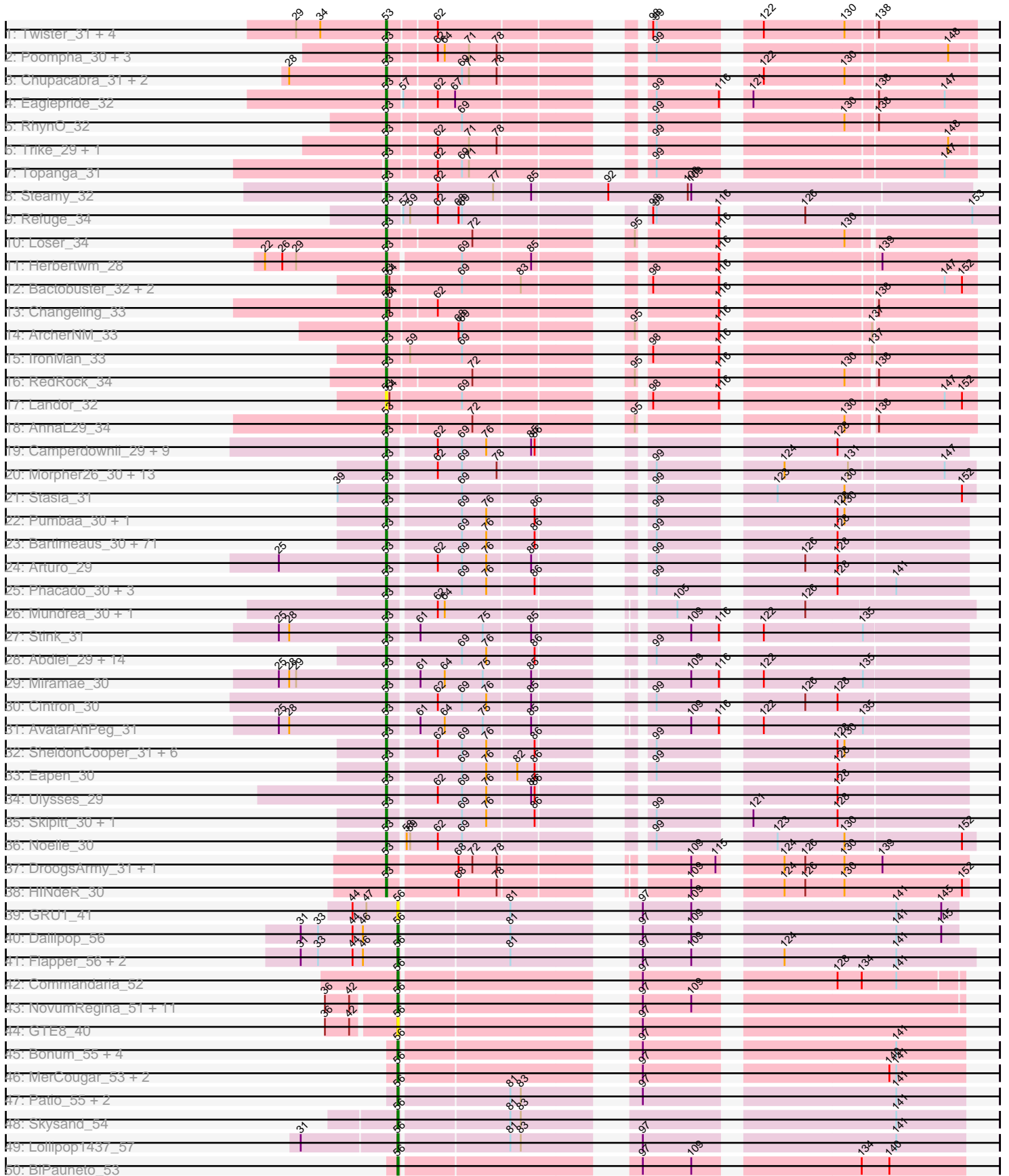
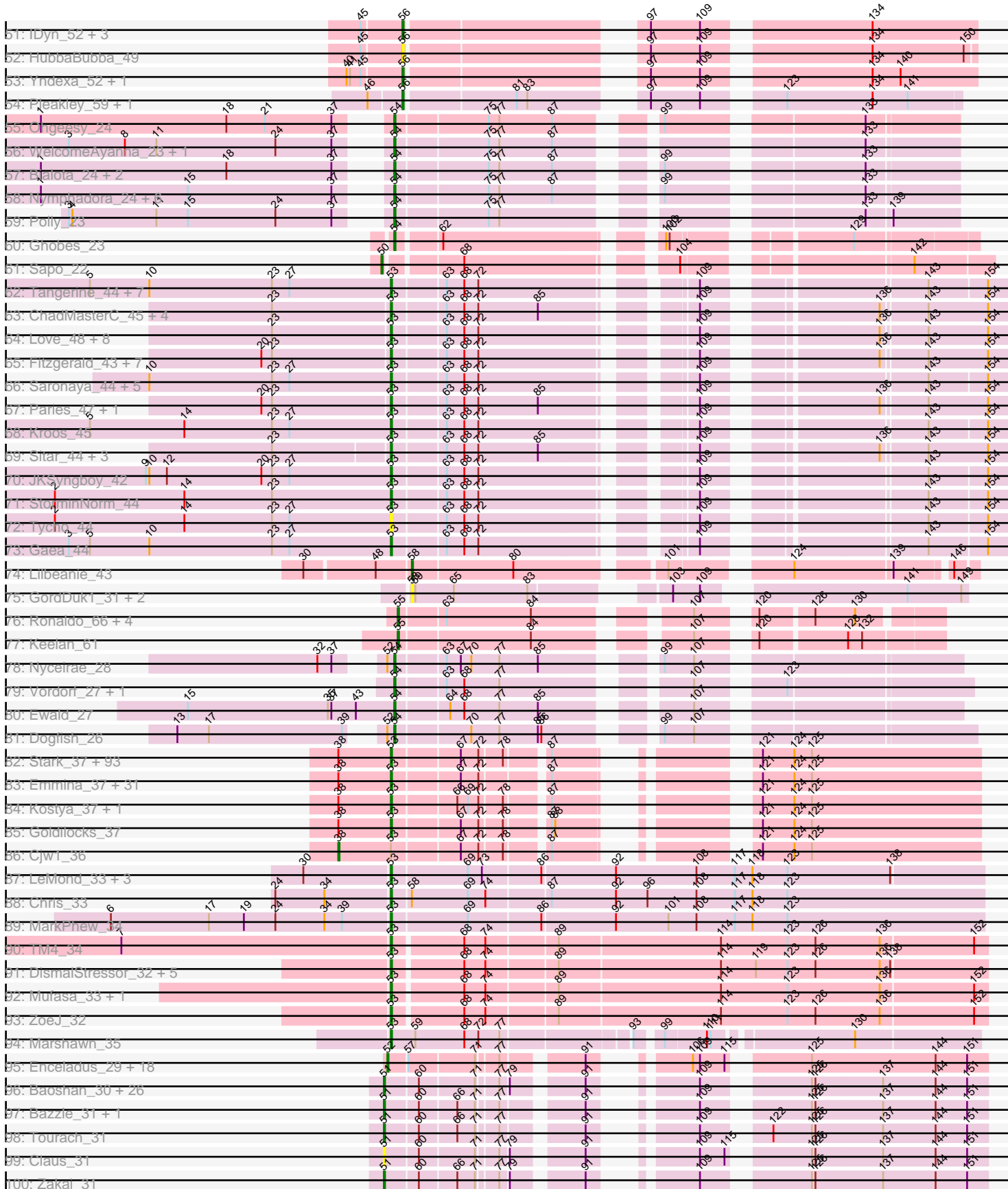


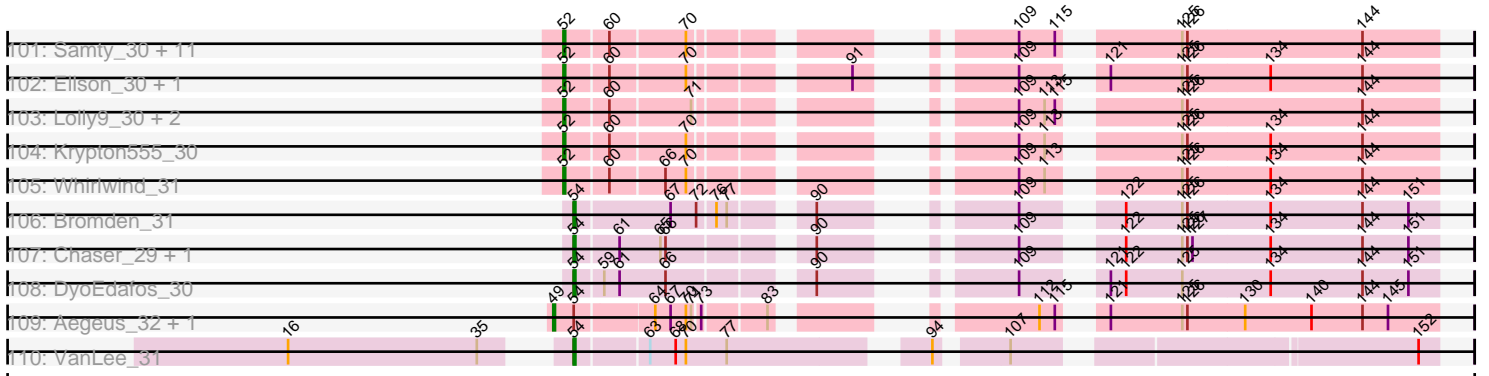
Pham 171102



Pham 171102



Pham 171102



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 171102 Report

This analysis was run 07/09/24 on database version 566.

Pham number 171102 has 514 members, 38 are drafts.

Phages represented in each track:

- Track 1 : Twister\_31, WalterMcMickey\_31, Kristoff\_32, Edison31\_31, Rebeuca\_32
- Track 2 : Poompha\_30, KittenMittens\_30, PeaceMeal1\_30, Drake94\_30
- Track 3 : Chupacabra\_31, Goose\_31, OKCentral2016\_31
- Track 4 : Eaglepride\_32
- Track 5 : RhynO\_32
- Track 6 : Trike\_29, Severus\_30
- Track 7 : Topanga\_31
- Track 8 : Steamy\_32
- Track 9 : Refuge\_34
- Track 10 : Loser\_34
- Track 11 : Herbertwm\_28
- Track 12 : Bactobuster\_32, Jaan\_34, Phaded\_34
- Track 13 : Changeling\_33
- Track 14 : ArcherNM\_33
- Track 15 : IronMan\_33
- Track 16 : RedRock\_34
- Track 17 : Landor\_32
- Track 18 : AnnaL29\_34
- Track 19 : Camperdownii\_29, LochMonster\_30, DirtyDunning\_30, Kratak\_30, Kyee\_30, Tinybot\_29, KFPoly\_30, Thanksgivukkah\_30, Iracema64\_31, Phighter1804\_30
- Track 20 : Morpher26\_30, Datway\_30, PetiteSangsue\_30, Katalie136\_30, AbbysRanger\_30, Achebe\_29, Perplexer\_30, Backyardigan\_30, Shygu2\_30, Wile\_30, Bumblebee11\_30, Xena\_30, Cici\_30, Badger\_30
- Track 21 : Stasia\_31
- Track 22 : Pumbaa\_30, Shaka\_30
- Track 23 : Bartimeaus\_30, Wilbur\_30, Bruiser\_29, NotAPhaseMom\_30, Albee\_30, Flux\_30, Annyong\_30, Bombshell\_30, Sparxx\_30, TiroTheta9\_30, Mazhar510\_30, Melvin\_30, OKaNui\_31, Millski\_29, PeterPeter\_30, Burger\_29, Broseidon\_30, Felipe\_30, Lorenzo\_30, Avle17\_30, Pipcraft\_30, Alberto7\_31, Relief\_30, CentreCat\_30, TinaFeyge\_30, Caelakin\_30, Eris\_29, LittleB\_30, Druantia\_30, Wander\_30, Holli\_30, Kingmustik0402\_30, Scamp\_30, TygerBlood\_30, BubbleTrouble\_30, Baby16\_30, Spino\_30, Roosevelt\_30, Cocoaberry\_30, TroyPia\_30, Taquarus\_30, ChampagnePapi\_31, Chaph\_30, Romney\_30, Iceman\_31, Maverick\_30, NorthStar\_30, Peaches\_30, Deano\_30, HamSlice\_29, JetBlade\_30, Connomayer\_30, Florean\_30, ICleared\_30, Koreni\_29, Dhanush\_30, Gadost\_30, JoongJeon\_30, Sabertooth\_30, Citius\_30, Wizard007\_30, Lunsford\_31,

Medusa\_30, Funston\_30, MeeZee\_30, Blackmoor\_30, Houdini22\_30, Eros\_30, Clarenza\_30, Palestino\_29, YoSam321\_30, Lemur\_30

