 39767),

Gene: ChotaBhai\_65 Start: 43227, Stop: 43559, Start Num: 58

Candidate Starts for ChotaBhai\_65:

(Start: 58 @43227 has 195 MA's), (Start: 84 @43293 has 1 MA's), (89, 43323), (117, 43470), (125, 43524),

Gene: Chris\_55 Start: 39389, Stop: 39751, Start Num: 46

Candidate Starts for Chris\_55:

(Start: 46 @39389 has 1 MA's), (Start: 62 @39419 has 1 MA's), (83, 39482), (127, 39725),

Gene: Chubster\_97 Start: 62775, Stop: 63158, Start Num: 43

Candidate Starts for Chubster\_97:

(Start: 43 @62775 has 19 MA's), (Start: 44 @62781 has 1 MA's), (63, 62826), (72, 62850), (78, 62865), (81, 62874), (88, 62919), (91, 62934), (94, 62946), (102, 62970), (104, 62979), (107, 63000), (113, 63033), (121, 63096),

Gene: ChutneyChips\_53 Start: 41342, Stop: 41689, Start Num: 58

Candidate Starts for ChutneyChips\_53:

(Start: 58 @41342 has 195 MA's), (81, 41387), (120, 41618), (125, 41648), (128, 41663),

Gene: Claus\_57 Start: 42524, Stop: 42859, Start Num: 58

Candidate Starts for Claus\_57:

(Start: 58 @42524 has 195 MA's), (70, 42548), (77, 42563), (92, 42632), (110, 42707), (114, 42734), (125, 42821), (128, 42836),

Gene: Clautastrophe\_55 Start: 42639, Stop: 42980, Start Num: 58

Candidate Starts for Clautastrophe\_55:

(Start: 58 @42639 has 195 MA's), (79, 42681), (110, 42825), (125, 42939),

Gene: Clipper\_56 Start: 39350, Stop: 39700, Start Num: 53

Candidate Starts for Clipper\_56:

(Start: 53 @39350 has 17 MA's), (Start: 56 @39356 has 16 MA's), (68, 39380), (79, 39410), (119, 39626),

Gene: ClubL\_10 Start: 2375, Stop: 2713, Start Num: 57

Candidate Starts for ClubL\_10:

(Start: 57 @2375 has 14 MA's), (75, 2408), (Start: 84 @2444 has 1 MA's), (123, 2663),

Gene: Collard\_47 Start: 37033, Stop: 37374, Start Num: 58

Candidate Starts for Collard\_47:

(32, 36949), (Start: 58 @37033 has 195 MA's), (73, 37069), (92, 37150), (100, 37177), (104, 37195), (111, 37234), (122, 37318),

Gene: Colucci\_100 Start: 63169, Stop: 63552, Start Num: 43

Candidate Starts for Colucci\_100:

(Start: 43 @63169 has 19 MA's), (Start: 44 @63175 has 1 MA's), (63, 63220), (68, 63232), (72, 63244), (74, 63250), (76, 63253), (88, 63313), (91, 63328), (94, 63340), (104, 63373), (107, 63394),

Gene: Command613\_67 Start: 43948, Stop: 44280, Start Num: 58

Candidate Starts for Command613\_67:

(Start: 58 @43948 has 195 MA's), (Start: 84 @44014 has 1 MA's), (89, 44044), (117, 44191), (125, 44245),

Gene: Conboy\_95 Start: 62284, Stop: 62667, Start Num: 43

Candidate Starts for Conboy\_95:

(Start: 43 @62284 has 19 MA's), (Start: 44 @62290 has 1 MA's), (63, 62335), (72, 62359), (78, 62374), (81, 62383), (88, 62428), (91, 62443), (94, 62455), (102, 62479), (104, 62488), (107, 62509), (113, 62542), (121, 62605),

Gene: Cookies\_62 Start: 43078, Stop: 43410, Start Num: 58  
Candidate Starts for Cookies\_62:  
(Start: 58 @43078 has 195 MA's), (Start: 84 @43144 has 1 MA's), (89, 43174), (117, 43321), (125, 43375),

Gene: Courthouse\_102 Start: 58624, Stop: 58959, Start Num: 58  
Candidate Starts for Courthouse\_102:  
(Start: 58 @58624 has 195 MA's), (Start: 84 @58693 has 1 MA's), (104, 58786), (125, 58924),

Gene: CrimD\_53 Start: 39006, Stop: 39356, Start Num: 53  
Candidate Starts for CrimD\_53:  
(Start: 53 @39006 has 17 MA's), (Start: 56 @39012 has 16 MA's), (68, 39036), (79, 39066), (119, 39282),

Gene: Crossroads\_57 Start: 42521, Stop: 42856, Start Num: 58  
Candidate Starts for Crossroads\_57:  
(Start: 58 @42521 has 195 MA's), (70, 42545), (77, 42560), (92, 42629), (110, 42704), (114, 42731), (125, 42818), (127, 42830), (128, 42833),

Gene: Cucurbita\_9 Start: 2375, Stop: 2713, Start Num: 57  
Candidate Starts for Cucurbita\_9:  
(Start: 57 @2375 has 14 MA's), (Start: 84 @2444 has 1 MA's), (123, 2663),

Gene: Culver\_9 Start: 2199, Stop: 2537, Start Num: 57  
Candidate Starts for Culver\_9:  
(Start: 57 @2199 has 14 MA's), (75, 2232), (Start: 84 @2268 has 1 MA's), (123, 2487),

Gene: Curiosium\_54 Start: 37470, Stop: 37817, Start Num: 52  
Candidate Starts for Curiosium\_54:  
(Start: 52 @37470 has 70 MA's), (Start: 56 @37476 has 16 MA's), (68, 37500), (70, 37506), (111, 37680), (119, 37746), (128, 37797),

Gene: Czyszczonek\_66 Start: 43418, Stop: 43750, Start Num: 58  
Candidate Starts for Czyszczonek\_66:  
(13, 43148), (16, 43166), (22, 43274), (Start: 58 @43418 has 195 MA's), (Start: 84 @43484 has 1 MA's), (89, 43514), (117, 43661), (125, 43715),

Gene: DHan\_58 Start: 42424, Stop: 42759, Start Num: 58  
Candidate Starts for DHan\_58:  
(Start: 58 @42424 has 195 MA's), (70, 42448), (77, 42463), (92, 42532), (110, 42607), (114, 42634), (125, 42721), (127, 42733), (128, 42736),

Gene: Dadosky\_50 Start: 37153, Stop: 37491, Start Num: 58  
Candidate Starts for Dadosky\_50:  
(Start: 58 @37153 has 195 MA's), (79, 37204), (92, 37270), (111, 37354), (116, 37393), (118, 37408),

Gene: Daikon\_67 Start: 44036, Stop: 44368, Start Num: 58  
Candidate Starts for Daikon\_67:  
(Start: 58 @44036 has 195 MA's), (Start: 84 @44102 has 1 MA's), (89, 44132), (117, 44279), (125, 44333),

Gene: Dalmuri\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for Dalmuri\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: DanBing\_57 Start: 42375, Stop: 42710, Start Num: 58

Candidate Starts for DanBing\_57:

(Start: 58 @42375 has 195 MA's), (70, 42399), (92, 42483), (110, 42558), (114, 42585), (125, 42672), (127, 42684), (128, 42687),

Gene: DartGoblin\_56 Start: 39482, Stop: 39832, Start Num: 53

Candidate Starts for DartGoblin\_56:

(Start: 53 @39482 has 17 MA's), (Start: 56 @39488 has 16 MA's), (68, 39512), (79, 39542), (119, 39758),

Gene: Dartin\_56 Start: 39469, Stop: 39807, Start Num: 54

Candidate Starts for Dartin\_56:

(Start: 54 @39469 has 4 MA's), (77, 39511), (79, 39517), (92, 39583), (127, 39781),

Gene: Deby\_53 Start: 38945, Stop: 39295, Start Num: 52

Candidate Starts for Deby\_53:

(Start: 52 @38945 has 70 MA's), (Start: 56 @38951 has 16 MA's), (68, 38975), (79, 39005), (119, 39221),

Gene: DelRio\_58 Start: 40013, Stop: 40345, Start Num: 58

Candidate Starts for DelRio\_58:

(Start: 44 @39977 has 1 MA's), (Start: 58 @40013 has 195 MA's), (73, 40046), (80, 40067), (89, 40118), (104, 40178),

Gene: Deschain\_91 Start: 51711, Stop: 51364, Start Num: 56

Candidate Starts for Deschain\_91:

(34, 51789), (Start: 56 @51711 has 16 MA's), (72, 51675), (77, 51663), (89, 51600), (92, 51585), (95, 51579), (115, 51483),

Gene: Devera\_58 Start: 39525, Stop: 39875, Start Num: 53

Candidate Starts for Devera\_58:

(Start: 53 @39525 has 17 MA's), (Start: 56 @39531 has 16 MA's), (68, 39555), (79, 39585), (119, 39801),

Gene: DoctorDiddles\_64 Start: 43268, Stop: 43600, Start Num: 58

Candidate Starts for DoctorDiddles\_64:

(Start: 58 @43268 has 195 MA's), (Start: 84 @43334 has 1 MA's), (89, 43364), (117, 43511), (125, 43565),

Gene: Dole\_56 Start: 39528, Stop: 39878, Start Num: 53

Candidate Starts for Dole\_56:

(Start: 53 @39528 has 17 MA's), (Start: 56 @39534 has 16 MA's), (68, 39558), (79, 39588), (119, 39804),

Gene: DoubleChamp\_46 Start: 37033, Stop: 37374, Start Num: 58

Candidate Starts for DoubleChamp\_46:

(32, 36949), (Start: 58 @37033 has 195 MA's), (73, 37069), (92, 37150), (100, 37177), (104, 37195), (111, 37234), (122, 37318),

Gene: Douge\_55 Start: 41060, Stop: 41407, Start Num: 58  
Candidate Starts for Douge\_55:  
(Start: 58 @41060 has 195 MA's), (81, 41105), (120, 41336), (125, 41366), (128, 41381),

Gene: Douzhi\_55 Start: 41137, Stop: 41484, Start Num: 58  
Candidate Starts for Douzhi\_55:  
(Start: 58 @41137 has 195 MA's), (81, 41182), (104, 41302), (120, 41413), (125, 41443), (128, 41458),

Gene: DrHayes\_54 Start: 39665, Stop: 40015, Start Num: 53  
Candidate Starts for DrHayes\_54:  
(Start: 53 @39665 has 17 MA's), (Start: 56 @39671 has 16 MA's), (68, 39695), (79, 39725), (119, 39941),

Gene: DrSeegs\_57 Start: 42443, Stop: 42778, Start Num: 58  
Candidate Starts for DrSeegs\_57:  
(Start: 58 @42443 has 195 MA's), (70, 42467), (77, 42482), (92, 42551), (110, 42626), (114, 42653), (125, 42740), (127, 42752), (128, 42755),

Gene: DrYang\_93 Start: 62321, Stop: 62704, Start Num: 43  
Candidate Starts for DrYang\_93:  
(18, 62204), (Start: 43 @62321 has 19 MA's), (Start: 44 @62327 has 1 MA's), (71, 62393), (72, 62396), (88, 62465), (91, 62480), (94, 62492), (100, 62510), (108, 62549), (113, 62579), (121, 62642), (122, 62654), (128, 62684), (129, 62690),

Gene: Dublin\_43 Start: 34571, Stop: 34242, Start Num: 64  
Candidate Starts for Dublin\_43:  
(Start: 64 @34571 has 3 MA's), (Start: 84 @34505 has 1 MA's), (96, 34451), (103, 34424), (107, 34400), (109, 34394), (129, 34259),

Gene: DuncansLeg\_56 Start: 42678, Stop: 43019, Start Num: 58  
Candidate Starts for DuncansLeg\_56:  
(24, 42540), (Start: 58 @42678 has 195 MA's), (79, 42720), (110, 42864), (125, 42978), (127, 42990),

Gene: Durfee\_53 Start: 39083, Stop: 39433, Start Num: 52  
Candidate Starts for Durfee\_53:  
(Start: 52 @39083 has 70 MA's), (Start: 56 @39089 has 16 MA's), (68, 39113), (79, 39143), (119, 39359),

Gene: Dusty\_9 Start: 2199, Stop: 2537, Start Num: 57  
Candidate Starts for Dusty\_9:  
(Start: 57 @2199 has 14 MA's), (75, 2232), (Start: 84 @2268 has 1 MA's), (123, 2487),

Gene: DustyDino\_94 Start: 52270, Stop: 51923, Start Num: 56  
Candidate Starts for DustyDino\_94:  
(34, 52348), (Start: 56 @52270 has 16 MA's), (72, 52234), (77, 52222), (89, 52159), (92, 52144), (95, 52138), (115, 52042),

Gene: DyoEdafos\_57 Start: 41342, Stop: 41689, Start Num: 58  
Candidate Starts for DyoEdafos\_57:  
(Start: 58 @41342 has 195 MA's), (81, 41387), (96, 41462), (120, 41618), (125, 41648), (128, 41663),