- Track 24 : Arturo\_29
- Track 25 : Phacado\_30, Ruin\_30, Nemo27\_30, Kremtemulon\_29
- Track 26 : Mundrea\_30, Cindaradix\_29
- Track 27 : Stink\_31
- Track 28 : Abdiel\_29, Maxo\_30, Kamy\_30, Nyxis\_30, Jaykayelowell\_30, Commander\_30, BellusTerra\_30, Eurydice\_30, Phontbonne\_30, Ohfah\_30, LeoAvram\_30, Polymorphads\_30, LittleGuy\_30, Nebs\_30, Morrow\_30
- Track 29 : Miramae\_30
- Track 30 : Cintron\_30
- Track 31 : AvatarAhPeg\_31
- Track 32 : SheldonCooper\_31, Eagle\_29, BangNhom\_30, Obama12\_31, LHTSCC\_31, Cerulean\_31, Happiness\_30
- Track 33 : Eapen\_30
- Track 34 : Ulysses\_29
- Track 35 : Skipitt\_30, LappelDuVide\_29
- Track 36 : Noelle\_30
- Track 37 : DroogsArmy\_31, Timshel\_31
- Track 38 : HINdeR\_30
- Track 39 : GRU1\_41
- Track 40 : Dalilpop\_56
- Track 41 : Flapper\_56, Turuncu\_56, GTE5\_43
- Track 42 : Commandaria\_52
- Track 43 : NovumRegina\_51, NatB6\_51, Wheezy\_51, KidneyBean\_51, Foxboro\_52, Kurt\_51, Jifall16\_50, Tracker\_51, Arti\_51, GrootJr\_53, Emianna\_51, Phomeo\_50
- Track 44 : GTE8\_40
- Track 45 : Bonum\_55, SuperSulley\_53, NosilaM\_55, Kabluna\_55, Buggaboo\_53
- Track 46 : MerCougar\_53, StarStruck\_53, Outis\_53
- Track 47 : Patio\_55, Float294\_54, Ennea\_58
- Track 48 : Skysand\_54
- Track 49 : Lollipop1437\_57
- Track 50 : BiPauneto\_53
- Track 51 : IDyn\_52, Marietta\_53, NadineRae\_51, WhoseManz\_52
- Track 52 : HubbaBubba\_49
- Track 53 : Yndexa\_52, Sukkupi\_52
- Track 54 : Pleakley\_59, Fury\_59
- Track 55 : Ohgeesy\_24
- Track 56 : WelcomeAyanna\_23, ThankyouJordi\_23
- Track 57 : Bialota\_24, Madeline\_24, Zirinka\_24
- Track 58 : Nymphadora\_24, Bosnia\_24, Eviarto\_24, BatStarr\_24, TimTam\_24, Hugley\_24, Herod\_24
- Track 59 : Polly\_23
- Track 60 : Ghobes\_23
- Track 61 : Sapo\_22
- Track 62 : Tangerine\_44, Bizzy\_45, SchottB\_43, Kwobi\_45, LilHam\_42, Baumdotcom\_43, Flatwoods\_45, Ribeye\_45
- Track 63 : ChadMasterC\_45, MoontowerMania\_44, Barsten\_45, Jabberwocky\_43, Shivanishola\_44
- Track 64 : Love\_48, Geodirt\_43, Fosterous\_42, Stultus\_43, Kamashten\_42, Vivi2\_47, Kewpiedoll\_44, McKinley\_46, Thing3\_42
- Track 65 : Fitzgerald\_43, Tangent\_45, Brandonk123\_46, Sanjuju\_43, Charming\_45, Nordenberg\_39, BobBob\_42, Rofo\_45

- Track 66 : Saronaya\_44, Derg\_42, Baddon\_44, YorkOnyx\_45, Ashertheman\_45, Gustavo\_44
- Track 67 : Paries\_47, Galadriel\_44
- Track 68 : Kroos\_45
- Track 69 : Sitar\_44, Angelicage\_42, Affeca\_42, Lennon\_44
- Track 70 : JKSyngboy\_42
- Track 71 : StorminNorm\_44
- Track 72 : Tycho\_44
- Track 73 : Gaea\_44
- Track 74 : Lilbeanie\_43
- Track 75 : GordDuk1\_31, Gmala1\_31, GordTnk2\_31
- Track 76 : Ronaldo\_66, Ziko\_66, Fryberger\_63, Guey18\_69, Volt\_66
- Track 77 : Keelan\_61
- Track 78 : Nyceirae\_28
- Track 79 : Vordorf\_27, Meyran\_26
- Track 80 : Ewald\_27
- Track 81 : Dogfish\_26
- Track 82 : Stark\_37, Gemini\_39, Elph10\_37, Moldemort\_37, Tarkin\_38, Gage\_38, HufflyPuff\_35, FireRed\_36, JeTaimé\_38, StellaBean\_36, Buck\_35, Tomaszewski\_35, TBrady12\_38, Rimmer\_35, Maxxinista\_37, Kanye\_38, TeardropMSU\_35, GoldenSpark\_38, Sassay\_35, 244\_38, Simpliphy\_37, HanKaySha\_37, Argent26\_38, MISSy\_35, Nimrod\_36, Rakim\_37, MadamMonkfish\_36, BilboSwaggins\_36, Manda\_37, Dumbo\_36, YassJohnny\_37, SophKB\_36, Cactus\_37, GooberAzure\_38, Hopey\_38, Balomoji\_35, Miniwave\_36, Petra64142\_38, PhatBacter\_36, BugsBunny\_34, Icee\_35, MPhalcon\_35, CrystalP\_36, Kimchi\_38, Asriel\_35, Bask21\_36, StolenFromERC\_38, Easy2Say\_38, Qualification\_37, Hoonter\_38, Contagion\_35, Mosby\_35, Lilac\_38, Filch\_37, Barbarian\_35, Phaux\_35, Palpatine\_36, Sotrice96\_36, Eureka\_36, NelitzaMV\_36, Czyszczo1\_37, RiverMonster\_36, Adnama\_39, Terminus\_36, AmericanBeauty\_39, Bench\_38, Murphy\_37, Command613\_37, Gator\_34, Phrux\_36, Misfit\_36, Traaww1\_34, Goku\_36, Lilizi\_38, DoctorDiddles\_36, Bruin\_36, Xandras\_38, Wiggin\_39, Willez\_35, Paperbeatsrock\_38, Saints25\_37, Policronamos\_37, Nala\_36, ShamWow\_36, Pumpkin\_38, Teaspoon\_37, Highbury\_37, NoSleep\_37, xkcd\_37, OrionPax\_37, Toto\_36, Murica\_35, Pharsalus\_37, Inca\_35
- Track 83 : Emmina\_37, Amao\_36, Glexan\_34, SirDuracell\_35, Thresher\_37, ChotaBhai\_36, BigBubba\_37, Lilpickle\_35, Phaja\_36, Myrale\_36, Youngblood\_36, Pat3\_35, IHOP\_36, Dusk\_35, Harella\_35, BaboJay\_35, BadStone\_35, ShereKhan\_38, Stank\_39, Tuco\_37, Mindy\_36, Flypotenuse\_34, Elite2014\_35, Ukulele\_36, ChosenOne\_36, Henry\_37, ABCat\_35, DrDrey\_37, Holt\_37, Marshmallow\_36, Cookies\_36, Porky\_36
- Track 84 : Kostya\_37, Daikon\_35
- Track 85 : Goldilocks\_37
- Track 86 : Cjw1\_36
- Track 87 : LeMond\_33, KiSi\_33, Oscar\_33, Scarlett\_33
- Track 88 : Chris\_33
- Track 89 : MarkPhew\_34
- Track 90 : TM4\_34
- Track 91 : DismalStressor\_32, Marcoliusprime\_32, Findley\_32, Strobilo\_32, Milly\_32, DismalFunk\_32
- Track 92 : Mufasa\_33, BoostSeason\_33
- Track 93 : ZoeJ\_32
- Track 94 : Marshawn\_35

- Track 95 : Enceladus\_29, Tyson\_29, Wamburgexpress\_29, UPIE\_29, Silverleaf\_29, AvadaKedavra\_29, Appletree2\_29, Acquire49\_29, LeBron\_29, OhShagHennessy\_29, Calm\_29, CicholasNage\_29, Zaria\_29, Rose5\_29, JoeDirt\_29, Halena\_29, Wyatt2\_29, MAckerman\_29, DirkDirk\_29
- Track 96 : Baoshan\_30, Gardann\_31, Lewan\_31, Wilder\_31, Kahlid\_31, Rumpelstiltskin\_31, Netyap\_31, Winky\_31, Vetrix\_31, Miley16\_31, Crossroads\_31, Faith1\_31, Gabriela\_31, DrSeegs\_31, Finemlucis\_31, ZhongYanYuan\_30, Wigglewiggles\_31, MkaliMitinis3\_31, Itos\_31, Loadrie\_31, Hafay\_31, Breezona\_31, BigCheese\_31, BobsGarage\_31, GuuelaD\_31, LilDestine\_31, Nicholasp3\_31
- Track 97 : Bazzle\_31, Archie\_31
- Track 98 : Tourach\_31
- Track 99 : Claus\_31
- Track 100 : Zakai\_31
- Track 101 : Samty\_30, Finnry\_30, Clautastrophe\_30, Kingsolomon\_30, Nicholas\_30, Lumos\_30, Moostard\_30, Snenia\_30, MsGreen\_30, Jobypre\_30, Jubie\_30, Bellis\_30
- Track 102 : Ellson\_30, DuncansLeg\_30
- Track 103 : Lolly9\_30, MiniLon\_30, MiniMac\_30
- Track 104 : Krypton555\_30
- Track 105 : Whirlwind\_31
- Track 106 : Bromden\_31
- Track 107 : Chaser\_29, Douge\_29
- Track 108 : DyoEdafos\_30
- Track 109 : Aegeus\_32, Baudelaire\_32
- Track 110 : VanLee\_31

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

The start number called the most often in the published annotations is 53, it was called in 344 of the 476 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_38, ABCat\_35, AbbysRanger\_30, Abdiel\_29, Achebe\_29, Adnama\_39, Affeca\_42, Albee\_30, Alberto7\_31, Amao\_36, AmericanBeauty\_39, Angelicage\_42, AnnaL29\_34, Annyong\_30, ArcherNM\_33, Argent26\_38, Arturo\_29, Ashertheman\_45, Asriel\_35, AvatarAhPeg\_31, Avle17\_30, BaboJay\_35, Baby16\_30, Backyardigan\_30, Bactobuster\_32, BadStone\_35, Baddon\_44, Badger\_30, Balomoji\_35, BangNhom\_30, Barbarian\_35, Barsten\_45, Bartimeaus\_30, Bask21\_36, Baumdotcom\_43, BellusTerra\_30, Bench\_38, BigBubba\_37, BilboSwaggins\_36, Bizzy\_45, Blackmoor\_30, BobBob\_42, Bombshell\_30, BoostSeason\_33, Brandonk123\_46, Broseidon\_30, Bruin\_36, Bruiser\_29, BubbleTrouble\_30, Buck\_35, BugsBunny\_34, Bumblebee11\_30, Burger\_29, Cactus\_37, Caelakin\_30, Camperdownii\_29, CentreCat\_30, Cerulean\_31, ChadMasterC\_45, ChampagnePapi\_31, Changeling\_33, Chaph\_30, Charming\_45, ChosenOne\_36, ChotaBhai\_36, Chris\_33, Chupacabra\_31, Cici\_30, Cindaradix\_29, Cintron\_30, Citius\_30, Clarenza\_30, Cocoaberry\_30, Command613\_37, Commander\_30, Connomayer\_30, Contagion\_35, Cookies\_36, CrystalP\_36, Czyszczon1\_37, Daikon\_35, Datway\_30, Deano\_30, Derg\_42, Dhanush\_30, DirtyDunning\_30, DismalFunk\_32, DismalStressor\_32, DoctorDiddles\_36, DrDrey\_37, Drake94\_30, DroogsArmy\_31, Druantia\_30, Dumbo\_36, Dusk\_35,