Gene: EdgarPoe\_96 Start: 62692, Stop: 63075, Start Num: 43  
Candidate Starts for EdgarPoe\_96:

(Start: 43 @62692 has 19 MA's), (Start: 44 @62698 has 1 MA's), (63, 62743), (72, 62767), (78, 62782), (81, 62791), (88, 62836), (91, 62851), (94, 62863), (102, 62887), (104, 62896), (107, 62917), (113, 62950), (121, 63013),

Gene: Edugator\_47 Start: 38574, Stop: 38912, Start Num: 58

Candidate Starts for Edugator\_47:

(Start: 58 @38574 has 195 MA's), (76, 38616), (79, 38625), (92, 38691), (111, 38775), (116, 38814), (118, 38829),

Gene: Efra2\_56 Start: 38613, Stop: 38960, Start Num: 52

Candidate Starts for Efra2\_56:

(Start: 52 @38613 has 70 MA's), (Start: 56 @38619 has 16 MA's), (68, 38643), (115, 38853), (119, 38889),

Gene: Ejimix\_105 Start: 64303, Stop: 64638, Start Num: 58

Candidate Starts for Ejimix\_105:

(Start: 58 @64303 has 195 MA's), (Start: 84 @64372 has 1 MA's), (104, 64465), (125, 64603),

Gene: Ekdilam\_53 Start: 39489, Stop: 39833, Start Num: 50

Candidate Starts for Ekdilam\_53:

(Start: 50 @39489 has 7 MA's), (79, 39546), (89, 39597), (116, 39735),

Gene: Ellson\_55 Start: 42703, Stop: 43044, Start Num: 58

Candidate Starts for Ellson\_55:

(Start: 58 @42703 has 195 MA's), (110, 42889), (125, 43003), (127, 43015),

Gene: Elph10\_65 Start: 42916, Stop: 43248, Start Num: 58

Candidate Starts for Elph10\_65:

(13, 42646), (16, 42664), (22, 42772), (Start: 58 @42916 has 195 MA's), (Start: 84 @42982 has 1 MA's), (89, 43012), (117, 43159), (125, 43213),

Gene: Emerson\_54 Start: 38765, Stop: 39115, Start Num: 52

Candidate Starts for Emerson\_54:

(Start: 52 @38765 has 70 MA's), (Start: 56 @38771 has 16 MA's), (68, 38795), (79, 38825), (119, 39041),

Gene: Engineer\_10 Start: 2375, Stop: 2713, Start Num: 57

Candidate Starts for Engineer\_10:

(Start: 57 @2375 has 14 MA's), (Start: 84 @2444 has 1 MA's), (123, 2663),

Gene: Erasmago\_320 Start: 168140, Stop: 168529, Start Num: 42

Candidate Starts for Erasmago\_320:

(41, 168134), (Start: 42 @168140 has 2 MA's), (89, 168284), (110, 168359), (130, 168503),

Gene: Erenyeager\_90 Start: 51059, Stop: 50712, Start Num: 56

Candidate Starts for Erenyeager\_90:

(34, 51137), (Start: 56 @51059 has 16 MA's), (72, 51023), (77, 51011), (89, 50948), (92, 50933), (95, 50927), (115, 50831),

Gene: Exile\_27 Start: 24622, Stop: 24957, Start Num: 56

Candidate Starts for Exile\_27:

(17, 24448), (Start: 56 @24622 has 16 MA's), (125, 24916),

Gene: Ezurina\_61 Start: 36981, Stop: 36586, Start Num: 36  
Candidate Starts for Ezurina\_61:  
(21, 37062), (28, 37011), (31, 37005), (Start: 36 @36981 has 2 MA's), (78, 36864), (83, 36840), (93, 36789),

Gene: FairyPath\_65 Start: 44027, Stop: 44359, Start Num: 58  
Candidate Starts for FairyPath\_65:  
(Start: 58 @44027 has 195 MA's), (Start: 84 @44093 has 1 MA's), (89, 44123), (117, 44270), (125, 44324),

Gene: Faith1\_57 Start: 42443, Stop: 42778, Start Num: 58  
Candidate Starts for Faith1\_57:  
(Start: 58 @42443 has 195 MA's), (70, 42467), (77, 42482), (92, 42551), (110, 42626), (114, 42653), (125, 42740), (127, 42752), (128, 42755),

Gene: FarmResident\_56 Start: 41100, Stop: 41447, Start Num: 58  
Candidate Starts for FarmResident\_56:  
(Start: 58 @41100 has 195 MA's), (81, 41145), (120, 41376), (125, 41406), (128, 41421),

Gene: Feyre\_49 Start: 39381, Stop: 39719, Start Num: 58  
Candidate Starts for Feyre\_49:  
(Start: 58 @39381 has 195 MA's), (104, 39543), (116, 39621), (118, 39636), (119, 39645), (124, 39675),

Gene: Finemlucis\_57 Start: 42764, Stop: 43099, Start Num: 58  
Candidate Starts for Finemlucis\_57:  
(Start: 58 @42764 has 195 MA's), (70, 42788), (77, 42803), (92, 42872), (110, 42947), (114, 42974), (125, 43061), (127, 43073), (128, 43076),

Gene: Finnry\_56 Start: 42903, Stop: 43244, Start Num: 58  
Candidate Starts for Finnry\_56:  
(Start: 58 @42903 has 195 MA's), (110, 43089), (125, 43203), (127, 43215),

Gene: FireRed\_69 Start: 44405, Stop: 44737, Start Num: 58  
Candidate Starts for FireRed\_69:  
(13, 44135), (16, 44153), (22, 44261), (Start: 58 @44405 has 195 MA's), (Start: 84 @44471 has 1 MA's), (89, 44501), (117, 44648), (125, 44702),

Gene: Flypotenuse\_61 Start: 42899, Stop: 43231, Start Num: 58  
Candidate Starts for Flypotenuse\_61:  
(Start: 58 @42899 has 195 MA's), (Start: 84 @42965 has 1 MA's), (89, 42995), (117, 43142), (125, 43196),

Gene: FoghornLeghorn\_59 Start: 41912, Stop: 42244, Start Num: 58  
Candidate Starts for FoghornLeghorn\_59:  
(13, 41642), (16, 41660), (22, 41768), (Start: 58 @41912 has 195 MA's), (Start: 84 @41978 has 1 MA's), (89, 42008), (117, 42155), (125, 42209),

Gene: Fork\_86 Start: 51009, Stop: 50662, Start Num: 56  
Candidate Starts for Fork\_86:  
(34, 51087), (Start: 56 @51009 has 16 MA's), (72, 50973), (77, 50961), (89, 50898), (92, 50883), (95, 50877), (106, 50832), (109, 50826),

Gene: Francois\_57 Start: 39089, Stop: 39421, Start Num: 58

Candidate Starts for Francois\_57:

(38, 39026), (Start: 44 @39053 has 1 MA's), (Start: 58 @39089 has 195 MA's), (80, 39143), (89, 39194), (104, 39254),

Gene: Fribs8\_56 Start: 42558, Stop: 42896, Start Num: 60

Candidate Starts for Fribs8\_56:

(11, 42249), (Start: 60 @42558 has 7 MA's), (72, 42585), (80, 42609), (Start: 84 @42627 has 1 MA's), (110, 42747), (115, 42786), (129, 42879),

Gene: Gabriela\_54 Start: 40893, Stop: 41228, Start Num: 58

Candidate Starts for Gabriela\_54:

(Start: 58 @40893 has 195 MA's), (70, 40917), (77, 40932), (92, 41001), (110, 41076), (114, 41103), (125, 41190), (127, 41202), (128, 41205),

Gene: Gage\_67 Start: 43689, Stop: 44021, Start Num: 58

Candidate Starts for Gage\_67:

(Start: 58 @43689 has 195 MA's), (Start: 84 @43755 has 1 MA's), (89, 43785), (117, 43932), (125, 43986),

Gene: Ganymede\_54 Start: 39147, Stop: 39497, Start Num: 52

Candidate Starts for Ganymede\_54:

(Start: 52 @39147 has 70 MA's), (Start: 56 @39153 has 16 MA's), (68, 39177), (79, 39207), (83, 39225), (119, 39423),

Gene: Gardann\_58 Start: 42479, Stop: 42814, Start Num: 58

Candidate Starts for Gardann\_58:

(Start: 58 @42479 has 195 MA's), (70, 42503), (77, 42518), (92, 42587), (110, 42662), (114, 42689), (125, 42776), (127, 42788), (128, 42791),

Gene: Geeche\_9 Start: 2194, Stop: 2532, Start Num: 57

Candidate Starts for Geeche\_9:

(Start: 57 @2194 has 14 MA's), (Start: 84 @2263 has 1 MA's), (123, 2482), (129, 2512),

Gene: Gemini\_70 Start: 44206, Stop: 44538, Start Num: 58

Candidate Starts for Gemini\_70:

(Start: 58 @44206 has 195 MA's), (Start: 84 @44272 has 1 MA's), (89, 44302), (117, 44449), (125, 44503),

Gene: Gengar\_48 Start: 37992, Stop: 38330, Start Num: 58

Candidate Starts for Gengar\_48:

(Start: 58 @37992 has 195 MA's), (104, 38154), (116, 38232), (118, 38247), (119, 38256), (124, 38286),

Gene: Geraldini\_56 Start: 39818, Stop: 40168, Start Num: 52

Candidate Starts for Geraldini\_56:

(Start: 52 @39818 has 70 MA's), (Start: 56 @39824 has 16 MA's), (68, 39848), (79, 39878), (119, 40094),

Gene: Gerri43\_61 Start: 35929, Stop: 35534, Start Num: 36

Candidate Starts for Gerri43\_61:

(21, 36010), (28, 35959), (31, 35953), (Start: 36 @35929 has 2 MA's), (76, 35818), (77, 35815), (83, 35788), (93, 35737),

Gene: Glexan\_64 Start: 44026, Stop: 44358, Start Num: 58

Candidate Starts for Glexan\_64:

(Start: 58 @44026 has 195 MA's), (Start: 84 @44092 has 1 MA's), (89, 44122), (117, 44269), (125, 44323),

Gene: GoldenSpark\_69 Start: 43689, Stop: 44021, Start Num: 58

Candidate Starts for GoldenSpark\_69:

(Start: 58 @43689 has 195 MA's), (Start: 84 @43755 has 1 MA's), (89, 43785), (117, 43932), (125, 43986),

Gene: Goldilocks\_68 Start: 43190, Stop: 43522, Start Num: 58

Candidate Starts for Goldilocks\_68:

(Start: 58 @43190 has 195 MA's), (Start: 84 @43256 has 1 MA's), (89, 43286), (117, 43433), (125, 43487),

Gene: GooberAzure\_68 Start: 43689, Stop: 44021, Start Num: 58

Candidate Starts for GooberAzure\_68:

(Start: 58 @43689 has 195 MA's), (Start: 84 @43755 has 1 MA's), (89, 43785), (117, 43932), (125, 43986),

Gene: GrandSlam\_58 Start: 39602, Stop: 39934, Start Num: 58

Candidate Starts for GrandSlam\_58:

(Start: 44 @39566 has 1 MA's), (Start: 58 @39602 has 195 MA's), (73, 39635), (80, 39656), (89, 39707), (104, 39767),

Gene: Greep\_69 Start: 44697, Stop: 45029, Start Num: 58

Candidate Starts for Greep\_69:

(13, 44427), (16, 44445), (22, 44553), (Start: 58 @44697 has 195 MA's), (Start: 84 @44763 has 1 MA's), (89, 44793), (117, 44940), (125, 44994),

Gene: Guanica15\_55 Start: 38358, Stop: 38705, Start Num: 52

Candidate Starts for Guanica15\_55:

(Start: 52 @38358 has 70 MA's), (Start: 56 @38364 has 16 MA's), (68, 38388), (79, 38418), (115, 38598), (119, 38634),

Gene: Guillsminger\_49 Start: 37963, Stop: 38301, Start Num: 58

Candidate Starts for Guillsminger\_49:

(Start: 58 @37963 has 195 MA's), (104, 38125), (116, 38203), (118, 38218), (119, 38227),

Gene: GuuelaD\_56 Start: 42558, Stop: 42893, Start Num: 58

Candidate Starts for GuuelaD\_56:

(Start: 58 @42558 has 195 MA's), (70, 42582), (77, 42597), (92, 42666), (110, 42741), (114, 42768), (125, 42855), (127, 42867), (128, 42870),

Gene: Hafay\_58 Start: 42547, Stop: 42882, Start Num: 58

Candidate Starts for Hafay\_58:

(Start: 58 @42547 has 195 MA's), (70, 42571), (77, 42586), (92, 42655), (110, 42730), (114, 42757), (125, 42844), (127, 42856), (128, 42859),

Gene: Halley\_113 Start: 64619, Stop: 64954, Start Num: 58

Candidate Starts for Halley\_113:

(Start: 58 @64619 has 195 MA's), (Start: 84 @64688 has 1 MA's), (104, 64781), (125, 64919),

Gene: Hamood\_58 Start: 39602, Stop: 39934, Start Num: 58

Candidate Starts for Hamood\_58:

(Start: 44 @39566 has 1 MA's), (Start: 58 @39602 has 195 MA's), (73, 39635), (80, 39656), (89, 39707), (104, 39767),

Gene: HanKaySha\_65 Start: 42999, Stop: 43331, Start Num: 58

Candidate Starts for HanKaySha\_65:

(Start: 58 @42999 has 195 MA's), (Start: 84 @43065 has 1 MA's), (89, 43095), (117, 43242), (125, 43296),

Gene: Harella\_65 Start: 44542, Stop: 44874, Start Num: 58

Candidate Starts for Harella\_65:

(Start: 58 @44542 has 195 MA's), (Start: 84 @44608 has 1 MA's), (89, 44638), (117, 44785), (125, 44839),

Gene: HedwigODU\_53 Start: 38771, Stop: 39121, Start Num: 52

Candidate Starts for HedwigODU\_53:

(Start: 52 @38771 has 70 MA's), (Start: 56 @38777 has 16 MA's), (68, 38801), (79, 38831), (119, 39047),

Gene: Heftyboy\_48 Start: 38138, Stop: 38476, Start Num: 58

Candidate Starts for Heftyboy\_48:

(2, 37655), (7, 37781), (Start: 58 @38138 has 195 MA's), (104, 38300), (116, 38378), (118, 38393), (119, 38402), (124, 38432),

Gene: Hirko\_75 Start: 46796, Stop: 47161, Start Num: 44

Candidate Starts for Hirko\_75:

(Start: 44 @46796 has 1 MA's), (87, 46922), (128, 47144),

Gene: HollowPurple\_91 Start: 51568, Stop: 51221, Start Num: 56

Candidate Starts for HollowPurple\_91:

(34, 51646), (Start: 56 @51568 has 16 MA's), (72, 51532), (77, 51520), (89, 51457), (92, 51442), (95, 51436), (106, 51391), (109, 51385),

Gene: Holt\_70 Start: 44103, Stop: 44435, Start Num: 58

Candidate Starts for Holt\_70:

(Start: 58 @44103 has 195 MA's), (Start: 84 @44169 has 1 MA's), (89, 44199), (117, 44346), (125, 44400),

Gene: Homura\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for Homura\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: Hoonter\_68 Start: 43689, Stop: 44021, Start Num: 58

Candidate Starts for Hoonter\_68:

(Start: 58 @43689 has 195 MA's), (Start: 84 @43755 has 1 MA's), (89, 43785), (117, 43932), (125, 43986),

Gene: Hopey\_65 Start: 43531, Stop: 43863, Start Num: 58

Candidate Starts for Hopey\_65:

(13, 43261), (16, 43279), (22, 43387), (Start: 58 @43531 has 195 MA's), (Start: 84 @43597 has 1 MA's), (89, 43627), (117, 43774), (125, 43828),

Gene: HufflyPuff\_68 Start: 44361, Stop: 44693, Start Num: 58

Candidate Starts for HufflyPuff\_68:

(13, 44091), (16, 44109), (22, 44217), (Start: 58 @44361 has 195 MA's), (Start: 84 @44427 has 1 MA's), (89, 44457), (117, 44604), (125, 44658),

Gene: HumptyDumpty\_97 Start: 62495, Stop: 62878, Start Num: 43

Candidate Starts for HumptyDumpty\_97:

(Start: 43 @62495 has 19 MA's), (Start: 44 @62501 has 1 MA's), (63, 62546), (72, 62570), (78, 62585), (81, 62594), (88, 62639), (91, 62654), (94, 62666), (102, 62690), (104, 62699), (107, 62720), (113, 62753), (121, 62816),

Gene: Hyperbowlee\_53 Start: 39083, Stop: 39433, Start Num: 52

Candidate Starts for Hyperbowlee\_53:

(Start: 52 @39083 has 70 MA's), (Start: 56 @39089 has 16 MA's), (68, 39113), (79, 39143), (119, 39359),

Gene: Icee\_66 Start: 43356, Stop: 43688, Start Num: 58

Candidate Starts for Icee\_66:

(Start: 58 @43356 has 195 MA's), (Start: 84 @43422 has 1 MA's), (89, 43452), (117, 43599), (125, 43653),

Gene: Illumine\_56 Start: 39527, Stop: 39877, Start Num: 53

Candidate Starts for Illumine\_56:

(Start: 53 @39527 has 17 MA's), (Start: 56 @39533 has 16 MA's), (68, 39557), (79, 39587), (119, 39803),

Gene: Inky\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for Inky\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: InvictusManeo\_47 Start: 37076, Stop: 37417, Start Num: 58

Candidate Starts for InvictusManeo\_47:

(32, 36992), (Start: 58 @37076 has 195 MA's), (73, 37112), (92, 37193), (100, 37220), (104, 37238), (111, 37277), (122, 37361),

Gene: Issa7\_89 Start: 51024, Stop: 50677, Start Num: 56

Candidate Starts for Issa7\_89:

(34, 51102), (Start: 56 @51024 has 16 MA's), (72, 50988), (77, 50976), (89, 50913), (92, 50898), (95, 50892), (115, 50796),

Gene: Itos\_56 Start: 41349, Stop: 41684, Start Num: 58

Candidate Starts for Itos\_56:

(Start: 58 @41349 has 195 MA's), (70, 41373), (77, 41388), (92, 41457), (110, 41532), (114, 41559), (125, 41646), (127, 41658), (128, 41661),

Gene: JAWS\_53 Start: 38760, Stop: 39110, Start Num: 52

Candidate Starts for JAWS\_53:

(Start: 52 @38760 has 70 MA's), (Start: 56 @38766 has 16 MA's), (68, 38790), (79, 38820), (119, 39036),

Gene: JaNo\_96 Start: 62466, Stop: 62849, Start Num: 43

Candidate Starts for JaNo\_96:

(Start: 43 @62466 has 19 MA's), (Start: 44 @62472 has 1 MA's), (63, 62517), (72, 62541), (78, 62556), (81, 62565), (88, 62610), (91, 62625), (94, 62637), (102, 62661), (104, 62670), (107, 62691), (113, 62724), (121, 62787),

Gene: Jace\_70 Start: 41191, Stop: 41544, Start Num: 60

Candidate Starts for Jace\_70:

(23, 41044), (40, 41131), (48, 41170), (Start: 60 @41191 has 7 MA's), (Start: 84 @41263 has 1 MA's), (89, 41290), (125, 41500),

Gene: Jarvi\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for Jarvi\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: JayCookie\_97 Start: 63028, Stop: 63411, Start Num: 43

Candidate Starts for JayCookie\_97:

(Start: 43 @63028 has 19 MA's), (Start: 44 @63034 has 1 MA's), (63, 63079), (72, 63103), (78, 63118), (81, 63127), (88, 63172), (91, 63187), (94, 63199), (102, 63223), (104, 63232), (107, 63253), (113, 63286), (121, 63349),

Gene: Jayhawk\_54 Start: 38769, Stop: 39119, Start Num: 52

Candidate Starts for Jayhawk\_54:

(Start: 52 @38769 has 70 MA's), (Start: 56 @38775 has 16 MA's), (68, 38799), (79, 38829), (119, 39045),

Gene: JeTaime\_65 Start: 44183, Stop: 44515, Start Num: 58

Candidate Starts for JeTaime\_65:

(Start: 58 @44183 has 195 MA's), (Start: 84 @44249 has 1 MA's), (89, 44279), (117, 44426), (125, 44480),

Gene: Jeckyll\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for Jeckyll\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: Jobypre\_56 Start: 42639, Stop: 42980, Start Num: 58

Candidate Starts for Jobypre\_56:

(Start: 58 @42639 has 195 MA's), (79, 42681), (110, 42825), (125, 42939),

Gene: Joy99\_53 Start: 38815, Stop: 39165, Start Num: 52

Candidate Starts for Joy99\_53:

(Start: 52 @38815 has 70 MA's), (Start: 56 @38821 has 16 MA's), (68, 38845), (79, 38875), (119, 39091),

Gene: Jubie\_55 Start: 42774, Stop: 43115, Start Num: 58

Candidate Starts for Jubie\_55:

(Start: 58 @42774 has 195 MA's), (79, 42816), (110, 42960), (125, 43074),

Gene: JuicyJay\_108 Start: 65744, Stop: 66079, Start Num: 58

Candidate Starts for JuicyJay\_108:

(Start: 58 @65744 has 195 MA's), (Start: 84 @65813 has 1 MA's), (104, 65906), (125, 66044),

Gene: KBurrousTX\_95 Start: 63905, Stop: 64288, Start Num: 43

Candidate Starts for KBurrousTX\_95:

(18, 63788), (Start: 43 @63905 has 19 MA's), (Start: 44 @63911 has 1 MA's), (65, 63959), (72, 63980), (74, 63986), (76, 63989), (78, 63995), (88, 64049), (91, 64064), (94, 64076), (100, 64094), (104, 64109), (107, 64130), (110, 64139), (121, 64226), (122, 64238), (128, 64268), (129, 64274),

Gene: Kabreeze\_97 Start: 62552, Stop: 62935, Start Num: 43

Candidate Starts for Kabreeze\_97:

(Start: 43 @62552 has 19 MA's), (Start: 44 @62558 has 1 MA's), (63, 62603), (72, 62627), (78, 62642), (81, 62651), (88, 62696), (91, 62711), (94, 62723), (102, 62747), (104, 62756), (107, 62777), (113, 62810), (121, 62873),

Gene: Kahlid\_57 Start: 42449, Stop: 42784, Start Num: 58

Candidate Starts for Kahlid\_57:

(Start: 58 @42449 has 195 MA's), (70, 42473), (77, 42488), (92, 42557), (110, 42632), (114, 42659), (125, 42746), (127, 42758), (128, 42761),

Gene: Kanye\_62 Start: 43038, Stop: 43370, Start Num: 58

Candidate Starts for Kanye\_62:

(Start: 58 @43038 has 195 MA's), (Start: 84 @43104 has 1 MA's), (89, 43134), (117, 43281), (125, 43335),

Gene: KashFlow\_104 Start: 59500, Stop: 59835, Start Num: 58

Candidate Starts for KashFlow\_104:

(Start: 58 @59500 has 195 MA's), (Start: 84 @59569 has 1 MA's), (104, 59662), (125, 59800),

Gene: KiSi\_57 Start: 39435, Stop: 39782, Start Num: 50

Candidate Starts for KiSi\_57:

(Start: 50 @39435 has 7 MA's), (68, 39465), (89, 39546), (116, 39684), (122, 39729), (127, 39756), (128, 39759),

Gene: Kimchi\_69 Start: 43692, Stop: 44024, Start Num: 58

Candidate Starts for Kimchi\_69:

(Start: 58 @43692 has 195 MA's), (Start: 84 @43758 has 1 MA's), (89, 43788), (117, 43935), (125, 43989),

Gene: Kingsolomon\_55 Start: 42646, Stop: 42987, Start Num: 58

Candidate Starts for Kingsolomon\_55:

(Start: 58 @42646 has 195 MA's), (110, 42832), (125, 42946),

Gene: KirDoubleO7\_54 Start: 42677, Stop: 43018, Start Num: 58

Candidate Starts for KirDoubleO7\_54:

(Start: 58 @42677 has 195 MA's), (110, 42863), (125, 42977), (127, 42989),

Gene: Kratio\_46 Start: 36625, Stop: 36966, Start Num: 58

Candidate Starts for Kratio\_46:

(Start: 58 @36625 has 195 MA's), (73, 36661), (92, 36742), (100, 36769), (104, 36787), (111, 36826), (122, 36910),

Gene: Kropertea\_53 Start: 41244, Stop: 41591, Start Num: 58

Candidate Starts for Kropertea\_53:

(Start: 58 @41244 has 195 MA's), (81, 41289), (96, 41364), (120, 41520), (125, 41550), (128, 41565),

Gene: Krueger\_60 Start: 39517, Stop: 39858, Start Num: 58

Candidate Starts for Krueger\_60:

(Start: 58 @39517 has 195 MA's), (81, 39574), (127, 39835),

Gene: Krypton555\_57 Start: 42871, Stop: 43212, Start Num: 58

Candidate Starts for Krypton555\_57:

(Start: 58 @42871 has 195 MA's), (110, 43057), (125, 43171), (127, 43183),

Gene: Larva\_49 Start: 38025, Stop: 38363, Start Num: 58

Candidate Starts for Larva\_49:

(Start: 58 @38025 has 195 MA's), (76, 38067), (79, 38076), (92, 38142), (111, 38226), (116, 38265), (118, 38280),

Gene: LastNadiia\_61 Start: 38916, Stop: 38524, Start Num: 36

Candidate Starts for LastNadiia\_61:

(26, 38943), (Start: 36 @38916 has 2 MA's), (66, 38838), (81, 38796), (83, 38781), (86, 38766), (88, 38751), (128, 38541), (129, 38535),

Gene: LaterM\_54 Start: 39652, Stop: 40002, Start Num: 53

Candidate Starts for LaterM\_54:

(Start: 53 @39652 has 17 MA's), (Start: 56 @39658 has 16 MA's), (68, 39682), (119, 39928),

Gene: Laure\_210 Start: 131198, Stop: 131542, Start Num: 56

Candidate Starts for Laure\_210:

(Start: 56 @131198 has 16 MA's), (76, 131237), (85, 131270), (115, 131429), (129, 131522),

Gene: Lavahound\_55 Start: 40141, Stop: 40485, Start Num: 50

Candidate Starts for Lavahound\_55:

(Start: 50 @40141 has 7 MA's), (79, 40198), (89, 40249), (116, 40387), (127, 40459),

Gene: LeMond\_57 Start: 39416, Stop: 39763, Start Num: 50

Candidate Starts for LeMond\_57:

(Start: 50 @39416 has 7 MA's), (68, 39446), (89, 39527), (116, 39665), (122, 39710), (127, 39737),

Gene: Leston\_48 Start: 38092, Stop: 38430, Start Num: 58

Candidate Starts for Leston\_48:

(Start: 58 @38092 has 195 MA's), (104, 38254), (116, 38332), (118, 38347), (119, 38356), (124, 38386),

Gene: Lewan\_58 Start: 42503, Stop: 42838, Start Num: 58

Candidate Starts for Lewan\_58:

(Start: 58 @42503 has 195 MA's), (70, 42527), (77, 42542), (92, 42611), (110, 42686), (114, 42713), (125, 42800), (127, 42812), (128, 42815),

Gene: LilDestine\_57 Start: 42476, Stop: 42811, Start Num: 58

Candidate Starts for LilDestine\_57:

(Start: 58 @42476 has 195 MA's), (70, 42500), (77, 42515), (92, 42584), (110, 42659), (114, 42686), (125, 42773), (127, 42785), (128, 42788),

Gene: LilDirt\_46 Start: 36834, Stop: 37175, Start Num: 58

Candidate Starts for LilDirt\_46:

(32, 36750), (Start: 58 @36834 has 195 MA's), (73, 36870), (92, 36951), (100, 36978), (104, 36996), (111, 37035), (122, 37119),

Gene: LilJank\_72 Start: 45663, Stop: 46004, Start Num: 58

Candidate Starts for LilJank\_72:

(Start: 58 @45663 has 195 MA's), (69, 45684), (71, 45690), (Start: 84 @45732 has 1 MA's), (88, 45759), (107, 45840), (110, 45849), (116, 45900), (130, 45990),

Gene: Lilac\_67 Start: 43316, Stop: 43648, Start Num: 58

Candidate Starts for Lilac\_67:

(13, 43046), (16, 43064), (22, 43172), (Start: 58 @43316 has 195 MA's), (Start: 84 @43382 has 1 MA's), (89, 43412), (117, 43559), (125, 43613),

Gene: Lilbeanie\_82 Start: 51693, Stop: 52034, Start Num: 58

Candidate Starts for Lilbeanie\_82:

(39, 51633), (Start: 58 @51693 has 195 MA's), (Start: 84 @51771 has 1 MA's), (109, 51885), (123, 51990), (127, 52011), (129, 52020),

Gene: Lilizi\_66 Start: 42990, Stop: 43322, Start Num: 58

Candidate Starts for Lilizi\_66:

(13, 42720), (16, 42738), (22, 42846), (Start: 58 @42990 has 195 MA's), (Start: 84 @43056 has 1 MA's), (89, 43086), (117, 43233), (125, 43287),

Gene: LindNT\_52 Start: 38974, Stop: 39324, Start Num: 52

Candidate Starts for LindNT\_52:

(Start: 52 @38974 has 70 MA's), (Start: 56 @38980 has 16 MA's), (68, 39004), (79, 39034), (119, 39250),

Gene: Linus\_97 Start: 63000, Stop: 63383, Start Num: 43

Candidate Starts for Linus\_97:

(Start: 43 @63000 has 19 MA's), (Start: 44 @63006 has 1 MA's), (63, 63051), (72, 63075), (78, 63090), (81, 63099), (88, 63144), (91, 63159), (94, 63171), (104, 63204), (107, 63225), (113, 63258), (121, 63321),

Gene: LiyuLake\_55 Start: 42693, Stop: 43034, Start Num: 58

Candidate Starts for LiyuLake\_55:

(Start: 58 @42693 has 195 MA's), (110, 42879), (125, 42993), (127, 43005),

Gene: Llorens\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for Llorens\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: Loadrie\_56 Start: 42531, Stop: 42866, Start Num: 58

Candidate Starts for Loadrie\_56:

(Start: 58 @42531 has 195 MA's), (70, 42555), (77, 42570), (92, 42639), (110, 42714), (114, 42741), (125, 42828), (127, 42840), (128, 42843),

Gene: Lolly9\_55 Start: 42464, Stop: 42805, Start Num: 58

Candidate Starts for Lolly9\_55:

(Start: 58 @42464 has 195 MA's), (92, 42575), (110, 42650), (124, 42758), (125, 42764), (127, 42776),

Gene: Lozinak\_10 Start: 2375, Stop: 2713, Start Num: 57

Candidate Starts for Lozinak\_10:

(Start: 57 @2375 has 14 MA's), (Start: 84 @2444 has 1 MA's), (123, 2663),

Gene: Lucky2013\_104 Start: 59065, Stop: 59400, Start Num: 58

Candidate Starts for Lucky2013\_104:

(Start: 58 @59065 has 195 MA's), (Start: 84 @59134 has 1 MA's), (104, 59227), (125, 59365),

Gene: Lumos\_57 Start: 42636, Stop: 42977, Start Num: 58

Candidate Starts for Lumos\_57:

(Start: 58 @42636 has 195 MA's), (79, 42678), (110, 42822), (125, 42936),

Gene: Lunahalos\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for Lunahalos\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: Lyell\_90 Start: 51220, Stop: 50873, Start Num: 56

Candidate Starts for Lyell\_90:

(34, 51298), (Start: 56 @51220 has 16 MA's), (72, 51184), (77, 51172), (89, 51109), (92, 51094), (95, 51088), (115, 50992),

Gene: Lymara\_94 Start: 61459, Stop: 61842, Start Num: 43

Candidate Starts for Lymara\_94:

(Start: 43 @61459 has 19 MA's), (Start: 44 @61465 has 1 MA's), (65, 61513), (72, 61534), (74, 61540), (78, 61549), (88, 61603), (91, 61618), (94, 61630), (102, 61654), (104, 61663), (121, 61780), (128, 61822),

Gene: Lynnae\_58 Start: 42474, Stop: 42809, Start Num: 58

Candidate Starts for Lynnae\_58:

(Start: 58 @42474 has 195 MA's), (70, 42498), (77, 42513), (92, 42582), (110, 42657), (114, 42684), (125, 42771), (127, 42783), (128, 42786),

Gene: MISSy\_66 Start: 43414, Stop: 43746, Start Num: 58

Candidate Starts for MISSy\_66:

(13, 43144), (16, 43162), (22, 43270), (Start: 58 @43414 has 195 MA's), (Start: 84 @43480 has 1 MA's), (89, 43510), (117, 43657), (125, 43711),

Gene: MPhalcon\_66 Start: 43407, Stop: 43739, Start Num: 58

Candidate Starts for MPhalcon\_66:

(13, 43137), (16, 43155), (22, 43263), (Start: 58 @43407 has 195 MA's), (Start: 84 @43473 has 1 MA's), (89, 43503), (117, 43650), (125, 43704),

Gene: MaVan\_56 Start: 41910, Stop: 42248, Start Num: 60

Candidate Starts for MaVan\_56:

(10, 41589), (11, 41601), (Start: 60 @41910 has 7 MA's), (72, 41937), (80, 41961), (Start: 84 @41979 has 1 MA's), (110, 42099), (115, 42138), (129, 42231),

Gene: MacKat\_48 Start: 34234, Stop: 34584, Start Num: 53

Candidate Starts for MacKat\_48:

(Start: 53 @34234 has 17 MA's), (Start: 56 @34240 has 16 MA's), (68, 34264), (79, 34294), (119, 34510),

Gene: Makima\_61 Start: 38449, Stop: 38051, Start Num: 35

Candidate Starts for Makima\_61:

(35, 38449), (74, 38341), (83, 38308), (88, 38278), (128, 38068), (129, 38062),

Gene: MalagasyRose\_56 Start: 38407, Stop: 38751, Start Num: 51

Candidate Starts for MalagasyRose\_56:

(Start: 51 @38407 has 1 MA's), (59, 38416), (69, 38434), (71, 38440), (Start: 84 @38482 has 1 MA's), (89, 38512), (92, 38527), (100, 38557), (110, 38602), (127, 38725),

Gene: MarkPhew\_56 Start: 39122, Stop: 39454, Start Num: 62

Candidate Starts for MarkPhew\_56:

(55, 39113), (Start: 62 @39122 has 1 MA's), (68, 39137), (89, 39218), (127, 39428),

Gene: Marshmallow\_63 Start: 44184, Stop: 44516, Start Num: 58

Candidate Starts for Marshmallow\_63:

(Start: 58 @44184 has 195 MA's), (Start: 84 @44250 has 1 MA's), (89, 44280), (117, 44427), (125, 44481),

Gene: MarysWell\_43 Start: 34814, Stop: 34485, Start Num: 64

Candidate Starts for MarysWell\_43:

(Start: 64 @34814 has 3 MA's), (Start: 84 @34748 has 1 MA's), (96, 34694), (103, 34667), (107, 34643), (109, 34637), (129, 34502),

Gene: Maxxinista\_67 Start: 43286, Stop: 43618, Start Num: 58

Candidate Starts for Maxxinista\_67:

(13, 43016), (16, 43034), (22, 43142), (Start: 58 @43286 has 195 MA's), (Start: 84 @43352 has 1 MA's), (89, 43382), (117, 43529), (125, 43583),

Gene: McMater\_56 Start: 39469, Stop: 39807, Start Num: 54

Candidate Starts for McMater\_56:

(Start: 54 @39469 has 4 MA's), (77, 39511), (79, 39517), (92, 39583), (127, 39781),

Gene: MeaningOfLife\_54 Start: 39641, Stop: 39991, Start Num: 52

Candidate Starts for MeaningOfLife\_54:

(Start: 52 @39641 has 70 MA's), (Start: 56 @39647 has 16 MA's), (68, 39671), (79, 39701), (81, 39704), (119, 39917),

Gene: Megsy\_55 Start: 39042, Stop: 39392, Start Num: 52

Candidate Starts for Megsy\_55:

(Start: 52 @39042 has 70 MA's), (68, 39072), (111, 39252), (119, 39318),

Gene: MiaZeal\_107 Start: 59696, Stop: 60031, Start Num: 58

Candidate Starts for MiaZeal\_107:

(Start: 58 @59696 has 195 MA's), (Start: 84 @59765 has 1 MA's), (104, 59858), (125, 59996),

Gene: Miley16\_57 Start: 42443, Stop: 42778, Start Num: 58

Candidate Starts for Miley16\_57:

(Start: 58 @42443 has 195 MA's), (70, 42467), (77, 42482), (92, 42551), (110, 42626), (114, 42653), (125, 42740), (127, 42752), (128, 42755),

Gene: MiniLon\_59 Start: 42465, Stop: 42806, Start Num: 58

Candidate Starts for MiniLon\_59:

(Start: 58 @42465 has 195 MA's), (92, 42576), (110, 42651), (124, 42759), (125, 42765), (127, 42777),

Gene: MiniMac\_59 Start: 42463, Stop: 42804, Start Num: 58  
Candidate Starts for MiniMac\_59:  
(Start: 58 @42463 has 195 MA's), (92, 42574), (110, 42649), (124, 42757), (125, 42763), (127, 42775),

Gene: Miryou\_51 Start: 40294, Stop: 40632, Start Num: 58  
Candidate Starts for Miryou\_51:  
(Start: 58 @40294 has 195 MA's), (104, 40456), (116, 40534), (118, 40549), (119, 40558), (124, 40588),

Gene: Misfit\_66 Start: 44426, Stop: 44758, Start Num: 58  
Candidate Starts for Misfit\_66:  
(13, 44156), (16, 44174), (22, 44282), (Start: 58 @44426 has 195 MA's), (Start: 84 @44492 has 1 MA's), (89, 44522), (117, 44669), (125, 44723),

Gene: Miskis\_8 Start: 2444, Stop: 2713, Start Num: 84  
Candidate Starts for Miskis\_8:  
(Start: 57 @2375 has 14 MA's), (Start: 84 @2444 has 1 MA's), (123, 2663),

Gene: MkaliMitinis3\_58 Start: 42515, Stop: 42850, Start Num: 58  
Candidate Starts for MkaliMitinis3\_58:  
(Start: 58 @42515 has 195 MA's), (70, 42539), (77, 42554), (92, 42623), (110, 42698), (114, 42725), (125, 42812), (127, 42824), (128, 42827),

Gene: ModicumRichard\_85 Start: 52045, Stop: 52392, Start Num: 49  
Candidate Starts for ModicumRichard\_85:  
(37, 51994), (Start: 49 @52045 has 5 MA's), (70, 52078), (78, 52099), (Start: 84 @52126 has 1 MA's),