Eagle\_29, Eaglepride\_32, Eapen\_30, Easy2Say\_38, Edison31\_31, Elite2014\_35, Elph10\_37, Emmina\_37, Eris\_29, Eros\_30, Eureka\_36, Eurydice\_30, Filch\_37, Findley\_32, FireRed\_36, Fitzgerald\_43, Flatwoods\_45, Florean\_30, Flux\_30, Flypotenuse\_34, Fosterous\_42, Funston\_30, Gadost\_30, Gaea\_44, Gage\_38, Galadriel\_44, Gator\_34, Gemini\_39, Geodirt\_43, Glexan\_34, Goku\_36, GoldenSpark\_38, Goldilocks\_37, GooberAzure\_38, Goose\_31, Gustavo\_44, HINdeR\_30, HamSlice\_29, HanKaySha\_37, Happiness\_30, Harella\_35, Henry\_37, Herbertwm\_28, Highbury\_37, Holli\_30, Holt\_37, Hoonter\_38, Hopey\_38, Houdini22\_30, HuffyPuff\_35, ICleared\_30, IHOP\_36, Icee\_35, Iceman\_31, Inca\_35, Iracema64\_31, IronMan\_33, JKSyngboy\_42, Jaan\_34, Jabberwocky\_43, Jaykayelowell\_30, JeTaime\_38, JetBlade\_30, JoongJeon\_30, KFPoly\_30, Kamashten\_42, Kampy\_30, Kanye\_38, Katalie136\_30, Kewpiedoll\_44, KiSi\_33, Kimchi\_38, Kingmustik0402\_30, KittenMittens\_30, Koreni\_29, Kostya\_37, Kratark\_30, Kremtemulon\_29, Kristoff\_32, Kroos\_45, Kwobi\_45, Kyee\_30, LHTSCC\_31, Landor\_32, LappelDuVide\_29, LeMond\_33, Lemur\_30, Lennon\_44, LeoAvram\_30, LilHam\_42, Lilac\_38, Lilizi\_38, Lilpickle\_35, LittleB\_30, LittleGuy\_30, LochMonster\_30, Lorenzo\_30, Loser\_34, Love\_48, Lunsford\_31, MISSy\_35, MPhalcon\_35, MadamMonkfish\_36, Manda\_37, Marcoliusprime\_32, MarkPhew\_34, Marshawn\_35, Marshmallow\_36, Maverick\_30, Maxo\_30, Maxxinista\_37, Mazhar510\_30, McKinley\_46, Medusa\_30, MeeZee\_30, Melvin\_30, Millski\_29, Milly\_32, Mindy\_36, Miniwave\_36, Miramae\_30, Misfit\_36, Moldemort\_37, MoontowerMania\_44, Morpher26\_30, Morrow\_30, Mosby\_35, Mufasa\_33, Mundrea\_30, Murica\_35, Murphy\_37, Myrale\_36, Nala\_36, Nebs\_30, NelitzaMV\_36, Nemo27\_30, Nimrod\_36, NoSleep\_37, Noelle\_30, Nordenberg\_39, NorthStar\_30, NotAPhaseMom\_30, Nyxis\_30, OKCentral2016\_31, OKaNui\_31, Obama12\_31, Ohfah\_30, OrionPax\_37, Oscar\_33, Palestino\_29, Palpatine\_36, Paperbeatsrock\_38, Paries\_47, Pat3\_35, PeaceMeal1\_30, Peaches\_30, Perplexer\_30, PeterPeter\_30, PetiteSangsue\_30, Petra64142\_38, Phacado\_30, Phaded\_34, Phaja\_36, Pharsalus\_37, PhatBacter\_36, Phaux\_35, Felipe\_30, Phighter1804\_30, Phontbonne\_30, Phrux\_36, Pipcraft\_30, Policronamos\_37, Polymorphads\_30, Poompha\_30, Porky\_36, Pumbaa\_30, Pumpkin\_38, Qualification\_37, Rakim\_37, Rebeuca\_32, RedRock\_34, Refuge\_34, Relief\_30, RhynO\_32, Ribeye\_45, Rimmer\_35, RiverMonster\_36, Rofo\_45, Romney\_30, Roosevelt\_30, Ruin\_30, Sabertooth\_30, Saints25\_37, Sanjuju\_43, Saronaya\_44, Sassay\_35, Scamp\_30, Scarlett\_33, SchottB\_43, Severus\_30, Shaka\_30, ShamWow\_36, SheldonCooper\_31, ShereKhan\_38, Shivanishola\_44, Shygu2\_30, Simpliphy\_37, SirDuracell\_35, Sitar\_44, Skipitt\_30, SophKB\_36, Sotrice96\_36, Sparxx\_30, Spino\_30, Stank\_39, Stark\_37, Stasia\_31, Steamy\_32, StellaBean\_36, Stink\_31, StolenFromERC\_38, StorminNorm\_44, Strobilo\_32, Stultus\_43, TBrady12\_38, TM4\_34, Tangent\_45, Tangerine\_44, Taquarus\_30, Tarkin\_38, TeardropMSU\_35, Teaspoon\_37, Terminus\_36, Thanksgivukkah\_30, Thing3\_42, Thresher\_37, Timshel\_31, TinaFeyge\_30, Tinybot\_29, TiroTheta9\_30, Tomaszewski\_35, Topanga\_31, Toto\_36, Traaww1\_34, Trike\_29, TroyPia\_30, Tuco\_37, Twister\_31, Tycho\_44, TygerBlood\_30, Ukulele\_36, Ulysses\_29, Vivi2\_47, WalterMcMickey\_31, Wander\_30, Wiggin\_39, Wilbur\_30, Wile\_30, Willez\_35, Wizard007\_30, Xandras\_38, Xena\_30, YassJohnny\_37, YoSam321\_30, YorkOnyx\_45, Youngblood\_36, ZoeJ\_32, xkcd\_37,

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

- Cjw1\_36,

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



- Acquire49\_29, Aegeus\_32, Appletree2\_29, Archie\_31, Arti\_51, AvadaKedavra\_29, Baoshan\_30, BatStarr\_24, Baudelaire\_32, Bazzle\_31, Bellis\_30, BiPauneto\_53, Bialota\_24, BigCheese\_31, BobsGarage\_31, Bonum\_55, Bosnia\_24, Breezona\_31, Bromden\_31, Buggaboo\_53, Calm\_29, Chaser\_29, CicholasNage\_29, Claus\_31, Clautastrophe\_30, Commandaria\_52, Crossroads\_31, Dalilpop\_56, DirkDirk\_29, Dogfish\_26, Douge\_29, DrSeegs\_31, DuncansLeg\_30, DyoEdafos\_30, Ellson\_30, Emianna\_51, Enceladus\_29, Ennea\_58, Eviarto\_24, Ewald\_27, Faith1\_31, Finemlucis\_31, Finnry\_30, Flapper\_56, Float294\_54, Foxboro\_52, Fryberger\_63, Fury\_59, GRU1\_41, GTE5\_43, GTE8\_40, Gabriela\_31, Gardann\_31, Ghobes\_23, Gmala1\_31, GordDuk1\_31, GordTnk2\_31, GrootJr\_53, Guey18\_69, GuuelaD\_31, Hafay\_31, Halena\_29, Herod\_24, HubbaBubba\_49, Hugley\_24, IDyn\_52, Itos\_31, Jifall16\_50, Jobypre\_30, JoeDirt\_29, Jubie\_30, Kabluna\_55, Kahlid\_31, Keelan\_61, KidneyBean\_51, Kingsolomon\_30, Krypton555\_30, Kurt\_51, LeBron\_29, Lewan\_31, LilDestine\_31, Lilbeanie\_43, Loadrie\_31, Lollipop1437\_57, Lolly9\_30, Lumos\_30, MAckerman\_29, Madeline\_24, Marietta\_53, MerCougar\_53, Meyran\_26, Miley16\_31, MiniLon\_30, MiniMac\_30, MkaliMitinis3\_31, Moostard\_30, MsGreen\_30, NadineRae\_51, NatB6\_51, Netyap\_31, Nicholas\_30, Nicholasp3\_31, NosilaM\_55, NovumRegina\_51, Nyceirae\_28, Nymphadora\_24, OhShagHennessy\_29, Ohgeesy\_24, Outis\_53, Patio\_55, Phomeo\_50, Pleakley\_59, Polly\_23, Ronaldo\_66, Rose5\_29, Rumpelstiltskin\_31, Samty\_30, Sapo\_22, Silverleaf\_29, Skysand\_54, Snenia\_30, StarStruck\_53, Sukkupi\_52, SuperSulley\_53, ThankyouJordi\_23, TimTam\_24, Tourach\_31, Tracker\_51, Turuncu\_56, Tyson\_29, UPIE\_29, VanLee\_31, Vetrix\_31, Volt\_66, Vordorf\_27, Wamburggrxpress\_29, WelcomeAyanna\_23, Wheezy\_51, Whirlwind\_31, WhoseManz\_52, Wigglewiggle\_31, Wilder\_31, Winky\_31, Wyatt2\_29, Yndexa\_52, Zakai\_31, Zaria\_29, ZhongYanYuan\_30, Ziko\_66, Zirinka\_24,

### Summary by start number:

#### Start 38:

- Found in 130 of 514 ( 25.3% ) of genes in pham
- Manual Annotations of this start: 1 of 476
- Called 0.8% of time when present
- Phage (with cluster) where this start called: Cjw1\_36 (E),

#### Start 49:

- Found in 2 of 514 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 2 of 476
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus\_32 (L5), Baudelaire\_32 (L5),

#### Start 50:

- Found in 1 of 514 ( 0.2% ) of genes in pham
- Manual Annotations of this start: 1 of 476
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sapo\_22 (DA),

#### Start 51:

- Found in 32 of 514 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 28 of 476
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archie\_31 (L2), Baoshan\_30 (L2), Bazzle\_31 (L2), BigCheese\_31 (L2), BobsGarage\_31 (L2), Breezona\_31 (L2),

Claus\_31 (L2), Crossroads\_31 (L2), DrSeegs\_31 (L2), Faith1\_31 (L2), Finemlucis\_31 (L2), Gabriela\_31 (L2), Gardann\_31 (L2), GuuelaD\_31 (L2), Hafay\_31 (L2), Itos\_31 (L2), Kahlid\_31 (L2), Lewan\_31 (L2), LilDestine\_31 (L2), Loadrie\_31 (L2), Miley16\_31 (L2), MkaliMitinis3\_31 (L2), Netyap\_31 (L2), Nicholasp3\_31 (L2), Rumpelstiltskin\_31 (L2), Tourach\_31 (L2), Vetrrix\_31 (L2), Wigglewiggle\_31 (L2), Wilder\_31 (L2), Winky\_31 (L2), Zakai\_31 (L2), ZhongYanYuan\_30 (L2),

Start 52:

- Found in 40 of 514 ( 7.8% ) of genes in pham
- Manual Annotations of this start: 34 of 476
- Called 95.0% of time when present
- Phage (with cluster) where this start called: Acquire49\_29 (L1), Appletree2\_29 (L1), AvadaKedavra\_29 (L1), Bellis\_30 (L3), Calm\_29 (L1), CicholasNage\_29 (L1), Clautastrophe\_30 (L3), DirkDirk\_29 (L1), DuncansLeg\_30 (L3), Ellson\_30 (L3), Enceladus\_29 (L1), Finnry\_30 (L3), Halena\_29 (L1), Jobypre\_30 (L3), JoeDirt\_29 (L1), Jubie\_30 (L3), Kingsolomon\_30 (L3), Krypton555\_30 (L3), LeBron\_29 (L1), Lolly9\_30 (L3), Lumos\_30 (L3), MAckerman\_29 (L1), MiniLon\_30 (L3), MiniMac\_30 (L3), Moostard\_30 (L3), MsGreen\_30 (L3), Nicholas\_30 (L3), OhShagHennessey\_29 (L1), Rose5\_29 (L1), Samty\_30 (L3), Silverleaf\_29 (L1), Snenia\_30 (L3), Tyson\_29 (L1), UPIE\_29 (L1), Wamburgxpress\_29 (L1), Whirlwind\_31 (L3), Wyatt2\_29 (L1), Zaria\_29 (L1),

Start 53:

- Found in 364 of 514 ( 70.8% ) of genes in pham
- Manual Annotations of this start: 344 of 476
- Called 99.7% of time when present
- Phage (with cluster) where this start called: 244\_38 (E), ABCat\_35 (E), AbbysRanger\_30 (A4), Abdiel\_29 (A4), Achebe\_29 (A4), Adnama\_39 (E), Affeca\_42 (DE1), Albee\_30 (A4), Alberto7\_31 (A4), Amao\_36 (E), AmericanBeauty\_39 (E), Angelicage\_42 (DE1), AnnaL29\_34 (A2), Annyong\_30 (A4), ArcherNM\_33 (A2), Argent26\_38 (E), Arturo\_29 (A4), Ashertheman\_45 (DE1), Asriel\_35 (E), AvatarAhPeg\_31 (A4), Avle17\_30 (A4), BaboJay\_35 (E), Baby16\_30 (A4), Backyardigan\_30 (A4), Bactobuster\_32 (A2), BadStone\_35 (E), Baddon\_44 (DE1), Badger\_30 (A4), Balomoji\_35 (E), BangNhom\_30 (A4), Barbarian\_35 (E), Barsten\_45 (DE1), Bartimeaus\_30 (A4), Bask21\_36 (E), Baumdotcom\_43 (DE1), BellusTerra\_30 (A4), Bench\_38 (E), BigBubba\_37 (E), BilboSwaggins\_36 (E), Bizzy\_45 (DE1), Blackmoor\_30 (A4), BobBob\_42 (DE1), Bombshell\_30 (A4), BoostSeason\_33 (K2), Brandonk123\_46 (DE1), Broseidon\_30 (A4), Bruin\_36 (E), Bruiser\_29 (A4), BubbleTrouble\_30 (A4), Buck\_35 (E), BugsBunny\_34 (E), Bumblebee11\_30 (A4), Burger\_29 (A4), Cactus\_37 (E), Caelakin\_30 (A4), Camperdownii\_29 (A4), CentreCat\_30 (A4), Cerulean\_31 (A4), ChadMasterC\_45 (DE1), ChampagnePapi\_31 (A4), Changeling\_33 (A2), Chaph\_30 (A4), Charming\_45 (DE1), ChosenOne\_36 (E), ChotaBhai\_36 (E), Chris\_33 (K1), Chupacabra\_31 (A10), Cici\_30 (A4), Cindaradix\_29 (A4), Cintron\_30 (A4), Citius\_30 (A4), Clarenza\_30 (A4), Cocoaberry\_30 (A4), Command613\_37 (E), Commander\_30 (A4), Connomayer\_30 (A4), Contagion\_35 (E), Cookies\_36 (E), CrystalP\_36 (E), Czyszccon1\_37 (E), Daikon\_35 (E), Datway\_30 (A4), Deano\_30 (A4), Derg\_42 (DE1), Dhanush\_30 (A4), DirtyDunning\_30 (A4), DismalFunk\_32 (K2), DismalStressor\_32 (K2), DoctorDiddles\_36 (E), DrDrey\_37 (E), Drake94\_30 (A10), DroogsArmy\_31 (A7), Druantia\_30 (A4), Dumbo\_36 (E), Dusk\_35 (E), Eagle\_29 (A4), Eaglepride\_32 (A10), Eapen\_30 (A4), Easy2Say\_38 (E), Edison31\_31 (A10), Elite2014\_35 (E), Elph10\_37 (E), Emmina\_37 (E), Eris\_29 (A4), Eros\_30 (A4), Eureka\_36 (E), Eurydice\_30 (A4), Filch\_37 (E), Findley\_32 (K2), FireRed\_36 (E), Fitzgerald\_43 (DE1), Flatwoods\_45