Gene: MollyToe\_60 Start: 42256, Stop: 42588, Start Num: 58  
Candidate Starts for MollyToe\_60:  
(Start: 58 @42256 has 195 MA's), (Start: 84 @42322 has 1 MA's), (89, 42352), (117, 42499), (125, 42553),

Gene: Moostard\_55 Start: 42642, Stop: 42983, Start Num: 58  
Candidate Starts for Moostard\_55:  
(Start: 58 @42642 has 195 MA's), (110, 42828), (125, 42942),

Gene: Mordred\_97 Start: 62591, Stop: 62974, Start Num: 43  
Candidate Starts for Mordred\_97:  
(Start: 43 @62591 has 19 MA's), (Start: 44 @62597 has 1 MA's), (63, 62642), (72, 62666), (78, 62681), (81, 62690), (88, 62735), (91, 62750), (94, 62762), (102, 62786), (104, 62795), (107, 62816), (113, 62849), (121, 62912),

Gene: Morgana\_92 Start: 54214, Stop: 54561, Start Num: 49  
Candidate Starts for Morgana\_92:  
(Start: 49 @54214 has 5 MA's), (70, 54247), (78, 54268), (Start: 84 @54295 has 1 MA's),

Gene: Mosby\_61 Start: 42709, Stop: 43041, Start Num: 58  
Candidate Starts for Mosby\_61:  
(13, 42439), (16, 42457), (22, 42565), (Start: 58 @42709 has 195 MA's), (Start: 84 @42775 has 1 MA's), (89, 42805), (117, 42952), (125, 43006),

Gene: MoyaNatalis\_96 Start: 62474, Stop: 62857, Start Num: 43  
Candidate Starts for MoyaNatalis\_96:

(Start: 43 @62474 has 19 MA's), (Start: 44 @62480 has 1 MA's), (63, 62525), (72, 62549), (78, 62564), (81, 62573), (88, 62618), (91, 62633), (94, 62645), (102, 62669), (104, 62678), (107, 62699), (113, 62732), (121, 62795),

Gene: MsGreen\_56 Start: 42639, Stop: 42980, Start Num: 58

Candidate Starts for MsGreen\_56:

(Start: 58 @42639 has 195 MA's), (79, 42681), (110, 42825), (125, 42939),

Gene: Mulch\_57 Start: 38831, Stop: 39163, Start Num: 58

Candidate Starts for Mulch\_57:

(38, 38768), (Start: 44 @38795 has 1 MA's), (Start: 58 @38831 has 195 MA's), (73, 38864), (80, 38885), (89, 38936), (104, 38996),

Gene: Murica\_68 Start: 44361, Stop: 44693, Start Num: 58

Candidate Starts for Murica\_68:

(13, 44091), (16, 44109), (22, 44217), (Start: 58 @44361 has 195 MA's), (Start: 84 @44427 has 1 MA's), (89, 44457), (117, 44604), (125, 44658),

Gene: Murucutumbu\_54 Start: 39751, Stop: 40101, Start Num: 53

Candidate Starts for Murucutumbu\_54:

(Start: 53 @39751 has 17 MA's), (Start: 56 @39757 has 16 MA's), (68, 39781), (119, 40027),

Gene: Musetta\_89 Start: 51559, Stop: 51212, Start Num: 56

Candidate Starts for Musetta\_89:

(34, 51637), (Start: 56 @51559 has 16 MA's), (72, 51523), (77, 51511), (89, 51448), (92, 51433), (95, 51427), (115, 51331),

Gene: Mynx\_54 Start: 39090, Stop: 39440, Start Num: 52

Candidate Starts for Mynx\_54:

(Start: 52 @39090 has 70 MA's), (Start: 56 @39096 has 16 MA's), (68, 39120), (79, 39150), (119, 39366),

Gene: Myrale\_65 Start: 44049, Stop: 44381, Start Num: 58

Candidate Starts for Myrale\_65:

(Start: 58 @44049 has 195 MA's), (Start: 84 @44115 has 1 MA's), (89, 44145), (117, 44292), (125, 44346),

Gene: Nadeem\_57 Start: 38819, Stop: 39151, Start Num: 58

Candidate Starts for Nadeem\_57:

(38, 38756), (Start: 44 @38783 has 1 MA's), (Start: 58 @38819 has 195 MA's), (73, 38852), (80, 38873), (89, 38924), (104, 38984),

Gene: Nala\_67 Start: 43919, Stop: 44251, Start Num: 58

Candidate Starts for Nala\_67:

(13, 43649), (16, 43667), (22, 43775), (Start: 58 @43919 has 195 MA's), (Start: 84 @43985 has 1 MA's), (89, 44015), (117, 44162), (125, 44216),

Gene: NancyRae\_56 Start: 38817, Stop: 39149, Start Num: 58

Candidate Starts for NancyRae\_56:

(Start: 44 @38781 has 1 MA's), (Start: 58 @38817 has 195 MA's), (73, 38850), (80, 38871), (89, 38922), (104, 38982),

Gene: Necrophoxinus\_92 Start: 51906, Stop: 51559, Start Num: 56

Candidate Starts for Necrophoxinus\_92:

(34, 51984), (Start: 56 @51906 has 16 MA's), (72, 51870), (77, 51858), (89, 51795), (92, 51780), (95, 51774), (115, 51678),

Gene: Neighly\_50 Start: 38024, Stop: 38362, Start Num: 58

Candidate Starts for Neighly\_50:

(Start: 58 @38024 has 195 MA's), (76, 38066), (79, 38075), (92, 38141), (111, 38225), (116, 38264), (118, 38279),

Gene: Nekros\_110 Start: 62621, Stop: 62956, Start Num: 58

Candidate Starts for Nekros\_110:

(Start: 58 @62621 has 195 MA's), (Start: 84 @62690 has 1 MA's), (104, 62783), (125, 62921),

Gene: NelitzaMV\_63 Start: 42998, Stop: 43330, Start Num: 58

Candidate Starts for NelitzaMV\_63:

(Start: 58 @42998 has 195 MA's), (Start: 84 @43064 has 1 MA's), (89, 43094), (117, 43241), (125, 43295),

Gene: Nergal\_50 Start: 36801, Stop: 37136, Start Num: 58

Candidate Starts for Nergal\_50:

(41, 36756), (Start: 58 @36801 has 195 MA's), (78, 36846), (122, 37083), (125, 37098), (127, 37110), (128, 37113),

Gene: Netyap\_58 Start: 42444, Stop: 42779, Start Num: 58

Candidate Starts for Netyap\_58:

(Start: 58 @42444 has 195 MA's), (70, 42468), (77, 42483), (92, 42552), (110, 42627), (114, 42654), (125, 42741), (127, 42753), (128, 42756),

Gene: Neuville\_60 Start: 35929, Stop: 35534, Start Num: 36

Candidate Starts for Neuville\_60:

(21, 36010), (28, 35959), (31, 35953), (Start: 36 @35929 has 2 MA's), (76, 35818), (77, 35815), (83, 35788), (93, 35737),

Gene: Neville\_70 Start: 44606, Stop: 44950, Start Num: 58

Candidate Starts for Neville\_70:

(14, 44336), (19, 44444), (27, 44501), (30, 44507), (37, 44540), (Start: 58 @44606 has 195 MA's), (69, 44627), (Start: 84 @44675 has 1 MA's), (88, 44702), (107, 44783), (110, 44792), (123, 44894), (130, 44933),

Gene: Nibb\_55 Start: 38811, Stop: 39158, Start Num: 50

Candidate Starts for Nibb\_55:

(Start: 50 @38811 has 7 MA's), (Start: 58 @38820 has 195 MA's), (79, 38871), (89, 38922), (127, 39132),

Gene: Nibbles\_55 Start: 41590, Stop: 41928, Start Num: 60

Candidate Starts for Nibbles\_55:

(11, 41281), (Start: 60 @41590 has 7 MA's), (72, 41617), (80, 41641), (Start: 84 @41659 has 1 MA's), (110, 41779), (115, 41818), (129, 41911),

Gene: Nibley\_100 Start: 59087, Stop: 59422, Start Num: 58

Candidate Starts for Nibley\_100:

(Start: 58 @59087 has 195 MA's), (Start: 84 @59156 has 1 MA's), (104, 59249), (125, 59387),

Gene: Nicholas\_55 Start: 42646, Stop: 42987, Start Num: 58  
Candidate Starts for Nicholas\_55:  
(Start: 58 @42646 has 195 MA's), (110, 42832), (125, 42946),

Gene: Nicholasp3\_57 Start: 42479, Stop: 42814, Start Num: 58  
Candidate Starts for Nicholasp3\_57:  
(Start: 58 @42479 has 195 MA's), (70, 42503), (77, 42518), (92, 42587), (110, 42662), (114, 42689),  
(125, 42776), (127, 42788), (128, 42791),

Gene: Niklas\_56 Start: 39530, Stop: 39868, Start Num: 54  
Candidate Starts for Niklas\_56:  
(Start: 54 @39530 has 4 MA's), (77, 39572), (79, 39578), (92, 39644), (127, 39842),

Gene: Nimrod\_66 Start: 44619, Stop: 44951, Start Num: 58  
Candidate Starts for Nimrod\_66:  
(13, 44349), (16, 44367), (22, 44475), (Start: 58 @44619 has 195 MA's), (Start: 84 @44685 has 1  
MA's), (89, 44715), (117, 44862), (125, 44916),

Gene: Norvs\_10 Start: 2375, Stop: 2713, Start Num: 57  
Candidate Starts for Norvs\_10:  
(Start: 57 @2375 has 14 MA's), (Start: 84 @2444 has 1 MA's), (123, 2663),

Gene: ObLaDi\_85 Start: 52071, Stop: 52418, Start Num: 49  
Candidate Starts for ObLaDi\_85:  
(Start: 49 @52071 has 5 MA's), (70, 52104), (78, 52125), (Start: 84 @52152 has 1 MA's),

Gene: OkiRoe\_48 Start: 37965, Stop: 38303, Start Num: 58  
Candidate Starts for OkiRoe\_48:  
(Start: 58 @37965 has 195 MA's), (104, 38127), (116, 38205), (118, 38220), (119, 38229), (124,  
38259),

Gene: Omnicron\_51 Start: 37572, Stop: 37910, Start Num: 58  
Candidate Starts for Omnicron\_51:  
(3, 37089), (12, 37275), (Start: 58 @37572 has 195 MA's), (73, 37608), (76, 37614), (104, 37734),  
(116, 37812), (118, 37827), (119, 37836), (125, 37872),

Gene: OrionPax\_64 Start: 43004, Stop: 43336, Start Num: 58  
Candidate Starts for OrionPax\_64:  
(Start: 58 @43004 has 195 MA's), (Start: 84 @43070 has 1 MA's), (89, 43100), (117, 43247), (125,  
43301),

Gene: Oscar\_57 Start: 39321, Stop: 39668, Start Num: 50  
Candidate Starts for Oscar\_57:  
(Start: 50 @39321 has 7 MA's), (68, 39351), (89, 39432), (116, 39570), (122, 39615), (127, 39642),

Gene: OverPar\_58 Start: 42531, Stop: 42866, Start Num: 58  
Candidate Starts for OverPar\_58:  
(Start: 58 @42531 has 195 MA's), (70, 42555), (77, 42570), (92, 42639), (110, 42714), (114, 42741),  
(125, 42828), (127, 42840), (128, 42843),

Gene: PSonyx\_49 Start: 34991, Stop: 34641, Start Num: 56  
Candidate Starts for PSonyx\_49:  
(Start: 56 @34991 has 16 MA's), (82, 34925), (125, 34688),

Gene: PYPDinur\_53 Start: 41170, Stop: 41517, Start Num: 58

Candidate Starts for PYPDinur\_53:

(Start: 58 @41170 has 195 MA's), (81, 41215), (104, 41335), (120, 41446), (125, 41476), (128, 41491),

Gene: PaddyBaddy\_65 Start: 43010, Stop: 43342, Start Num: 58

Candidate Starts for PaddyBaddy\_65:

(13, 42740), (16, 42758), (22, 42866), (Start: 58 @43010 has 195 MA's), (Start: 84 @43076 has 1 MA's), (89, 43106), (117, 43253), (125, 43307),

Gene: Padfoot\_53 Start: 39083, Stop: 39433, Start Num: 52

Candidate Starts for Padfoot\_53:

(Start: 52 @39083 has 70 MA's), (Start: 56 @39089 has 16 MA's), (68, 39113), (79, 39143), (119, 39359),

Gene: Padpat\_55 Start: 38765, Stop: 39115, Start Num: 52

Candidate Starts for Padpat\_55:

(Start: 52 @38765 has 70 MA's), (Start: 56 @38771 has 16 MA's), (68, 38795), (79, 38825), (119, 39041),

Gene: Palpatine\_67 Start: 44391, Stop: 44723, Start Num: 58

Candidate Starts for Palpatine\_67:

(13, 44121), (16, 44139), (22, 44247), (Start: 58 @44391 has 195 MA's), (Start: 84 @44457 has 1 MA's), (89, 44487), (117, 44634), (125, 44688),

Gene: Paola\_48 Start: 37963, Stop: 38301, Start Num: 58

Candidate Starts for Paola\_48:

(Start: 58 @37963 has 195 MA's), (104, 38125), (116, 38203), (118, 38218), (119, 38227),

Gene: Parada\_57 Start: 38831, Stop: 39163, Start Num: 58

Candidate Starts for Parada\_57:

(38, 38768), (Start: 44 @38795 has 1 MA's), (Start: 58 @38831 has 195 MA's), (73, 38864), (80, 38885), (89, 38936), (104, 38996),

Gene: Pat3\_63 Start: 42153, Stop: 42485, Start Num: 58

Candidate Starts for Pat3\_63:

(Start: 58 @42153 has 195 MA's), (Start: 84 @42219 has 1 MA's), (89, 42249), (117, 42396), (125, 42450),

Gene: Peanam\_56 Start: 39488, Stop: 39826, Start Num: 54

Candidate Starts for Peanam\_56:

(Start: 54 @39488 has 4 MA's), (77, 39530), (79, 39536), (92, 39602), (127, 39800),

Gene: Peel\_53 Start: 38888, Stop: 39238, Start Num: 52

Candidate Starts for Peel\_53:

(Start: 52 @38888 has 70 MA's), (Start: 56 @38894 has 16 MA's), (68, 38918), (79, 38948), (119, 39164),

Gene: Petra64142\_69 Start: 44855, Stop: 45187, Start Num: 58

Candidate Starts for Petra64142\_69:

(13, 44585), (16, 44603), (22, 44711), (Start: 58 @44855 has 195 MA's), (Start: 84 @44921 has 1 MA's), (89, 44951), (117, 45098), (125, 45152),

Gene: Pharb\_52 Start: 38109, Stop: 38447, Start Num: 61  
Candidate Starts for Pharb\_52:  
(Start: 61 @38109 has 2 MA's), (71, 38133), (79, 38154), (83, 38169), (96, 38229), (103, 38268), (127, 38424), (128, 38427),

Gene: PhatBacter\_69 Start: 44405, Stop: 44737, Start Num: 58  
Candidate Starts for PhatBacter\_69:  
(13, 44135), (16, 44153), (22, 44261), (Start: 58 @44405 has 195 MA's), (Start: 84 @44471 has 1 MA's), (89, 44501), (117, 44648), (125, 44702),

Gene: Phaux\_67 Start: 44403, Stop: 44735, Start Num: 58  
Candidate Starts for Phaux\_67:  
(13, 44133), (16, 44151), (22, 44259), (Start: 58 @44403 has 195 MA's), (Start: 84 @44469 has 1 MA's), (89, 44499), (117, 44646), (125, 44700),

Gene: PhelpsODU\_55 Start: 38455, Stop: 38796, Start Num: 58  
Candidate Starts for PhelpsODU\_55:  
(Start: 58 @38455 has 195 MA's), (81, 38512), (127, 38773),

Gene: PhinkBoden\_11 Start: 2875, Stop: 3213, Start Num: 57  
Candidate Starts for PhinkBoden\_11:  
(Start: 57 @2875 has 14 MA's), (Start: 84 @2944 has 1 MA's), (123, 3163), (129, 3193),

Gene: Phrank\_57 Start: 38516, Stop: 38863, Start Num: 58  
Candidate Starts for Phrank\_57:  
(Start: 58 @38516 has 195 MA's), (81, 38573), (127, 38834), (129, 38843),

Gene: Piatt\_53 Start: 39083, Stop: 39433, Start Num: 52  
Candidate Starts for Piatt\_53:  
(Start: 52 @39083 has 70 MA's), (Start: 56 @39089 has 16 MA's), (68, 39113), (79, 39143), (119, 39359),

Gene: Pimento\_59 Start: 38730, Stop: 39062, Start Num: 58  
Candidate Starts for Pimento\_59:  
(38, 38667), (Start: 44 @38694 has 1 MA's), (Start: 56 @38727 has 16 MA's), (Start: 58 @38730 has 195 MA's), (73, 38763), (80, 38784), (89, 38835), (104, 38895),

Gene: Pisa1\_53 Start: 39744, Stop: 40094, Start Num: 53  
Candidate Starts for Pisa1\_53:  
(Start: 53 @39744 has 17 MA's), (Start: 56 @39750 has 16 MA's), (68, 39774), (79, 39804), (119, 40020),

Gene: Pisa4\_47 Start: 35113, Stop: 35463, Start Num: 53  
Candidate Starts for Pisa4\_47:  
(Start: 53 @35113 has 17 MA's), (Start: 56 @35119 has 16 MA's), (68, 35143), (79, 35173), (119, 35389),

Gene: Pokerus\_52 Start: 38818, Stop: 39168, Start Num: 52  
Candidate Starts for Pokerus\_52:  
(Start: 52 @38818 has 70 MA's), (Start: 56 @38824 has 16 MA's), (68, 38848), (79, 38878), (119, 39094),

Gene: Policronamos\_68 Start: 44403, Stop: 44735, Start Num: 58

Candidate Starts for Policronamos\_68:  
(13, 44133), (16, 44151), (22, 44259), (Start: 58 @44403 has 195 MA's), (Start: 84 @44469 has 1 MA's), (89, 44499), (117, 44646), (125, 44700),

Gene: Poochiewood\_54 Start: 40600, Stop: 40935, Start Num: 58  
Candidate Starts for Poochiewood\_54:  
(Start: 58 @40600 has 195 MA's), (92, 40711), (120, 40867), (125, 40897),

Gene: Porcelain\_105 Start: 59693, Stop: 60028, Start Num: 58  
Candidate Starts for Porcelain\_105:  
(Start: 58 @59693 has 195 MA's), (Start: 84 @59762 has 1 MA's), (104, 59855), (125, 59993),

Gene: PrincessTrina\_98 Start: 62782, Stop: 63165, Start Num: 43  
Candidate Starts for PrincessTrina\_98:  
(Start: 43 @62782 has 19 MA's), (Start: 44 @62788 has 1 MA's), (63, 62833), (72, 62857), (78, 62872), (81, 62881), (88, 62926), (91, 62941), (94, 62953), (102, 62977), (104, 62986), (107, 63007), (113, 63040), (121, 63103),

Gene: Prithvi\_54 Start: 38974, Stop: 39324, Start Num: 52  
Candidate Starts for Prithvi\_54:  
(Start: 52 @38974 has 70 MA's), (Start: 56 @38980 has 16 MA's), (68, 39004), (79, 39034), (119, 39250),

Gene: Psycho\_48 Start: 37150, Stop: 37488, Start Num: 58  
Candidate Starts for Psycho\_48:  
(Start: 58 @37150 has 195 MA's), (79, 37201), (92, 37267), (111, 37351), (116, 37390), (118, 37405),

Gene: Pumpkin\_68 Start: 44054, Stop: 44386, Start Num: 58  
Candidate Starts for Pumpkin\_68:  
(Start: 58 @44054 has 195 MA's), (Start: 84 @44120 has 1 MA's), (89, 44150), (117, 44297), (125, 44351),

Gene: Quallification\_66 Start: 44038, Stop: 44370, Start Num: 58  
Candidate Starts for Quallification\_66:  
(Start: 58 @44038 has 195 MA's), (Start: 84 @44104 has 1 MA's), (89, 44134), (117, 44281), (125, 44335),

Gene: Quby\_54 Start: 41023, Stop: 41370, Start Num: 58  
Candidate Starts for Quby\_54:  
(Start: 58 @41023 has 195 MA's), (81, 41068), (120, 41299), (125, 41329), (128, 41344),

Gene: QuincyRose\_52 Start: 39147, Stop: 39497, Start Num: 52  
Candidate Starts for QuincyRose\_52:  
(Start: 52 @39147 has 70 MA's), (Start: 56 @39153 has 16 MA's), (68, 39177), (79, 39207), (83, 39225), (119, 39423),

Gene: Ramen\_54 Start: 38773, Stop: 39123, Start Num: 52  
Candidate Starts for Ramen\_54:  
(Start: 52 @38773 has 70 MA's), (Start: 56 @38779 has 16 MA's), (68, 38803), (79, 38833), (119, 39049),

Gene: Rando14\_50 Start: 36149, Stop: 36487, Start Num: 58  
Candidate Starts for Rando14\_50:

(Start: 58 @36149 has 195 MA's), (73, 36185), (76, 36191), (104, 36311), (116, 36389), (119, 36413),

Gene: Rapunzel97\_54 Start: 38769, Stop: 39119, Start Num: 52

Candidate Starts for Rapunzel97\_54:

(Start: 52 @38769 has 70 MA's), (Start: 56 @38775 has 16 MA's), (68, 38799), (79, 38829), (119, 39045),

Gene: Red305\_56 Start: 42639, Stop: 42980, Start Num: 58

Candidate Starts for Red305\_56:

(Start: 58 @42639 has 195 MA's), (79, 42681), (110, 42825), (125, 42939),

Gene: Redno2\_103 Start: 60400, Stop: 60735, Start Num: 58

Candidate Starts for Redno2\_103:

(Start: 58 @60400 has 195 MA's), (Start: 84 @60469 has 1 MA's), (104, 60562), (125, 60700),

Gene: Richo\_56 Start: 39469, Stop: 39807, Start Num: 54

Candidate Starts for Richo\_56:

(Start: 54 @39469 has 4 MA's), (77, 39511), (79, 39517), (92, 39583), (127, 39781),

Gene: Rimmer\_66 Start: 43746, Stop: 44078, Start Num: 58

Candidate Starts for Rimmer\_66:

(Start: 58 @43746 has 195 MA's), (Start: 84 @43812 has 1 MA's), (89, 43842), (117, 43989), (125, 44043),

Gene: RiverMonster\_65 Start: 43574, Stop: 43906, Start Num: 58

Candidate Starts for RiverMonster\_65:

(13, 43304), (16, 43322), (22, 43430), (Start: 58 @43574 has 195 MA's), (Start: 84 @43640 has 1 MA's), (89, 43670), (117, 43817), (125, 43871),

Gene: Roberts\_60 Start: 35929, Stop: 35534, Start Num: 36

Candidate Starts for Roberts\_60:

(21, 36010), (28, 35959), (31, 35953), (Start: 36 @35929 has 2 MA's), (76, 35818), (77, 35815), (83, 35788), (93, 35737),

Gene: Rose5\_54 Start: 40612, Stop: 40947, Start Num: 58

Candidate Starts for Rose5\_54:

(Start: 58 @40612 has 195 MA's), (92, 40723), (120, 40879), (125, 40909),

Gene: RosiePosie\_97 Start: 62647, Stop: 63030, Start Num: 43

Candidate Starts for RosiePosie\_97:

(Start: 43 @62647 has 19 MA's), (Start: 44 @62653 has 1 MA's), (63, 62698), (72, 62722), (78, 62737), (81, 62746), (88, 62791), (91, 62806), (94, 62818), (102, 62842), (104, 62851), (107, 62872), (113, 62905), (121, 62968),

Gene: Rosmarinus\_53 Start: 38874, Stop: 39224, Start Num: 52

Candidate Starts for Rosmarinus\_53:

(Start: 52 @38874 has 70 MA's), (Start: 56 @38880 has 16 MA's), (68, 38904), (79, 38934), (119, 39150),

Gene: Rossetti\_58 Start: 43025, Stop: 43360, Start Num: 58

Candidate Starts for Rossetti\_58:

(Start: 58 @43025 has 195 MA's), (70, 43049), (77, 43064), (92, 43133), (114, 43235), (125, 43322), (127, 43334), (128, 43337),

Gene: Rumpelstiltskin\_56 Start: 41872, Stop: 42207, Start Num: 58  
Candidate Starts for Rumpelstiltskin\_56:  
(Start: 58 @41872 has 195 MA's), (70, 41896), (77, 41911), (92, 41980), (110, 42055), (114, 42082),  
(125, 42169), (127, 42181), (128, 42184),

Gene: RunningBrook\_92 Start: 52270, Stop: 51923, Start Num: 56  
Candidate Starts for RunningBrook\_92:  
(34, 52348), (Start: 56 @52270 has 16 MA's), (72, 52234), (77, 52222), (89, 52159), (92, 52144), (95,  
52138), (115, 52042),

Gene: Samty\_56 Start: 42647, Stop: 42988, Start Num: 58  
Candidate Starts for Samty\_56:  
(Start: 58 @42647 has 195 MA's), (110, 42833), (125, 42947), (127, 42959),

Gene: SamuelLPlaqson\_54 Start: 39665, Stop: 40015, Start Num: 53  
Candidate Starts for SamuelLPlaqson\_54:  
(Start: 53 @39665 has 17 MA's), (Start: 56 @39671 has 16 MA's), (68, 39695), (79, 39725), (119,  
39941),

Gene: Sarshaun\_57 Start: 42539, Stop: 42874, Start Num: 58  
Candidate Starts for Sarshaun\_57:  
(Start: 58 @42539 has 195 MA's), (70, 42563), (77, 42578), (92, 42647), (110, 42722), (114, 42749),  
(125, 42836), (127, 42848), (128, 42851),