(DE1), Florean\_30 (A4), Flux\_30 (A4), Flypotenuse\_34 (E), Fosterous\_42 (DE1), Funston\_30 (A4), Gadost\_30 (A4), Gaea\_44 (DE1), Gage\_38 (E), Galadriel\_44 (DE1), Gator\_34 (E), Gemini\_39 (E), Geodirt\_43 (DE1), Glexan\_34 (E), Goku\_36 (E), GoldenSpark\_38 (E), Goldilocks\_37 (E), GooberAzure\_38 (E), Goose\_31 (A10), Gustavo\_44 (DE1), HINdeR\_30 (A7), HamSlice\_29 (A4), HanKaySha\_37 (E), Happiness\_30 (A4), Harella\_35 (E), Henry\_37 (E), Herbertwm\_28 (A2), Highbury\_37 (E), Holli\_30 (A4), Holt\_37 (E), Hoonter\_38 (E), Hopey\_38 (E), Houdini22\_30 (A4), HufflyPuff\_35 (E), ICleared\_30 (A4), IHOP\_36 (E), Icee\_35 (E), Iceman\_31 (A4), Inca\_35 (E), Iracema64\_31 (A4), IronMan\_33 (A2), JKSyngboy\_42 (DE1), Jaan\_34 (A2), Jabberwocky\_43 (DE1), Jaykayelowell\_30 (A4), JeTaimie\_38 (E), JetBlade\_30 (A4), JoongJeon\_30 (A4), KFPoly\_30 (A4), Kamashten\_42 (DE1), Kampy\_30 (A4), Kanye\_38 (E), Katalie136\_30 (A4), Kewpiedoll\_44 (DE1), KiSi\_33 (K1), Kimchi\_38 (E), Kingmustik0402\_30 (A4), KittenMittens\_30 (A10), Koreni\_29 (A4), Kostya\_37 (E), Kratak\_30 (A4), Kremtemulon\_29 (A4), Kristoff\_32 (A10), Kroos\_45 (DE1), Kwobi\_45 (DE1), Kyee\_30 (A4), LHTSCC\_31 (A4), Landor\_32 (A2), LappelDuVide\_29 (A4), LeMond\_33 (K1), Lemur\_30 (A4), Lennon\_44 (DE1), LeoAvram\_30 (A4), LilHam\_42 (DE1), Lilac\_38 (E), Lilizi\_38 (E), Lilpickle\_35 (E), LittleB\_30 (A4), LittleGuy\_30 (A4), LochMonster\_30 (A4), Lorenzo\_30 (A4), Loser\_34 (A2), Love\_48 (DE1), Lunsford\_31 (A4), MISSy\_35 (E), MPhalcon\_35 (E), MadamMonkfish\_36 (E), Manda\_37 (E), Marcoliusprime\_32 (K2), MarkPhew\_34 (K1), Marshawn\_35 (K6), Marshmallow\_36 (E), Maverick\_30 (A4), Maxo\_30 (A4), Maxxinista\_37 (E), Mazhar510\_30 (A4), McKinley\_46 (DE1), Medusa\_30 (A4), MeeZee\_30 (A4), Melvin\_30 (A4), Millski\_29 (A4), Milly\_32 (K2), Mindy\_36 (E), Miniwave\_36 (E), Miramae\_30 (A4), Misfit\_36 (E), Moldemort\_37 (E), MoontowerMania\_44 (DE1), Morpher26\_30 (A4), Morrow\_30 (A4), Mosby\_35 (E), Mufasa\_33 (K2), Mundrea\_30 (A4), Murica\_35 (E), Murphy\_37 (E), Myrale\_36 (E), Nala\_36 (E), Nebs\_30 (A4), NelitzaMV\_36 (E), Nemo27\_30 (A4), Nimrod\_36 (E), NoSleep\_37 (E), Noelle\_30 (A4), Nordenberg\_39 (DE1), NorthStar\_30 (A4), NotAPhaseMom\_30 (A4), Nyxis\_30 (A4), OKCentral2016\_31 (A10), OKaNui\_31 (A4), Obama12\_31 (A4), Ohfah\_30 (A4), OrionPax\_37 (E), Oscar\_33 (K1), Palestino\_29 (A4), Palpatine\_36 (E), Paperbeatsrock\_38 (E), Paries\_47 (DE1), Pat3\_35 (E), PeaceMeal1\_30 (A10), Peaches\_30 (A4), Perplexer\_30 (A4), PeterPeter\_30 (A4), PetiteSangsue\_30 (A4), Petra64142\_38 (E), Phacado\_30 (A4), Phaded\_34 (A2), Phaja\_36 (E), Pharsalus\_37 (E), PhatBacter\_36 (E), Phaux\_35 (E), Phelipe\_30 (A4), Phighter1804\_30 (A4), Phontbonne\_30 (A4), Phrux\_36 (E), Pipcraft\_30 (A4), Policronamos\_37 (E), Polymorphads\_30 (A4), Poompha\_30 (A10), Porky\_36 (E), Pumbaa\_30 (A4), Pumpkin\_38 (E), Quallification\_37 (E), Rakim\_37 (E), Rebeuca\_32 (A10), RedRock\_34 (A2), Refuge\_34 (A12), Relief\_30 (A4), RhynO\_32 (A10), Ribeye\_45 (DE1), Rimmer\_35 (E), RiverMonster\_36 (E), Rofo\_45 (DE1), Romney\_30 (A4), Roosevelt\_30 (A4), Ruin\_30 (A4), Sabertooth\_30 (A4), Saints25\_37 (E), Sanjuju\_43 (DE1), Saronaya\_44 (DE1), Sassay\_35 (E), Scamp\_30 (A4), Scarlett\_33 (K1), SchottB\_43 (DE1), Severus\_30 (A10), Shaka\_30 (A4), ShamWow\_36 (E), SheldonCooper\_31 (A4), ShereKhan\_38 (E), Shivanishola\_44 (DE1), Shygu2\_30 (A4), Simpliphy\_37 (E), SirDuracell\_35 (E), Sitar\_44 (DE1), Skipitt\_30 (A4), SophKB\_36 (E), Sotrice96\_36 (E), Sparxx\_30 (A4), Spino\_30 (A4), Stank\_39 (E), Stark\_37 (E), Stasia\_31 (A4), Steamy\_32 (A12), StellaBean\_36 (E), Stink\_31 (A4), StolenFromERC\_38 (E), StorminNorm\_44 (DE1), Strobilo\_32 (K2), Stultus\_43 (DE1), TBrady12\_38 (E), TM4\_34 (K2), Tangent\_45 (DE1), Tangerine\_44 (DE1), Taquarus\_30 (A4), Tarkin\_38 (E), TeardropMSU\_35 (E), Teaspoon\_37 (E), Terminus\_36 (E), Thanksgivukkah\_30 (A4), Thing3\_42 (DE1), Thresher\_37 (E), Timshel\_31 (A7), TinaFeyge\_30 (A4), Tinybot\_29 (A4), TiroTheta9\_30 (A4), Tomaszewski\_35 (E), Topanga\_31 (A10), Toto\_36 (E), Traaww1\_34 (E), Trike\_29 (A10), TroyPia\_30 (A4), Tuco\_37 (E), Twister\_31 (A10), Tycho\_44 (DE1),

TygerBlood\_30 (A4), Ukulele\_36 (E), Ulysses\_29 (A4), Vivi2\_47 (DE1), WalterMcMickey\_31 (A10), Wander\_30 (A4), Wiggin\_39 (E), Wilbur\_30 (A4), Wile\_30 (A4), Willez\_35 (E), Wizard007\_30 (A4), Xandras\_38 (E), Xena\_30 (A4), YassJohnny\_37 (E), YoSam321\_30 (A4), YorkOnyx\_45 (DE1), Youngblood\_36 (E), ZoeJ\_32 (K2), xkcd\_37 (E),

Start 54:

- Found in 32 of 514 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 22 of 476
- Called 78.1% of time when present
- Phage (with cluster) where this start called: BatStarr\_24 (CZ1), Bialota\_24 (CZ1), Bosnia\_24 (CZ1), Bromden\_31 (L4), Chaser\_29 (L4), Dogfish\_26 (DT), Douge\_29 (L4), DyoEdafos\_30 (L4), Eviarto\_24 (CZ1), Ewald\_27 (DT), Ghobes\_23 (DA), Herod\_24 (CZ1), Hugley\_24 (CZ1), Madeline\_24 (CZ1), Meyran\_26 (DT), Nyceirae\_28 (DT), Nymphadora\_24 (CZ1), Ohgeesy\_24 (CZ), Polly\_23 (CZ1), ThankyouJordi\_23 (CZ1), TimTam\_24 (CZ1), VanLee\_31 (singleton), Vordorf\_27 (DT), WelcomeAyanna\_23 (CZ1), Zirinka\_24 (CZ1),

Start 55:

- Found in 6 of 514 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 6 of 476
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger\_63 (DP), Guey18\_69 (DP), Keelan\_61 (DP), Ronaldo\_66 (DP), Volt\_66 (DP), Ziko\_66 (DP),

Start 56:

- Found in 42 of 514 ( 8.2% ) of genes in pham
- Manual Annotations of this start: 37 of 476
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arti\_51 (CR2), BiPauneto\_53 (CR4), Bonum\_55 (CR2), Buggaboo\_53 (CR2), Commandaria\_52 (CR2), Dalilpop\_56 (CR1), Emianna\_51 (CR2), Ennea\_58 (CR3), Flapper\_56 (CR1), Float294\_54 (CR3), Foxboro\_52 (CR2), Fury\_59 (CR5), GRU1\_41 (CR1), GTE5\_43 (CR1), GTE8\_40 (CR2), GrootJr\_53 (CR2), HubbaBubba\_49 (CR4), IDyn\_52 (CR4), Jifall16\_50 (CR2), Kabluna\_55 (CR2), KidneyBean\_51 (CR2), Kurt\_51 (CR2), Lollipop1437\_57 (CR3), Marietta\_53 (CR4), MerCougar\_53 (CR2), NadineRae\_51 (CR4), NatB6\_51 (CR2), NosilaM\_55 (CR2), NovumRegina\_51 (CR2), Outis\_53 (CR2), Patio\_55 (CR3), Phomeo\_50 (CR2), Pleakley\_59 (CR5), Skysand\_54 (CR3), StarStruck\_53 (CR2), Sukkupi\_52 (CR4), SuperSulley\_53 (CR2), Tracker\_51 (CR2), Turuncu\_56 (CR1), Wheezy\_51 (CR2), WhoseManz\_52 (CR4), Yndexa\_52 (CR4),

Start 58:

- Found in 6 of 514 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 1 of 476
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Gmala1\_31 (DF1), GordDuk1\_31 (DF1), GordTnk2\_31 (DF1), Lilbeanie\_43 (DE5),

### Summary by clusters:

There are 28 clusters represented in this pham: singleton, CZ1, DA, K2, K1, K6, DT, DP, A10, A12, DF1, A2, A4, A7, E, CZ, L4, L5, L2, L3, L1, CR2, CR3, CR1, CR4, CR5, DE1, DE5,

Info for manual annotations of cluster A10:

- Start number 53 was manually annotated 17 times for cluster A10.

Info for manual annotations of cluster A12:

- Start number 53 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A2:

- Start number 53 was manually annotated 10 times for cluster A2.

Info for manual annotations of cluster A4:

- Start number 53 was manually annotated 135 times for cluster A4.

Info for manual annotations of cluster A7:

- Start number 53 was manually annotated 3 times for cluster A7.

Info for manual annotations of cluster CR1:

- Start number 56 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 56 was manually annotated 20 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 56 was manually annotated 5 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 56 was manually annotated 7 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 56 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster CZ:

- Start number 54 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 54 was manually annotated 12 times for cluster CZ1.

Info for manual annotations of cluster DA:

- Start number 50 was manually annotated 1 time for cluster DA.
- Start number 54 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DE1:

- Start number 53 was manually annotated 39 times for cluster DE1.

Info for manual annotations of cluster DE5:

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

Info for manual annotations of cluster DP:

- Start number 55 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster DT:

- Start number 54 was manually annotated 4 times for cluster DT.

Info for manual annotations of cluster E:

- Start number 38 was manually annotated 1 time for cluster E.
- Start number 53 was manually annotated 121 times for cluster E.

Info for manual annotations of cluster K1:

- Start number 53 was manually annotated 6 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 53 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K6:

- Start number 53 was manually annotated 1 time for cluster K6.

Info for manual annotations of cluster L1:

- Start number 52 was manually annotated 18 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 51 was manually annotated 28 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 52 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 54 was manually annotated 3 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 49 was manually annotated 2 times for cluster L5.