Gene: Sassay\_60 Start: 41671, Stop: 42003, Start Num: 58  
Candidate Starts for Sassay\_60:  
(Start: 58 @41671 has 195 MA's), (Start: 84 @41737 has 1 MA's), (89, 41767), (117, 41914), (125,  
41968),

Gene: Scarlett\_57 Start: 39316, Stop: 39663, Start Num: 50  
Candidate Starts for Scarlett\_57:  
(Start: 50 @39316 has 7 MA's), (68, 39346), (89, 39427), (116, 39565), (122, 39610), (127, 39637),

Gene: Scavito\_98 Start: 62640, Stop: 63023, Start Num: 43  
Candidate Starts for Scavito\_98:  
(Start: 43 @62640 has 19 MA's), (Start: 44 @62646 has 1 MA's), (63, 62691), (72, 62715), (78, 62730),  
(81, 62739), (88, 62784), (91, 62799), (94, 62811), (102, 62835), (104, 62844), (107, 62865), (113,  
62898), (121, 62961),

Gene: Shaboozey\_105 Start: 59531, Stop: 59866, Start Num: 58  
Candidate Starts for Shaboozey\_105:  
(Start: 58 @59531 has 195 MA's), (Start: 84 @59600 has 1 MA's), (104, 59693), (125, 59831),

Gene: Shadow1\_59 Start: 39359, Stop: 39703, Start Num: 58  
Candidate Starts for Shadow1\_59:  
(5, 38927), (6, 38954), (8, 39011), (20, 39212), (Start: 58 @39359 has 195 MA's), (81, 39416), (127,  
39677), (129, 39686),

Gene: Shaobing\_56 Start: 39506, Stop: 39844, Start Num: 54  
Candidate Starts for Shaobing\_56:  
(Start: 54 @39506 has 4 MA's), (77, 39548), (79, 39554), (92, 39620), (127, 39818),

Gene: Sheng711\_55 Start: 41147, Stop: 41494, Start Num: 58  
Candidate Starts for Sheng711\_55:  
(Start: 58 @41147 has 195 MA's), (81, 41192), (104, 41312), (120, 41423), (125, 41453), (128, 41468),

Gene: ShereKhan\_64 Start: 43962, Stop: 44294, Start Num: 58  
Candidate Starts for ShereKhan\_64:  
(Start: 58 @43962 has 195 MA's), (Start: 84 @44028 has 1 MA's), (89, 44058), (117, 44205), (125, 44259),

Gene: ShiaSurprise\_54 Start: 39083, Stop: 39433, Start Num: 52  
Candidate Starts for ShiaSurprise\_54:  
(Start: 52 @39083 has 70 MA's), (Start: 56 @39089 has 16 MA's), (68, 39113), (79, 39143), (119, 39359),

Gene: Shroomer\_93 Start: 51510, Stop: 51163, Start Num: 56  
Candidate Starts for Shroomer\_93:  
(34, 51588), (Start: 56 @51510 has 16 MA's), (72, 51474), (77, 51462), (89, 51399), (92, 51384), (95, 51378), (115, 51282),

Gene: SirDuracell\_64 Start: 42245, Stop: 42577, Start Num: 58  
Candidate Starts for SirDuracell\_64:  
(Start: 58 @42245 has 195 MA's), (Start: 84 @42311 has 1 MA's), (89, 42341), (117, 42488), (125, 42542),

Gene: Slimphazie\_53 Start: 38769, Stop: 39119, Start Num: 52  
Candidate Starts for Slimphazie\_53:  
(Start: 52 @38769 has 70 MA's), (Start: 56 @38775 has 16 MA's), (68, 38799), (79, 38829), (119, 39045),

Gene: Smoothie\_10 Start: 2375, Stop: 2713, Start Num: 57  
Candidate Starts for Smoothie\_10:  
(Start: 57 @2375 has 14 MA's), (Start: 84 @2444 has 1 MA's), (123, 2663),

Gene: Snenia\_55 Start: 42640, Stop: 42981, Start Num: 58  
Candidate Starts for Snenia\_55:  
(Start: 58 @42640 has 195 MA's), (79, 42682), (110, 42826), (125, 42940),

Gene: SoJulia\_59 Start: 42708, Stop: 43043, Start Num: 58  
Candidate Starts for SoJulia\_59:  
(Start: 58 @42708 has 195 MA's), (70, 42732), (77, 42747), (92, 42816), (110, 42891), (114, 42918), (125, 43005), (127, 43017), (128, 43020),

Gene: SoSeph\_48 Start: 38138, Stop: 38476, Start Num: 58  
Candidate Starts for SoSeph\_48:  
(2, 37655), (7, 37781), (Start: 58 @38138 has 195 MA's), (104, 38300), (116, 38378), (118, 38393), (119, 38402), (124, 38432),

Gene: Soap141\_57 Start: 42539, Stop: 42874, Start Num: 58  
Candidate Starts for Soap141\_57:  
(Start: 58 @42539 has 195 MA's), (70, 42563), (77, 42578), (92, 42647), (110, 42722), (114, 42749), (125, 42836), (127, 42848), (128, 42851),

Gene: Soondubu\_27 Start: 24626, Stop: 24961, Start Num: 56

Candidate Starts for Soondubu\_27:  
(17, 24452), (Start: 56 @24626 has 16 MA's), (125, 24920),

Gene: Sotrice96\_66 Start: 43652, Stop: 43984, Start Num: 58  
Candidate Starts for Sotrice96\_66:  
(Start: 58 @43652 has 195 MA's), (Start: 84 @43718 has 1 MA's), (89, 43748), (117, 43895), (125, 43949),

Gene: Spock\_53 Start: 38887, Stop: 39237, Start Num: 52  
Candidate Starts for Spock\_53:  
(Start: 52 @38887 has 70 MA's), (Start: 56 @38893 has 16 MA's), (68, 38917), (79, 38947), (119, 39163),

Gene: Squint\_105 Start: 59815, Stop: 60150, Start Num: 58  
Candidate Starts for Squint\_105:  
(Start: 58 @59815 has 195 MA's), (Start: 84 @59884 has 1 MA's), (104, 59977), (125, 60115),

Gene: Stark\_66 Start: 43460, Stop: 43792, Start Num: 58  
Candidate Starts for Stark\_66:  
(Start: 58 @43460 has 195 MA's), (Start: 84 @43526 has 1 MA's), (89, 43556), (117, 43703), (125, 43757),

Gene: SteakFry\_89 Start: 51568, Stop: 51221, Start Num: 56  
Candidate Starts for SteakFry\_89:  
(34, 51646), (Start: 56 @51568 has 16 MA's), (72, 51532), (77, 51520), (89, 51457), (92, 51442), (95, 51436), (106, 51391), (109, 51385),

Gene: StevieWelch\_91 Start: 51363, Stop: 51016, Start Num: 56  
Candidate Starts for StevieWelch\_91:  
(Start: 56 @51363 has 16 MA's), (77, 51315), (89, 51252), (92, 51237), (95, 51231), (115, 51135),

Gene: Stinson\_54 Start: 39274, Stop: 39624, Start Num: 53  
Candidate Starts for Stinson\_54:  
(Start: 53 @39274 has 17 MA's), (Start: 56 @39280 has 16 MA's), (68, 39304), (79, 39334), (119, 39550), (126, 39595),

Gene: StolenFromERC\_68 Start: 43689, Stop: 44021, Start Num: 58  
Candidate Starts for StolenFromERC\_68:  
(Start: 58 @43689 has 195 MA's), (Start: 84 @43755 has 1 MA's), (89, 43785), (117, 43932), (125, 43986),

Gene: StormChicken\_67 Start: 44353, Stop: 44685, Start Num: 58  
Candidate Starts for StormChicken\_67:  
(13, 44083), (16, 44101), (22, 44209), (Start: 58 @44353 has 195 MA's), (Start: 84 @44419 has 1 MA's), (89, 44449), (117, 44596), (125, 44650),

Gene: Studio\_62 Start: 37119, Stop: 36724, Start Num: 36  
Candidate Starts for Studio\_62:  
(Start: 36 @37119 has 2 MA's), (67, 37032), (74, 37011), (76, 37008), (77, 37005), (83, 36978), (88, 36948),

Gene: Sulley\_53 Start: 38933, Stop: 39283, Start Num: 53  
Candidate Starts for Sulley\_53:

(Start: 53 @38933 has 17 MA's), (Start: 56 @38939 has 16 MA's), (68, 38963), (79, 38993), (119, 39209),

Gene: Sunflower1121\_60 Start: 39505, Stop: 39849, Start Num: 58

Candidate Starts for Sunflower1121\_60:

(5, 39073), (6, 39100), (8, 39157), (20, 39358), (Start: 58 @39505 has 195 MA's), (81, 39562), (127, 39823), (129, 39832),

Gene: Superphikiman\_104 Start: 58906, Stop: 59241, Start Num: 58

Candidate Starts for Superphikiman\_104:

(Start: 58 @58906 has 195 MA's), (Start: 84 @58975 has 1 MA's), (104, 59068), (125, 59206),

Gene: Survivors\_57 Start: 41802, Stop: 42128, Start Num: 60

Candidate Starts for Survivors\_57:

(10, 41481), (11, 41493), (Start: 60 @41802 has 7 MA's), (72, 41829), (80, 41853), (Start: 84 @41871 has 1 MA's), (99, 41931), (110, 41988), (127, 42111), (129, 42120),

Gene: Syra333\_59 Start: 39526, Stop: 39870, Start Num: 58

Candidate Starts for Syra333\_59:

(Start: 58 @39526 has 195 MA's), (127, 39844), (129, 39853),

Gene: TClif\_56 Start: 39191, Stop: 39532, Start Num: 58

Candidate Starts for TClif\_56:

(Start: 58 @39191 has 195 MA's), (72, 39224), (81, 39248), (125, 39497), (127, 39509),

Gene: TMaxx\_63 Start: 37726, Stop: 37325, Start Num: 36

Candidate Starts for TMaxx\_63:

(9, 37999), (Start: 36 @37726 has 2 MA's), (110, 37471), (116, 37417),

Gene: Tachez\_53 Start: 38731, Stop: 39081, Start Num: 52

Candidate Starts for Tachez\_53:

(Start: 52 @38731 has 70 MA's), (Start: 56 @38737 has 16 MA's), (68, 38761), (79, 38791), (119, 39007),

Gene: TaiwanKao\_55 Start: 39036, Stop: 39386, Start Num: 52

Candidate Starts for TaiwanKao\_55:

(Start: 52 @39036 has 70 MA's), (Start: 56 @39042 has 16 MA's), (68, 39066), (111, 39246), (119, 39312),

Gene: Taotie\_49 Start: 33060, Stop: 32710, Start Num: 56

Candidate Starts for Taotie\_49:

(Start: 56 @33060 has 16 MA's), (82, 32994), (119, 32793), (125, 32757),

Gene: TeamEdward\_67 Start: 44350, Stop: 44682, Start Num: 58

Candidate Starts for TeamEdward\_67:

(13, 44080), (16, 44098), (22, 44206), (Start: 58 @44350 has 195 MA's), (Start: 84 @44416 has 1 MA's), (89, 44446), (117, 44593), (125, 44647),

Gene: Terminus\_68 Start: 44426, Stop: 44758, Start Num: 58

Candidate Starts for Terminus\_68:

(13, 44156), (16, 44174), (22, 44282), (Start: 58 @44426 has 195 MA's), (Start: 84 @44492 has 1 MA's), (89, 44522), (117, 44669), (125, 44723),

Gene: Theia\_42 Start: 34792, Stop: 34463, Start Num: 64

Candidate Starts for Theia\_42:

(Start: 64 @34792 has 3 MA's), (Start: 84 @34726 has 1 MA's), (96, 34672), (103, 34645), (107, 34621), (109, 34615), (129, 34480),

Gene: Thimble\_66 Start: 42871, Stop: 43203, Start Num: 58

Candidate Starts for Thimble\_66:

(Start: 58 @42871 has 195 MA's), (Start: 84 @42937 has 1 MA's), (89, 42967), (117, 43114), (125, 43168),

Gene: ThursdayNight\_27 Start: 22105, Stop: 22434, Start Num: 56

Candidate Starts for ThursdayNight\_27:

(Start: 56 @22105 has 16 MA's), (106, 22270), (125, 22393),

Gene: Thyatira\_51 Start: 40300, Stop: 40638, Start Num: 58

Candidate Starts for Thyatira\_51:

(Start: 58 @40300 has 195 MA's), (104, 40462), (116, 40540), (118, 40555), (119, 40564), (124, 40594),

Gene: Tierra\_57 Start: 39327, Stop: 39674, Start Num: 58

Candidate Starts for Tierra\_57:

(Start: 58 @39327 has 195 MA's), (81, 39384), (127, 39645), (129, 39654),

Gene: Tigress9\_61 Start: 39517, Stop: 39858, Start Num: 58

Candidate Starts for Tigress9\_61:

(Start: 58 @39517 has 195 MA's), (81, 39574), (127, 39835),

Gene: TiniBug\_54 Start: 39661, Stop: 40011, Start Num: 53

Candidate Starts for TiniBug\_54:

(Start: 53 @39661 has 17 MA's), (Start: 56 @39667 has 16 MA's), (68, 39691), (79, 39721), (119, 39937),

Gene: Tiri\_54 Start: 39061, Stop: 39411, Start Num: 52

Candidate Starts for Tiri\_54:

(Start: 52 @39061 has 70 MA's), (Start: 56 @39067 has 16 MA's), (68, 39091), (79, 39121), (119, 39337),

Gene: Tomaszewski\_60 Start: 42805, Stop: 43137, Start Num: 58

Candidate Starts for Tomaszewski\_60:

(Start: 58 @42805 has 195 MA's), (Start: 84 @42871 has 1 MA's), (89, 42901), (117, 43048), (125, 43102),

Gene: Toniann\_10 Start: 2375, Stop: 2713, Start Num: 57

Candidate Starts for Toniann\_10:

(Start: 57 @2375 has 14 MA's), (Start: 84 @2444 has 1 MA's), (123, 2663),

Gene: Tophat\_98 Start: 62829, Stop: 63212, Start Num: 43

Candidate Starts for Tophat\_98:

(Start: 43 @62829 has 19 MA's), (Start: 44 @62835 has 1 MA's), (63, 62880), (72, 62904), (78, 62919), (81, 62928), (88, 62973), (91, 62988), (94, 63000), (102, 63024), (104, 63033), (107, 63054), (113, 63087), (121, 63150),

Gene: Topper\_53 Start: 38886, Stop: 39236, Start Num: 52

Candidate Starts for Topper\_53:

(Start: 52 @38886 has 70 MA's), (Start: 56 @38892 has 16 MA's), (68, 38916), (79, 38946), (119, 39162),

Gene: Tourach\_56 Start: 42528, Stop: 42863, Start Num: 58

Candidate Starts for Tourach\_56:

(Start: 58 @42528 has 195 MA's), (70, 42552), (92, 42636), (110, 42711), (114, 42738), (120, 42795), (125, 42825), (127, 42837), (128, 42840),

Gene: Trax\_72 Start: 45288, Stop: 45629, Start Num: 58

Candidate Starts for Trax\_72:

(Start: 58 @45288 has 195 MA's), (69, 45309), (71, 45315), (Start: 84 @45357 has 1 MA's), (88, 45384), (107, 45465), (110, 45474), (116, 45525), (130, 45615),

Gene: TreyKay\_54 Start: 38974, Stop: 39324, Start Num: 52

Candidate Starts for TreyKay\_54:

(Start: 52 @38974 has 70 MA's), (Start: 56 @38980 has 16 MA's), (68, 39004), (79, 39034), (119, 39250),

Gene: TriFive\_57 Start: 42639, Stop: 42980, Start Num: 58

Candidate Starts for TriFive\_57:

(Start: 58 @42639 has 195 MA's), (79, 42681), (110, 42825), (125, 42939),

Gene: TribelTrouble\_52 Start: 38960, Stop: 39298, Start Num: 61

Candidate Starts for TribelTrouble\_52:

(Start: 61 @38960 has 2 MA's), (71, 38984), (74, 38993), (83, 39020), (96, 39080), (125, 39263), (127, 39275), (128, 39278),

Gene: TripleC\_60 Start: 38749, Stop: 38360, Start Num: 36

Candidate Starts for TripleC\_60:

(Start: 36 @38749 has 2 MA's), (70, 38659), (110, 38503), (128, 38374), (129, 38368),

Gene: TruffulaTree\_53 Start: 38765, Stop: 39115, Start Num: 52

Candidate Starts for TruffulaTree\_53:

(Start: 52 @38765 has 70 MA's), (Start: 56 @38771 has 16 MA's), (68, 38795), (79, 38825), (119, 39041),

Gene: Twitch\_53 Start: 38888, Stop: 39238, Start Num: 52

Candidate Starts for Twitch\_53:

(Start: 52 @38888 has 70 MA's), (Start: 56 @38894 has 16 MA's), (68, 38918), (79, 38948), (119, 39164),

Gene: Tyson\_54 Start: 40614, Stop: 40952, Start Num: 58

Candidate Starts for Tyson\_54:

(Start: 58 @40614 has 195 MA's), (92, 40725), (120, 40884), (125, 40914),

Gene: Unicorn\_55 Start: 38455, Stop: 38796, Start Num: 58

Candidate Starts for Unicorn\_55:

(Start: 58 @38455 has 195 MA's), (81, 38512), (127, 38773),

Gene: Urkel\_54 Start: 39665, Stop: 40015, Start Num: 53

Candidate Starts for Urkel\_54:

(Start: 53 @39665 has 17 MA's), (Start: 56 @39671 has 16 MA's), (68, 39695), (79, 39725), (119, 39941),

Gene: Validus\_58 Start: 39687, Stop: 40025, Start Num: 54

Candidate Starts for Validus\_58:

(Start: 54 @39687 has 4 MA's), (72, 39717), (77, 39729), (79, 39735), (92, 39801), (111, 39885), (127, 39999), (128, 40002),

Gene: Veliki\_54 Start: 38751, Stop: 39101, Start Num: 52

Candidate Starts for Veliki\_54:

(Start: 52 @38751 has 70 MA's), (Start: 56 @38757 has 16 MA's), (68, 38781), (79, 38811), (119, 39027),

Gene: Vetric\_57 Start: 42483, Stop: 42818, Start Num: 58

Candidate Starts for Vetric\_57:

(Start: 58 @42483 has 195 MA's), (70, 42507), (77, 42522), (92, 42591), (110, 42666), (114, 42693), (125, 42780), (127, 42792), (128, 42795),

Gene: ViviJ\_48 Start: 36833, Stop: 37174, Start Num: 58

Candidate Starts for ViviJ\_48:

(32, 36749), (Start: 58 @36833 has 195 MA's), (73, 36869), (92, 36950), (100, 36977), (104, 36995), (111, 37034), (122, 37118),

Gene: Waterfoul\_49 Start: 38200, Stop: 38538, Start Num: 58

Candidate Starts for Waterfoul\_49:

(2, 37717), (7, 37843), (Start: 58 @38200 has 195 MA's), (104, 38362), (116, 38440), (118, 38455), (119, 38464), (124, 38494),

Gene: Welcome\_92 Start: 51722, Stop: 51375, Start Num: 56

Candidate Starts for Welcome\_92:

(34, 51800), (Start: 56 @51722 has 16 MA's), (72, 51686), (77, 51674), (89, 51611), (92, 51596), (95, 51590), (106, 51545), (109, 51539),

Gene: WheatThin\_56 Start: 38819, Stop: 39151, Start Num: 58

Candidate Starts for WheatThin\_56:

(38, 38756), (Start: 44 @38783 has 1 MA's), (Start: 58 @38819 has 195 MA's), (73, 38852), (80, 38873), (89, 38924), (104, 38984),

Gene: Whirlwind\_56 Start: 42457, Stop: 42798, Start Num: 58

Candidate Starts for Whirlwind\_56:

(Start: 58 @42457 has 195 MA's), (79, 42499), (110, 42643), (125, 42757), (127, 42769),

Gene: Wigglewigggle\_57 Start: 42503, Stop: 42838, Start Num: 58

Candidate Starts for Wigglewigggle\_57:

(Start: 58 @42503 has 195 MA's), (70, 42527), (77, 42542), (92, 42611), (110, 42686), (114, 42713), (125, 42800), (127, 42812), (128, 42815),

Gene: Wilder\_58 Start: 42449, Stop: 42784, Start Num: 58

Candidate Starts for Wilder\_58:

(Start: 58 @42449 has 195 MA's), (70, 42473), (77, 42488), (92, 42557), (110, 42632), (114, 42659), (125, 42746), (127, 42758), (128, 42761),

Gene: Willez\_60 Start: 41671, Stop: 42003, Start Num: 58

Candidate Starts for Willez\_60:

(Start: 58 @41671 has 195 MA's), (Start: 84 @41737 has 1 MA's), (89, 41767), (117, 41914), (125, 41968),

Gene: WilliamBoone\_9 Start: 2227, Stop: 2568, Start Num: 57

Candidate Starts for WilliamBoone\_9:

(Start: 57 @2227 has 14 MA's), (Start: 84 @2299 has 1 MA's), (123, 2518),

Gene: Winky\_57 Start: 42443, Stop: 42778, Start Num: 58

Candidate Starts for Winky\_57:

(Start: 58 @42443 has 195 MA's), (70, 42467), (77, 42482), (92, 42551), (110, 42626), (114, 42653), (125, 42740), (127, 42752), (128, 42755),

Gene: Wolfwood\_58 Start: 41877, Stop: 42215, Start Num: 60

Candidate Starts for Wolfwood\_58:

(10, 41556), (11, 41568), (Start: 60 @41877 has 7 MA's), (72, 41904), (80, 41928), (Start: 84 @41946 has 1 MA's), (110, 42066), (115, 42105), (129, 42198),

Gene: Wyatt2\_55 Start: 40612, Stop: 40947, Start Num: 58

Candidate Starts for Wyatt2\_55:

(Start: 58 @40612 has 195 MA's), (92, 40723), (120, 40879), (125, 40909),

Gene: Ximenita\_60 Start: 39523, Stop: 39867, Start Num: 58

Candidate Starts for Ximenita\_60:

(Start: 58 @39523 has 195 MA's), (81, 39580), (127, 39841), (129, 39850),

Gene: YassJohnny\_62 Start: 42844, Stop: 43176, Start Num: 58

Candidate Starts for YassJohnny\_62:

(13, 42574), (16, 42592), (22, 42700), (Start: 58 @42844 has 195 MA's), (Start: 84 @42910 has 1 MA's), (89, 42940), (117, 43087), (125, 43141),

Gene: Youngblood\_68 Start: 44356, Stop: 44688, Start Num: 58

Candidate Starts for Youngblood\_68:

(13, 44086), (16, 44104), (22, 44212), (Start: 58 @44356 has 195 MA's), (Start: 84 @44422 has 1 MA's), (89, 44452), (117, 44599), (125, 44653),

Gene: YoureAdopted\_52 Start: 38889, Stop: 39239, Start Num: 52

Candidate Starts for YoureAdopted\_52:

(Start: 52 @38889 has 70 MA's), (Start: 56 @38895 has 16 MA's), (68, 38919), (79, 38949), (119, 39165),

Gene: Yuma\_89 Start: 51231, Stop: 50884, Start Num: 56

Candidate Starts for Yuma\_89:

(34, 51309), (Start: 56 @51231 has 16 MA's), (72, 51195), (77, 51183), (89, 51120), (92, 51105), (95, 51099), (115, 51003),

Gene: Yuna\_59 Start: 40160, Stop: 40498, Start Num: 56

Candidate Starts for Yuna\_59:

(Start: 56 @40160 has 16 MA's), (72, 40196), (89, 40259), (127, 40472),

Gene: Yunkel11\_55 Start: 38357, Stop: 38704, Start Num: 52

Candidate Starts for Yunkel11\_55:

(Start: 52 @38357 has 70 MA's), (Start: 56 @38363 has 16 MA's), (68, 38387), (79, 38417), (115, 38597), (119, 38633),

Gene: Zabiza\_48 Start: 35076, Stop: 35426, Start Num: 52

Candidate Starts for Zabiza\_48:

(Start: 52 @35076 has 70 MA's), (Start: 56 @35082 has 16 MA's), (68, 35106), (79, 35136), (119, 35352),

Gene: Zakai\_58 Start: 42769, Stop: 43104, Start Num: 58

Candidate Starts for Zakai\_58:

(Start: 58 @42769 has 195 MA's), (70, 42793), (77, 42808), (92, 42877), (110, 42952), (114, 42979), (125, 43066), (127, 43078), (128, 43081),

Gene: Zareef\_57 Start: 41900, Stop: 42238, Start Num: 60

Candidate Starts for Zareef\_57:

(10, 41579), (11, 41591), (Start: 60 @41900 has 7 MA's), (72, 41927), (80, 41951), (Start: 84 @41969 has 1 MA's), (110, 42089), (115, 42128), (129, 42221),

Gene: Zavala\_55 Start: 39050, Stop: 39400, Start Num: 52

Candidate Starts for Zavala\_55:

(Start: 52 @39050 has 70 MA's), (Start: 56 @39056 has 16 MA's), (68, 39080), (79, 39110), (119, 39326),

Gene: ZhongYanYuan\_55 Start: 42338, Stop: 42673, Start Num: 58

Candidate Starts for ZhongYanYuan\_55:

(Start: 58 @42338 has 195 MA's), (70, 42362), (77, 42377), (92, 42446), (110, 42521), (114, 42548), (125, 42635), (127, 42647), (128, 42650),

Gene: Zooman\_297 Start: 168299, Stop: 168673, Start Num: 42

Candidate Starts for Zooman\_297:

(Start: 42 @168299 has 2 MA's), (101, 168473), (106, 168494), (110, 168503), (115, 168545), (124, 168611),