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

Gene: 244\_38 Start: 32992, Stop: 33408, Start Num: 53

Candidate Starts for 244\_38:

(Start: 38 @32947 has 1 MA's), (Start: 53 @32992 has 344 MA's), (67, 33046), (72, 33061), (78, 33079), (87, 33109), (121, 33223), (124, 33250), (125, 33265),

Gene: ABCat\_35 Start: 32704, Stop: 33120, Start Num: 53

Candidate Starts for ABCat\_35:

(Start: 38 @32659 has 1 MA's), (Start: 53 @32704 has 344 MA's), (67, 32758), (72, 32773), (87, 32821), (121, 32935), (124, 32962), (125, 32977),

Gene: AbbysRanger\_30 Start: 22547, Stop: 22978, Start Num: 53

Candidate Starts for AbbysRanger\_30:

(Start: 53 @22547 has 344 MA's), (62, 22586), (69, 22607), (78, 22637), (99, 22730), (124, 22820), (131, 22874), (147, 22952),

Gene: Abdiel\_29 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for Abdiel\_29:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698),

Gene: Achebe\_29 Start: 22530, Stop: 22961, Start Num: 53

Candidate Starts for Achebe\_29:

(Start: 53 @22530 has 344 MA's), (62, 22569), (69, 22590), (78, 22620), (99, 22713), (124, 22803), (131, 22857), (147, 22935),

Gene: Acquire49\_29 Start: 27280, Stop: 27699, Start Num: 52

Candidate Starts for Acquire49\_29:

(Start: 52 @27280 has 34 MA's), (57, 27295), (71, 27349), (77, 27364), (91, 27421), (106, 27469), (109, 27475), (115, 27496), (125, 27550), (144, 27655), (151, 27682),

Gene: Adnama\_39 Start: 33219, Stop: 33635, Start Num: 53

Candidate Starts for Adnama\_39:

(Start: 38 @33174 has 1 MA's), (Start: 53 @33219 has 344 MA's), (67, 33273), (72, 33288), (78, 33306), (87, 33336), (121, 33450), (124, 33477), (125, 33492),

Gene: Aegeus\_32 Start: 27373, Stop: 27798, Start Num: 49

Candidate Starts for Aegeus\_32:

(Start: 49 @27373 has 2 MA's), (Start: 54 @27385 has 22 MA's), (64, 27427), (67, 27436), (70, 27445), (71, 27448), (73, 27451), (83, 27484), (112, 27586), (115, 27595), (121, 27607), (125, 27649), (126, 27652), (130, 27685), (140, 27724), (144, 27754), (145, 27769),

Gene: Affeca\_42 Start: 39008, Stop: 39457, Start Num: 53

Candidate Starts for Affeca\_42:

(23, 38912), (Start: 53 @39008 has 344 MA's), (63, 39050), (68, 39065), (72, 39077), (85, 39128), (109, 39230), (136, 39353), (143, 39389), (154, 39440),

Gene: Albee\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Albee\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Alberto7\_31 Start: 22820, Stop: 23248, Start Num: 53

Candidate Starts for Alberto7\_31:

(Start: 53 @22820 has 344 MA's), (69, 22880), (76, 22901), (86, 22940), (99, 23003), (128, 23138),

Gene: Amao\_36 Start: 31916, Stop: 32332, Start Num: 53

Candidate Starts for Amao\_36:

(Start: 38 @31871 has 1 MA's), (Start: 53 @31916 has 344 MA's), (67, 31970), (72, 31985), (87, 32033), (121, 32147), (124, 32174), (125, 32189),

Gene: AmericanBeauty\_39 Start: 32699, Stop: 33115, Start Num: 53

Candidate Starts for AmericanBeauty\_39:

(Start: 38 @32654 has 1 MA's), (Start: 53 @32699 has 344 MA's), (67, 32753), (72, 32768), (78, 32786), (87, 32816), (121, 32930), (124, 32957), (125, 32972),

Gene: Angelicage\_42 Start: 39426, Stop: 39875, Start Num: 53

Candidate Starts for Angelicage\_42:

(23, 39330), (Start: 53 @39426 has 344 MA's), (63, 39468), (68, 39483), (72, 39495), (85, 39546), (109, 39648), (136, 39771), (143, 39807), (154, 39858),

Gene: AnnaL29\_34 Start: 24675, Stop: 25103, Start Num: 53

Candidate Starts for AnnaL29\_34:

(Start: 53 @24675 has 344 MA's), (72, 24744), (95, 24849), (130, 24999), (138, 25020),

Gene: Annyong\_30 Start: 22519, Stop: 22947, Start Num: 53

Candidate Starts for Annyong\_30:

(Start: 53 @22519 has 344 MA's), (69, 22579), (76, 22600), (86, 22639), (99, 22702), (128, 22837),

Gene: Appletree2\_29 Start: 27223, Stop: 27642, Start Num: 52

Candidate Starts for Appletree2\_29:

(Start: 52 @27223 has 34 MA's), (57, 27238), (71, 27292), (77, 27307), (91, 27364), (106, 27412), (109, 27418), (115, 27439), (125, 27493), (144, 27598), (151, 27625),

Gene: ArcherNM\_33 Start: 24619, Stop: 25053, Start Num: 53

Candidate Starts for ArcherNM\_33:

(Start: 53 @24619 has 344 MA's), (68, 24679), (69, 24682), (95, 24796), (116, 24859), (137, 24967),

Gene: Archie\_31 Start: 28498, Stop: 28920, Start Num: 51

Candidate Starts for Archie\_31:

(Start: 51 @28498 has 28 MA's), (60, 28525), (66, 28555), (71, 28570), (77, 28585), (91, 28642), (109, 28696), (125, 28771), (126, 28774), (137, 28831), (144, 28876), (151, 28903),

Gene: Argent26\_38 Start: 32702, Stop: 33118, Start Num: 53

Candidate Starts for Argent26\_38:

(Start: 38 @32657 has 1 MA's), (Start: 53 @32702 has 344 MA's), (67, 32756), (72, 32771), (78, 32789), (87, 32819), (121, 32933), (124, 32960), (125, 32975),

Gene: Arti\_51 Start: 39161, Stop: 39586, Start Num: 56

Candidate Starts for Arti\_51:

(36, 39104), (42, 39125), (Start: 56 @39161 has 37 MA's), (97, 39332), (109, 39374),

Gene: Arturo\_29 Start: 22627, Stop: 23055, Start Num: 53

Candidate Starts for Arturo\_29:

(25, 22534), (Start: 53 @22627 has 344 MA's), (62, 22666), (69, 22687), (76, 22708), (85, 22744), (99, 22810), (126, 22918), (128, 22945),

Gene: Ashertheman\_45 Start: 39429, Stop: 39875, Start Num: 53

Candidate Starts for Ashertheman\_45:

(10, 39222), (23, 39327), (27, 39342), (Start: 53 @39429 has 344 MA's), (63, 39471), (68, 39486), (72, 39498), (109, 39651), (143, 39810), (154, 39858),

Gene: Asriel\_35 Start: 31573, Stop: 31989, Start Num: 53

Candidate Starts for Asriel\_35:

(Start: 38 @31528 has 1 MA's), (Start: 53 @31573 has 344 MA's), (67, 31627), (72, 31642), (78, 31660), (87, 31690), (121, 31804), (124, 31831), (125, 31846),

Gene: AvadaKedavra\_29 Start: 27290, Stop: 27709, Start Num: 52

Candidate Starts for AvadaKedavra\_29:

(Start: 52 @27290 has 34 MA's), (57, 27305), (71, 27359), (77, 27374), (91, 27431), (106, 27479), (109, 27485), (115, 27506), (125, 27560), (144, 27665), (151, 27692),

Gene: AvatarAhPeg\_31 Start: 22800, Stop: 23225, Start Num: 53

Candidate Starts for AvatarAhPeg\_31:

(25, 22707), (28, 22716), (Start: 53 @22800 has 344 MA's), (61, 22824), (64, 22845), (75, 22878), (85, 22917), (109, 23010), (116, 23034), (122, 23052), (135, 23136),

Gene: Avle17\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Avle17\_30:



(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: BaboJay\_35 Start: 32262, Stop: 32678, Start Num: 53

Candidate Starts for BaboJay\_35:

(Start: 38 @32217 has 1 MA's), (Start: 53 @32262 has 344 MA's), (67, 32316), (72, 32331), (87, 32379), (121, 32493), (124, 32520), (125, 32535),

Gene: Baby16\_30 Start: 22527, Stop: 22955, Start Num: 53

Candidate Starts for Baby16\_30:

(Start: 53 @22527 has 344 MA's), (69, 22587), (76, 22608), (86, 22647), (99, 22710), (128, 22845),

Gene: Backyardigan\_30 Start: 22542, Stop: 22973, Start Num: 53

Candidate Starts for Backyardigan\_30:

(Start: 53 @22542 has 344 MA's), (62, 22581), (69, 22602), (78, 22632), (99, 22725), (124, 22815), (131, 22869), (147, 22947),

Gene: Bactobuster\_32 Start: 24432, Stop: 24866, Start Num: 53

Candidate Starts for Bactobuster\_32:

(Start: 53 @24432 has 344 MA's), (Start: 54 @24435 has 22 MA's), (69, 24495), (83, 24543), (98, 24615), (116, 24672), (147, 24840), (152, 24855),

Gene: BadStone\_35 Start: 32704, Stop: 33120, Start Num: 53

Candidate Starts for BadStone\_35:

(Start: 38 @32659 has 1 MA's), (Start: 53 @32704 has 344 MA's), (67, 32758), (72, 32773), (87, 32821), (121, 32935), (124, 32962), (125, 32977),

Gene: Baddon\_44 Start: 39967, Stop: 40413, Start Num: 53

Candidate Starts for Baddon\_44:

(10, 39760), (23, 39865), (27, 39880), (Start: 53 @39967 has 344 MA's), (63, 40009), (68, 40024), (72, 40036), (109, 40189), (143, 40348), (154, 40396),

Gene: Badger\_30 Start: 22531, Stop: 22962, Start Num: 53

Candidate Starts for Badger\_30:

(Start: 53 @22531 has 344 MA's), (62, 22570), (69, 22591), (78, 22621), (99, 22714), (124, 22804), (131, 22858), (147, 22936),

Gene: Balomoji\_35 Start: 32438, Stop: 32854, Start Num: 53

Candidate Starts for Balomoji\_35:

(Start: 38 @32393 has 1 MA's), (Start: 53 @32438 has 344 MA's), (67, 32492), (72, 32507), (78, 32525), (87, 32555), (121, 32669), (124, 32696), (125, 32711),

Gene: BangNhom\_30 Start: 22832, Stop: 23260, Start Num: 53

Candidate Starts for BangNhom\_30:

(Start: 53 @22832 has 344 MA's), (62, 22871), (69, 22892), (76, 22913), (86, 22952), (99, 23015), (128, 23150), (130, 23156),

Gene: Baoshan\_30 Start: 27830, Stop: 28252, Start Num: 51

Candidate Starts for Baoshan\_30:

(Start: 51 @27830 has 28 MA's), (60, 27857), (71, 27902), (77, 27917), (79, 27923), (91, 27974), (109, 28028), (125, 28103), (126, 28106), (137, 28163), (144, 28208), (151, 28235),

Gene: Barbarian\_35 Start: 31573, Stop: 31989, Start Num: 53

Candidate Starts for Barbarian\_35:

(Start: 38 @31528 has 1 MA's), (Start: 53 @31573 has 344 MA's), (67, 31627), (72, 31642), (78, 31660), (87, 31690), (121, 31804), (124, 31831), (125, 31846),

Gene: Barsten\_45 Start: 39581, Stop: 40030, Start Num: 53

Candidate Starts for Barsten\_45:

(23, 39482), (Start: 53 @39581 has 344 MA's), (63, 39623), (68, 39638), (72, 39650), (85, 39701), (109, 39803), (136, 39926), (143, 39962), (154, 40013),

Gene: Bartimeaus\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Bartimeaus\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Bask21\_36 Start: 31890, Stop: 32306, Start Num: 53

Candidate Starts for Bask21\_36:

(Start: 38 @31845 has 1 MA's), (Start: 53 @31890 has 344 MA's), (67, 31944), (72, 31959), (78, 31977), (87, 32007), (121, 32121), (124, 32148), (125, 32163),

Gene: BatStarr\_24 Start: 21899, Stop: 22312, Start Num: 54

Candidate Starts for BatStarr\_24:

(1, 21629), (15, 21755), (37, 21878), (Start: 54 @21899 has 22 MA's), (75, 21974), (77, 21983), (87, 22028), (99, 22091), (133, 22238),

Gene: Baudelaire\_32 Start: 27373, Stop: 27798, Start Num: 49

Candidate Starts for Baudelaire\_32:

(Start: 49 @27373 has 2 MA's), (Start: 54 @27385 has 22 MA's), (64, 27427), (67, 27436), (70, 27445), (71, 27448), (73, 27451), (83, 27484), (112, 27586), (115, 27595), (121, 27607), (125, 27649), (126, 27652), (130, 27685), (140, 27724), (144, 27754), (145, 27769),

Gene: Baumdotcom\_43 Start: 38818, Stop: 39264, Start Num: 53

Candidate Starts for Baumdotcom\_43:

(5, 38560), (10, 38611), (23, 38716), (27, 38731), (Start: 53 @38818 has 344 MA's), (63, 38860), (68, 38875), (72, 38887), (109, 39040), (143, 39199), (154, 39247),

Gene: Bazzle\_31 Start: 28247, Stop: 28669, Start Num: 51

Candidate Starts for Bazzle\_31:

(Start: 51 @28247 has 28 MA's), (60, 28274), (66, 28304), (71, 28319), (77, 28334), (91, 28391), (109, 28445), (125, 28520), (126, 28523), (137, 28580), (144, 28625), (151, 28652),

Gene: Bellis\_30 Start: 28377, Stop: 28796, Start Num: 52

Candidate Starts for Bellis\_30:

(Start: 52 @28377 has 34 MA's), (60, 28401), (70, 28443), (109, 28572), (115, 28593), (125, 28647), (126, 28650), (144, 28752),

Gene: BellusTerra\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for BellusTerra\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698),

Gene: Bench\_38 Start: 32572, Stop: 32988, Start Num: 53

Candidate Starts for Bench\_38:

(Start: 38 @32527 has 1 MA's), (Start: 53 @32572 has 344 MA's), (67, 32626), (72, 32641), (78, 32659), (87, 32689), (121, 32803), (124, 32830), (125, 32845),

Gene: BiPauneto\_53 Start: 38687, Stop: 39115, Start Num: 56

Candidate Starts for BiPauneto\_53:

(Start: 56 @38687 has 37 MA's), (97, 38858), (109, 38900), (134, 39026), (140, 39050),

Gene: Bialota\_24 Start: 21911, Stop: 22324, Start Num: 54

Candidate Starts for Bialota\_24:

(1, 21641), (18, 21800), (37, 21890), (Start: 54 @21911 has 22 MA's), (75, 21986), (77, 21995), (87, 22040), (99, 22103), (133, 22250),

Gene: BigBubba\_37 Start: 32475, Stop: 32891, Start Num: 53

Candidate Starts for BigBubba\_37:

(Start: 38 @32430 has 1 MA's), (Start: 53 @32475 has 344 MA's), (67, 32529), (72, 32544), (87, 32592), (121, 32706), (124, 32733), (125, 32748),

Gene: BigCheese\_31 Start: 28009, Stop: 28431, Start Num: 51

Candidate Starts for BigCheese\_31:

(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: BilboSwaggins\_36 Start: 32712, Stop: 33128, Start Num: 53

Candidate Starts for BilboSwaggins\_36:

(Start: 38 @32667 has 1 MA's), (Start: 53 @32712 has 344 MA's), (67, 32766), (72, 32781), (78, 32799), (87, 32829), (121, 32943), (124, 32970), (125, 32985),

Gene: Bizzy\_45 Start: 39124, Stop: 39570, Start Num: 53

Candidate Starts for Bizzy\_45:

(5, 38866), (10, 38917), (23, 39022), (27, 39037), (Start: 53 @39124 has 344 MA's), (63, 39166), (68, 39181), (72, 39193), (109, 39346), (143, 39505), (154, 39553),

Gene: Blackmoor\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Blackmoor\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: BobBob\_42 Start: 38700, Stop: 39149, Start Num: 53

Candidate Starts for BobBob\_42:

(20, 38592), (23, 38601), (Start: 53 @38700 has 344 MA's), (63, 38742), (68, 38757), (72, 38769), (109, 38922), (136, 39045), (143, 39081), (154, 39132),

Gene: BobsGarage\_31 Start: 28009, Stop: 28431, Start Num: 51

Candidate Starts for BobsGarage\_31:

(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: Bombshell\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Bombshell\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Bonum\_55 Start: 39814, Stop: 40242, Start Num: 56

Candidate Starts for Bonum\_55:

(Start: 56 @39814 has 37 MA's), (97, 39985), (141, 40183),

Gene: BoostSeason\_33 Start: 26994, Stop: 27485, Start Num: 53

Candidate Starts for BoostSeason\_33:

(Start: 53 @26994 has 344 MA's), (68, 27051), (74, 27069), (89, 27126), (114, 27261), (123, 27318), (136, 27396), (152, 27474),

Gene: Bosnia\_24 Start: 21899, Stop: 22312, Start Num: 54

Candidate Starts for Bosnia\_24:

(1, 21629), (15, 21755), (37, 21878), (Start: 54 @21899 has 22 MA's), (75, 21974), (77, 21983), (87, 22028), (99, 22091), (133, 22238),

Gene: Brandonk123\_46 Start: 39835, Stop: 40284, Start Num: 53

Candidate Starts for Brandonk123\_46:

(20, 39727), (23, 39736), (Start: 53 @39835 has 344 MA's), (63, 39877), (68, 39892), (72, 39904), (109, 40057), (136, 40180), (143, 40216), (154, 40267),

Gene: Breezona\_31 Start: 28009, Stop: 28431, Start Num: 51

Candidate Starts for Breezona\_31:

(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: Bromden\_31 Start: 27727, Stop: 28146, Start Num: 54

Candidate Starts for Bromden\_31:

(Start: 54 @27727 has 22 MA's), (67, 27781), (72, 27796), (76, 27805), (77, 27811), (90, 27847), (109, 27922), (122, 27964), (125, 27997), (126, 28000), (134, 28048), (144, 28102), (151, 28129),

Gene: Broseidon\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Broseidon\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Bruin\_36 Start: 32732, Stop: 33148, Start Num: 53

Candidate Starts for Bruin\_36:

(Start: 38 @32687 has 1 MA's), (Start: 53 @32732 has 344 MA's), (67, 32786), (72, 32801), (78, 32819), (87, 32849), (121, 32963), (124, 32990), (125, 33005),

Gene: Bruiser\_29 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Bruiser\_29:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: BubbleTrouble\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for BubbleTrouble\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Buck\_35 Start: 32668, Stop: 33084, Start Num: 53

Candidate Starts for Buck\_35:

(Start: 38 @32623 has 1 MA's), (Start: 53 @32668 has 344 MA's), (67, 32722), (72, 32737), (78, 32755), (87, 32785), (121, 32899), (124, 32926), (125, 32941),

Gene: Buggaboo\_53 Start: 40293, Stop: 40721, Start Num: 56

Candidate Starts for Buggaboo\_53:

(Start: 56 @40293 has 37 MA's), (97, 40464), (141, 40662),

Gene: BugsBunny\_34 Start: 32301, Stop: 32717, Start Num: 53

Candidate Starts for BugsBunny\_34:

(Start: 38 @32256 has 1 MA's), (Start: 53 @32301 has 344 MA's), (67, 32355), (72, 32370), (78, 32388), (87, 32418), (121, 32532), (124, 32559), (125, 32574),

Gene: Bumblebee11\_30 Start: 22533, Stop: 22964, Start Num: 53  
Candidate Starts for Bumblebee11\_30:  
(Start: 53 @22533 has 344 MA's), (62, 22572), (69, 22593), (78, 22623), (99, 22716), (124, 22806),  
(131, 22860), (147, 22938),

Gene: Burger\_29 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for Burger\_29:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Cactus\_37 Start: 31923, Stop: 32339, Start Num: 53  
Candidate Starts for Cactus\_37:  
(Start: 38 @31878 has 1 MA's), (Start: 53 @31923 has 344 MA's), (67, 31977), (72, 31992), (78, 32010), (87, 32040), (121, 32154), (124, 32181), (125, 32196),

Gene: Caelakin\_30 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for Caelakin\_30:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Calm\_29 Start: 27294, Stop: 27713, Start Num: 52  
Candidate Starts for Calm\_29:  
(Start: 52 @27294 has 34 MA's), (57, 27309), (71, 27363), (77, 27378), (91, 27435), (106, 27483),  
(109, 27489), (115, 27510), (125, 27564), (144, 27669), (151, 27696),

Gene: Camperdownii\_29 Start: 22137, Stop: 22565, Start Num: 53  
Candidate Starts for Camperdownii\_29:  
(Start: 53 @22137 has 344 MA's), (62, 22176), (69, 22197), (76, 22218), (85, 22254), (86, 22257),  
(128, 22455),

Gene: CentreCat\_30 Start: 22519, Stop: 22947, Start Num: 53  
Candidate Starts for CentreCat\_30:  
(Start: 53 @22519 has 344 MA's), (69, 22579), (76, 22600), (86, 22639), (99, 22702), (128, 22837),

Gene: Cerulean\_31 Start: 22833, Stop: 23261, Start Num: 53  
Candidate Starts for Cerulean\_31:  
(Start: 53 @22833 has 344 MA's), (62, 22872), (69, 22893), (76, 22914), (86, 22953), (99, 23016),  
(128, 23151), (130, 23157),

Gene: ChadMasterC\_45 Start: 40980, Stop: 41429, Start Num: 53  
Candidate Starts for ChadMasterC\_45:  
(23, 40881), (Start: 53 @40980 has 344 MA's), (63, 41022), (68, 41037), (72, 41049), (85, 41100),  
(109, 41202), (136, 41325), (143, 41361), (154, 41412),

Gene: ChampagnePapi\_31 Start: 22832, Stop: 23260, Start Num: 53  
Candidate Starts for ChampagnePapi\_31:  
(Start: 53 @22832 has 344 MA's), (69, 22892), (76, 22913), (86, 22952), (99, 23015), (128, 23150),

Gene: Changeling\_33 Start: 24673, Stop: 25104, Start Num: 53  
Candidate Starts for Changeling\_33:  
(Start: 53 @24673 has 344 MA's), (Start: 54 @24676 has 22 MA's), (62, 24712), (116, 24910), (138, 25021),

Gene: Chaph\_30 Start: 22527, Stop: 22955, Start Num: 53

Candidate Starts for Chaph\_30:

(Start: 53 @22527 has 344 MA's), (69, 22587), (76, 22608), (86, 22647), (99, 22710), (128, 22845),

Gene: Charming\_45 Start: 39336, Stop: 39785, Start Num: 53

Candidate Starts for Charming\_45:

(20, 39228), (23, 39237), (Start: 53 @39336 has 344 MA's), (63, 39378), (68, 39393), (72, 39405), (109, 39558), (136, 39681), (143, 39717), (154, 39768),

Gene: Chaser\_29 Start: 27126, Stop: 27545, Start Num: 54

Candidate Starts for Chaser\_29:

(Start: 54 @27126 has 22 MA's), (61, 27150), (65, 27174), (66, 27177), (90, 27246), (109, 27321), (122, 27363), (125, 27396), (126, 27399), (127, 27402), (134, 27447), (144, 27501), (151, 27528),

Gene: ChosenOne\_36 Start: 31920, Stop: 32336, Start Num: 53

Candidate Starts for ChosenOne\_36:

(Start: 38 @31875 has 1 MA's), (Start: 53 @31920 has 344 MA's), (67, 31974), (72, 31989), (87, 32037), (121, 32151), (124, 32178), (125, 32193),

Gene: ChotaBhai\_36 Start: 31958, Stop: 32374, Start Num: 53

Candidate Starts for ChotaBhai\_36:

(Start: 38 @31913 has 1 MA's), (Start: 53 @31958 has 344 MA's), (67, 32012), (72, 32027), (87, 32075), (121, 32189), (124, 32216), (125, 32231),

Gene: Chris\_33 Start: 27363, Stop: 27860, Start Num: 53

Candidate Starts for Chris\_33:

(24, 27267), (34, 27309), (Start: 53 @27363 has 344 MA's), (Start: 58 @27378 has 1 MA's), (69, 27426), (74, 27441), (87, 27492), (92, 27546), (96, 27573), (108, 27615), (117, 27648), (118, 27663), (123, 27693),

Gene: Chupacabra\_31 Start: 22824, Stop: 23255, Start Num: 53

Candidate Starts for Chupacabra\_31:

(28, 22740), (Start: 53 @22824 has 344 MA's), (69, 22884), (71, 22890), (78, 22914), (122, 23079), (130, 23148),

Gene: CicholasNage\_29 Start: 27282, Stop: 27701, Start Num: 52

Candidate Starts for CicholasNage\_29:

(Start: 52 @27282 has 34 MA's), (57, 27297), (71, 27351), (77, 27366), (91, 27423), (106, 27471), (109, 27477), (115, 27498), (125, 27552), (144, 27657), (151, 27684),

Gene: Cici\_30 Start: 22527, Stop: 22958, Start Num: 53

Candidate Starts for Cici\_30:

(Start: 53 @22527 has 344 MA's), (62, 22566), (69, 22587), (78, 22617), (99, 22710), (124, 22800), (131, 22854), (147, 22932),

Gene: Cindaradix\_29 Start: 22245, Stop: 22676, Start Num: 53

Candidate Starts for Cindaradix\_29:

(Start: 53 @22245 has 344 MA's), (62, 22284), (64, 22290), (105, 22443), (126, 22533),

Gene: Cintron\_30 Start: 22563, Stop: 22991, Start Num: 53

Candidate Starts for Cintron\_30:

(Start: 53 @22563 has 344 MA's), (62, 22602), (69, 22623), (76, 22644), (85, 22680), (99, 22746), (126, 22854), (128, 22881),

Gene: Citius\_30 Start: 22533, Stop: 22961, Start Num: 53  
Candidate Starts for Citius\_30:  
(Start: 53 @22533 has 344 MA's), (69, 22593), (76, 22614), (86, 22653), (99, 22716), (128, 22851),

Gene: Cjw1\_36 Start: 33427, Stop: 33888, Start Num: 38  
Candidate Starts for Cjw1\_36:  
(Start: 38 @33427 has 1 MA's), (Start: 53 @33472 has 344 MA's), (67, 33526), (72, 33541), (78, 33559), (87, 33589), (121, 33703), (124, 33730), (125, 33745),

Gene: Clarenza\_30 Start: 22515, Stop: 22943, Start Num: 53  
Candidate Starts for Clarenza\_30:  
(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (128, 22833),

Gene: Claus\_31 Start: 27986, Stop: 28408, Start Num: 51  
Candidate Starts for Claus\_31:  
(Start: 51 @27986 has 28 MA's), (60, 28013), (71, 28058), (77, 28073), (79, 28079), (91, 28130), (109, 28184), (115, 28205), (125, 28259), (126, 28262), (137, 28319), (144, 28364), (151, 28391),

Gene: Clautastrophe\_30 Start: 28374, Stop: 28793, Start Num: 52  
Candidate Starts for Clautastrophe\_30:  
(Start: 52 @28374 has 34 MA's), (60, 28398), (70, 28440), (109, 28569), (115, 28590), (125, 28644), (126, 28647), (144, 28749),

Gene: Cocoaberry\_30 Start: 22522, Stop: 22950, Start Num: 53  
Candidate Starts for Cocoaberry\_30:  
(Start: 53 @22522 has 344 MA's), (69, 22582), (76, 22603), (86, 22642), (99, 22705), (128, 22840),

Gene: Command613\_37 Start: 32979, Stop: 33395, Start Num: 53  
Candidate Starts for Command613\_37:  
(Start: 38 @32934 has 1 MA's), (Start: 53 @32979 has 344 MA's), (67, 33033), (72, 33048), (78, 33066), (87, 33096), (121, 33210), (124, 33237), (125, 33252),

Gene: Commandaria\_52 Start: 40288, Stop: 40710, Start Num: 56  
Candidate Starts for Commandaria\_52:  
(Start: 56 @40288 has 37 MA's), (97, 40459), (128, 40606), (134, 40627), (141, 40657),

Gene: Commander\_30 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for Commander\_30:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701),

Gene: Connomayer\_30 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for Connomayer\_30:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Contagion\_35 Start: 32216, Stop: 32632, Start Num: 53  
Candidate Starts for Contagion\_35:  
(Start: 38 @32171 has 1 MA's), (Start: 53 @32216 has 344 MA's), (67, 32270), (72, 32285), (78, 32303), (87, 32333), (121, 32447), (124, 32474), (125, 32489),

Gene: Cookies\_36 Start: 32581, Stop: 32997, Start Num: 53  
Candidate Starts for Cookies\_36:  
(Start: 38 @32536 has 1 MA's), (Start: 53 @32581 has 344 MA's), (67, 32635), (72, 32650), (87, 32698), (121, 32812), (124, 32839), (125, 32854),

Gene: Crossroads\_31 Start: 28009, Stop: 28431, Start Num: 51

Candidate Starts for Crossroads\_31:

(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: CrystalP\_36 Start: 32712, Stop: 33128, Start Num: 53

Candidate Starts for CrystalP\_36:

(Start: 38 @32667 has 1 MA's), (Start: 53 @32712 has 344 MA's), (67, 32766), (72, 32781), (78, 32799), (87, 32829), (121, 32943), (124, 32970), (125, 32985),

Gene: Czyszczone1\_37 Start: 32457, Stop: 32873, Start Num: 53

Candidate Starts for Czyszczone1\_37:

(Start: 38 @32412 has 1 MA's), (Start: 53 @32457 has 344 MA's), (67, 32511), (72, 32526), (78, 32544), (87, 32574), (121, 32688), (124, 32715), (125, 32730),

Gene: Daikon\_35 Start: 32450, Stop: 32866, Start Num: 53

Candidate Starts for Daikon\_35:

(Start: 38 @32405 has 1 MA's), (Start: 53 @32450 has 344 MA's), (66, 32501), (69, 32510), (72, 32519), (78, 32537), (87, 32567), (121, 32681), (124, 32708), (125, 32723),

Gene: Dalilpop\_56 Start: 41448, Stop: 41870, Start Num: 56

Candidate Starts for Dalilpop\_56:

(31, 41364), (33, 41379), (44, 41409), (46, 41418), (Start: 56 @41448 has 37 MA's), (81, 41538), (97, 41619), (109, 41661), (141, 41817), (145, 41856),

Gene: Datway\_30 Start: 22542, Stop: 22973, Start Num: 53

Candidate Starts for Datway\_30:

(Start: 53 @22542 has 344 MA's), (62, 22581), (69, 22602), (78, 22632), (99, 22725), (124, 22815), (131, 22869), (147, 22947),

Gene: Deano\_30 Start: 22526, Stop: 22954, Start Num: 53

Candidate Starts for Deano\_30:

(Start: 53 @22526 has 344 MA's), (69, 22586), (76, 22607), (86, 22646), (99, 22709), (128, 22844),

Gene: Derg\_42 Start: 38716, Stop: 39162, Start Num: 53

Candidate Starts for Derg\_42:

(10, 38509), (23, 38614), (27, 38629), (Start: 53 @38716 has 344 MA's), (63, 38758), (68, 38773), (72, 38785), (109, 38938), (143, 39097), (154, 39145),

Gene: Dhanush\_30 Start: 22521, Stop: 22949, Start Num: 53

Candidate Starts for Dhanush\_30:

(Start: 53 @22521 has 344 MA's), (69, 22581), (76, 22602), (86, 22641), (99, 22704), (128, 22839),

Gene: DirkDirk\_29 Start: 27263, Stop: 27682, Start Num: 52

Candidate Starts for DirkDirk\_29:

(Start: 52 @27263 has 34 MA's), (57, 27278), (71, 27332), (77, 27347), (91, 27404), (106, 27452), (109, 27458), (115, 27479), (125, 27533), (144, 27638), (151, 27665),

Gene: DirtyDunning\_30 Start: 22511, Stop: 22939, Start Num: 53

Candidate Starts for DirtyDunning\_30:

(Start: 53 @22511 has 344 MA's), (62, 22550), (69, 22571), (76, 22592), (85, 22628), (86, 22631), (128, 22829),



Gene: DismalFunk\_32 Start: 26906, Stop: 27397, Start Num: 53

Candidate Starts for DismalFunk\_32:

(Start: 53 @26906 has 344 MA's), (68, 26963), (74, 26981), (89, 27038), (114, 27173), (119, 27203), (123, 27230), (126, 27254), (136, 27308), (138, 27317),

Gene: DismalStressor\_32 Start: 26906, Stop: 27397, Start Num: 53

Candidate Starts for DismalStressor\_32:

(Start: 53 @26906 has 344 MA's), (68, 26963), (74, 26981), (89, 27038), (114, 27173), (119, 27203), (123, 27230), (126, 27254), (136, 27308), (138, 27317),

Gene: DoctorDiddles\_36 Start: 31874, Stop: 32290, Start Num: 53

Candidate Starts for DoctorDiddles\_36:

(Start: 38 @31829 has 1 MA's), (Start: 53 @31874 has 344 MA's), (67, 31928), (72, 31943), (78, 31961), (87, 31991), (121, 32105), (124, 32132), (125, 32147),

Gene: Dogfish\_26 Start: 22166, Stop: 22594, Start Num: 54

Candidate Starts for Dogfish\_26:

(13, 22007), (17, 22034), (39, 22148), (Start: 52 @22160 has 34 MA's), (Start: 54 @22166 has 22 MA's), (70, 22226), (77, 22250), (85, 22283), (86, 22286), (99, 22358), (107, 22382),

Gene: Douge\_29 Start: 27064, Stop: 27483, Start Num: 54

Candidate Starts for Douge\_29:

(Start: 54 @27064 has 22 MA's), (61, 27088), (65, 27112), (66, 27115), (90, 27184), (109, 27259), (122, 27301), (125, 27334), (126, 27337), (127, 27340), (134, 27385), (144, 27439), (151, 27466),

Gene: DrDrey\_37 Start: 33204, Stop: 33620, Start Num: 53

Candidate Starts for DrDrey\_37:

(Start: 38 @33159 has 1 MA's), (Start: 53 @33204 has 344 MA's), (67, 33258), (72, 33273), (87, 33321), (121, 33435), (124, 33462), (125, 33477),

Gene: DrSeegs\_31 Start: 28009, Stop: 28431, Start Num: 51

Candidate Starts for DrSeegs\_31:

(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: Drake94\_30 Start: 20956, Stop: 21384, Start Num: 53

Candidate Starts for Drake94\_30:

(Start: 53 @20956 has 344 MA's), (62, 20995), (64, 21001), (71, 21022), (78, 21046), (99, 21139), (148, 21364),

Gene: DroogsArmy\_31 Start: 25323, Stop: 25751, Start Num: 53

Candidate Starts for DroogsArmy\_31:

(Start: 53 @25323 has 344 MA's), (68, 25380), (72, 25392), (78, 25413), (109, 25533), (115, 25554), (124, 25593), (126, 25611), (130, 25644), (139, 25677),

Gene: Druantia\_30 Start: 22519, Stop: 22947, Start Num: 53

Candidate Starts for Druantia\_30:

(Start: 53 @22519 has 344 MA's), (69, 22579), (76, 22600), (86, 22639), (99, 22702), (128, 22837),

Gene: Dumbo\_36 Start: 32179, Stop: 32595, Start Num: 53

Candidate Starts for Dumbo\_36:

(Start: 38 @32134 has 1 MA's), (Start: 53 @32179 has 344 MA's), (67, 32233), (72, 32248), (78, 32266), (87, 32296), (121, 32410), (124, 32437), (125, 32452),

Gene: DuncansLeg\_30 Start: 28348, Stop: 28767, Start Num: 52

Candidate Starts for DuncansLeg\_30:

(Start: 52 @28348 has 34 MA's), (60, 28372), (70, 28414), (91, 28489), (109, 28543), (121, 28576), (125, 28618), (126, 28621), (134, 28669), (144, 28723),

Gene: Dusk\_35 Start: 32364, Stop: 32780, Start Num: 53

Candidate Starts for Dusk\_35:

(Start: 38 @32319 has 1 MA's), (Start: 53 @32364 has 344 MA's), (67, 32418), (72, 32433), (87, 32481), (121, 32595), (124, 32622), (125, 32637),

Gene: DyoEdafos\_30 Start: 27265, Stop: 27684, Start Num: 54

Candidate Starts for DyoEdafos\_30:

(Start: 54 @27265 has 22 MA's), (59, 27280), (61, 27289), (66, 27316), (90, 27385), (109, 27460), (121, 27493), (122, 27502), (125, 27535), (134, 27586), (144, 27640), (151, 27667),

Gene: Eagle\_29 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Eagle\_29:

(Start: 53 @22518 has 344 MA's), (62, 22557), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836), (130, 22842),

Gene: Eaglepride\_32 Start: 22834, Stop: 23265, Start Num: 53

Candidate Starts for Eaglepride\_32:

(Start: 53 @22834 has 344 MA's), (57, 22846), (62, 22873), (67, 22888), (99, 23017), (116, 23071), (121, 23080), (138, 23182), (147, 23239),

Gene: Eapen\_30 Start: 22517, Stop: 22945, Start Num: 53

Candidate Starts for Eapen\_30:

(Start: 53 @22517 has 344 MA's), (69, 22577), (76, 22598), (82, 22622), (86, 22637), (99, 22700), (128, 22835),

Gene: Easy2Say\_38 Start: 33962, Stop: 34378, Start Num: 53

Candidate Starts for Easy2Say\_38:

(Start: 38 @33917 has 1 MA's), (Start: 53 @33962 has 344 MA's), (67, 34016), (72, 34031), (78, 34049), (87, 34079), (121, 34193), (124, 34220), (125, 34235),

Gene: Edison31\_31 Start: 22864, Stop: 23295, Start Num: 53

Candidate Starts for Edison31\_31:

(29, 22786), (34, 22807), (Start: 53 @22864 has 344 MA's), (62, 22903), (98, 23044), (99, 23047), (122, 23119), (130, 23188), (138, 23212),

Gene: Elite2014\_35 Start: 31919, Stop: 32335, Start Num: 53

Candidate Starts for Elite2014\_35:

(Start: 38 @31874 has 1 MA's), (Start: 53 @31919 has 344 MA's), (67, 31973), (72, 31988), (87, 32036), (121, 32150), (124, 32177), (125, 32192),

Gene: Ellson\_30 Start: 28335, Stop: 28754, Start Num: 52

Candidate Starts for Ellson\_30:

(Start: 52 @28335 has 34 MA's), (60, 28359), (70, 28401), (91, 28476), (109, 28530), (121, 28563), (125, 28605), (126, 28608), (134, 28656), (144, 28710),

Gene: Elph10\_37 Start: 32182, Stop: 32598, Start Num: 53

Candidate Starts for Elph10\_37:

(Start: 38 @32137 has 1 MA's), (Start: 53 @32182 has 344 MA's), (67, 32236), (72, 32251), (78, 32269), (87, 32299), (121, 32413), (124, 32440), (125, 32455),

Gene: Emianna\_51 Start: 40153, Stop: 40578, Start Num: 56

Candidate Starts for Emianna\_51:

(36, 40096), (42, 40117), (Start: 56 @40153 has 37 MA's), (97, 40324), (109, 40366),

Gene: Emmina\_37 Start: 32540, Stop: 32956, Start Num: 53

Candidate Starts for Emmina\_37:

(Start: 38 @32495 has 1 MA's), (Start: 53 @32540 has 344 MA's), (67, 32594), (72, 32609), (87, 32657), (121, 32771), (124, 32798), (125, 32813),

Gene: Enceladus\_29 Start: 27264, Stop: 27683, Start Num: 52

Candidate Starts for Enceladus\_29:

(Start: 52 @27264 has 34 MA's), (57, 27279), (71, 27333), (77, 27348), (91, 27405), (106, 27453), (109, 27459), (115, 27480), (125, 27534), (144, 27639), (151, 27666),

Gene: Ennea\_58 Start: 41167, Stop: 41595, Start Num: 56

Candidate Starts for Ennea\_58:

(Start: 56 @41167 has 37 MA's), (81, 41257), (83, 41266), (97, 41338), (141, 41536),

Gene: Eris\_29 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Eris\_29:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Eros\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Eros\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Eureka\_36 Start: 32695, Stop: 33111, Start Num: 53

Candidate Starts for Eureka\_36:

(Start: 38 @32650 has 1 MA's), (Start: 53 @32695 has 344 MA's), (67, 32749), (72, 32764), (78, 32782), (87, 32812), (121, 32926), (124, 32953), (125, 32968),

Gene: Eurydice\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for Eurydice\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698),

Gene: Eviarto\_24 Start: 21899, Stop: 22312, Start Num: 54

Candidate Starts for Eviarto\_24:

(1, 21629), (15, 21755), (37, 21878), (Start: 54 @21899 has 22 MA's), (75, 21974), (77, 21983), (87, 22028), (99, 22091), (133, 22238),

Gene: Ewald\_27 Start: 22552, Stop: 22968, Start Num: 54

Candidate Starts for Ewald\_27:

(15, 22375), (35, 22495), (37, 22498), (43, 22519), (Start: 54 @22552 has 22 MA's), (64, 22594), (68, 22606), (77, 22636), (85, 22669), (107, 22768),

Gene: Faith1\_31 Start: 28009, Stop: 28431, Start Num: 51

Candidate Starts for Faith1\_31:

(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: Filch\_37 Start: 32470, Stop: 32886, Start Num: 53

Candidate Starts for Filch\_37:

(Start: 38 @32425 has 1 MA's), (Start: 53 @32470 has 344 MA's), (67, 32524), (72, 32539), (78, 32557), (87, 32587), (121, 32701), (124, 32728), (125, 32743),

Gene: Findley\_32 Start: 26898, Stop: 27389, Start Num: 53

Candidate Starts for Findley\_32:

(Start: 53 @26898 has 344 MA's), (68, 26955), (74, 26973), (89, 27030), (114, 27165), (119, 27195), (123, 27222), (126, 27246), (136, 27300), (138, 27309),

Gene: Finemlucis\_31 Start: 28285, Stop: 28707, Start Num: 51

Candidate Starts for Finemlucis\_31:

(Start: 51 @28285 has 28 MA's), (60, 28312), (71, 28357), (77, 28372), (79, 28378), (91, 28429), (109, 28483), (125, 28558), (126, 28561), (137, 28618), (144, 28663), (151, 28690),

Gene: Finnry\_30 Start: 28378, Stop: 28797, Start Num: 52

Candidate Starts for Finnry\_30:

(Start: 52 @28378 has 34 MA's), (60, 28402), (70, 28444), (109, 28573), (115, 28594), (125, 28648), (126, 28651), (144, 28753),

Gene: FireRed\_36 Start: 32740, Stop: 33156, Start Num: 53

Candidate Starts for FireRed\_36:

(Start: 38 @32695 has 1 MA's), (Start: 53 @32740 has 344 MA's), (67, 32794), (72, 32809), (78, 32827), (87, 32857), (121, 32971), (124, 32998), (125, 33013),

Gene: Fitzgerald\_43 Start: 40238, Stop: 40687, Start Num: 53

Candidate Starts for Fitzgerald\_43:

(20, 40130), (23, 40139), (Start: 53 @40238 has 344 MA's), (63, 40280), (68, 40295), (72, 40307), (109, 40460), (136, 40583), (143, 40619), (154, 40670),

Gene: Flapper\_56 Start: 40879, Stop: 41316, Start Num: 56

Candidate Starts for Flapper\_56:

(31, 40795), (33, 40810), (44, 40840), (46, 40849), (Start: 56 @40879 has 37 MA's), (81, 40969), (97, 41050), (109, 41092), (124, 41152), (141, 41248),

Gene: Flatwoods\_45 Start: 39068, Stop: 39514, Start Num: 53

Candidate Starts for Flatwoods\_45:

(5, 38810), (10, 38861), (23, 38966), (27, 38981), (Start: 53 @39068 has 344 MA's), (63, 39110), (68, 39125), (72, 39137), (109, 39290), (143, 39449), (154, 39497),

Gene: Float294\_54 Start: 40609, Stop: 41037, Start Num: 56

Candidate Starts for Float294\_54:

(Start: 56 @40609 has 37 MA's), (81, 40699), (83, 40708), (97, 40780), (141, 40978),

Gene: Florean\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for Florean\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (128, 22833),

Gene: Flux\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Flux\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Flypotenuse\_34 Start: 32308, Stop: 32724, Start Num: 53

Candidate Starts for Flypotenuse\_34:

(Start: 38 @32263 has 1 MA's), (Start: 53 @32308 has 344 MA's), (67, 32362), (72, 32377), (87, 32425), (121, 32539), (124, 32566), (125, 32581),

Gene: Fosterous\_42 Start: 38797, Stop: 39246, Start Num: 53

Candidate Starts for Fosterous\_42:

(23, 38698), (Start: 53 @38797 has 344 MA's), (63, 38839), (68, 38854), (72, 38866), (109, 39019), (136, 39142), (143, 39178), (154, 39229),

Gene: Foxboro\_52 Start: 40659, Stop: 41084, Start Num: 56

Candidate Starts for Foxboro\_52:

(36, 40602), (42, 40623), (Start: 56 @40659 has 37 MA's), (97, 40830), (109, 40872),

Gene: Fryberger\_63 Start: 35468, Stop: 35857, Start Num: 55

Candidate Starts for Fryberger\_63:

(Start: 55 @35468 has 6 MA's), (63, 35504), (84, 35576), (107, 35681), (120, 35717), (126, 35759), (130, 35792),

Gene: Funston\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Funston\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Fury\_59 Start: 39331, Stop: 39744, Start Num: 56

Candidate Starts for Fury\_59:

(46, 39304), (Start: 56 @39331 has 37 MA's), (81, 39421), (83, 39430), (97, 39502), (109, 39544), (123, 39598), (134, 39670), (141, 39700),

Gene: GRU1\_41 Start: 32426, Stop: 32848, Start Num: 56

Candidate Starts for GRU1\_41:

(44, 32387), (47, 32399), (Start: 56 @32426 has 37 MA's), (81, 32516), (97, 32597), (109, 32639), (141, 32795), (145, 32834),

Gene: GTE5\_43 Start: 33736, Stop: 34173, Start Num: 56

Candidate Starts for GTE5\_43:

(31, 33652), (33, 33667), (44, 33697), (46, 33706), (Start: 56 @33736 has 37 MA's), (81, 33826), (97, 33907), (109, 33949), (124, 34009), (141, 34105),

Gene: GTE8\_40 Start: 33411, Stop: 33839, Start Num: 56

Candidate Starts for GTE8\_40:

(36, 33354), (42, 33375), (Start: 56 @33411 has 37 MA's), (97, 33582),

Gene: Gabriela\_31 Start: 28271, Stop: 28693, Start Num: 51

Candidate Starts for Gabriela\_31:

(Start: 51 @28271 has 28 MA's), (60, 28298), (71, 28343), (77, 28358), (79, 28364), (91, 28415), (109, 28469), (125, 28544), (126, 28547), (137, 28604), (144, 28649), (151, 28676),

Gene: Gadost\_30 Start: 22522, Stop: 22950, Start Num: 53

Candidate Starts for Gadost\_30:

(Start: 53 @22522 has 344 MA's), (69, 22582), (76, 22603), (86, 22642), (99, 22705), (128, 22840),

Gene: Gaea\_44 Start: 38712, Stop: 39158, Start Num: 53

Candidate Starts for Gaea\_44:

(3, 38436), (5, 38454), (10, 38505), (23, 38610), (27, 38625), (Start: 53 @38712 has 344 MA's), (63, 38754), (68, 38769), (72, 38781), (109, 38934), (143, 39093), (154, 39141),

Gene: Gage\_38 Start: 32702, Stop: 33118, Start Num: 53

Candidate Starts for Gage\_38:

(Start: 38 @32657 has 1 MA's), (Start: 53 @32702 has 344 MA's), (67, 32756), (72, 32771), (78, 32789), (87, 32819), (121, 32933), (124, 32960), (125, 32975),

Gene: Galadriel\_44 Start: 39604, Stop: 40053, Start Num: 53

Candidate Starts for Galadriel\_44:

(20, 39496), (23, 39505), (Start: 53 @39604 has 344 MA's), (63, 39646), (68, 39661), (72, 39673), (85, 39724), (109, 39826), (136, 39949), (143, 39985), (154, 40036),

Gene: Gardann\_31 Start: 28011, Stop: 28433, Start Num: 51

Candidate Starts for Gardann\_31:

(Start: 51 @28011 has 28 MA's), (60, 28038), (71, 28083), (77, 28098), (79, 28104), (91, 28155), (109, 28209), (125, 28284), (126, 28287), (137, 28344), (144, 28389), (151, 28416),

Gene: Gator\_34 Start: 32320, Stop: 32736, Start Num: 53

Candidate Starts for Gator\_34:

(Start: 38 @32275 has 1 MA's), (Start: 53 @32320 has 344 MA's), (67, 32374), (72, 32389), (78, 32407), (87, 32437), (121, 32551), (124, 32578), (125, 32593),

Gene: Gemini\_39 Start: 33219, Stop: 33635, Start Num: 53

Candidate Starts for Gemini\_39:

(Start: 38 @33174 has 1 MA's), (Start: 53 @33219 has 344 MA's), (67, 33273), (72, 33288), (78, 33306), (87, 33336), (121, 33450), (124, 33477), (125, 33492),

Gene: Geodirt\_43 Start: 40216, Stop: 40665, Start Num: 53

Candidate Starts for Geodirt\_43:

(23, 40117), (Start: 53 @40216 has 344 MA's), (63, 40258), (68, 40273), (72, 40285), (109, 40438), (136, 40561), (143, 40597), (154, 40648),

Gene: Ghobes\_23 Start: 19556, Stop: 19969, Start Num: 54

Candidate Starts for Ghobes\_23:

(Start: 54 @19556 has 22 MA's), (62, 19589), (100, 19748), (102, 19751), (129, 19874),

Gene: Glexan\_34 Start: 32308, Stop: 32724, Start Num: 53

Candidate Starts for Glexan\_34:

(Start: 38 @32263 has 1 MA's), (Start: 53 @32308 has 344 MA's), (67, 32362), (72, 32377), (87, 32425), (121, 32539), (124, 32566), (125, 32581),

Gene: Gmala1\_31 Start: 36456, Stop: 36854, Start Num: 58

Candidate Starts for Gmala1\_31:

(Start: 58 @36456 has 1 MA's), (59, 36459), (65, 36492), (83, 36555), (103, 36636), (109, 36657), (141, 36804), (149, 36849),

Gene: Goku\_36 Start: 32424, Stop: 32840, Start Num: 53

Candidate Starts for Goku\_36:

(Start: 38 @32379 has 1 MA's), (Start: 53 @32424 has 344 MA's), (67, 32478), (72, 32493), (78, 32511), (87, 32541), (121, 32655), (124, 32682), (125, 32697),

Gene: GoldenSpark\_38 Start: 32702, Stop: 33118, Start Num: 53  
Candidate Starts for GoldenSpark\_38:  
(Start: 38 @32657 has 1 MA's), (Start: 53 @32702 has 344 MA's), (67, 32756), (72, 32771), (78, 32789), (87, 32819), (121, 32933), (124, 32960), (125, 32975),

Gene: Goldilocks\_37 Start: 32122, Stop: 32538, Start Num: 53  
Candidate Starts for Goldilocks\_37:  
(Start: 38 @32077 has 1 MA's), (Start: 53 @32122 has 344 MA's), (67, 32176), (72, 32191), (78, 32209), (87, 32239), (88, 32242), (121, 32353), (124, 32380), (125, 32395),

Gene: GooberAzure\_38 Start: 32702, Stop: 33118, Start Num: 53  
Candidate Starts for GooberAzure\_38:  
(Start: 38 @32657 has 1 MA's), (Start: 53 @32702 has 344 MA's), (67, 32756), (72, 32771), (78, 32789), (87, 32819), (121, 32933), (124, 32960), (125, 32975),

Gene: Goose\_31 Start: 22825, Stop: 23256, Start Num: 53  
Candidate Starts for Goose\_31:  
(28, 22741), (Start: 53 @22825 has 344 MA's), (69, 22885), (71, 22891), (78, 22915), (122, 23080), (130, 23149),

Gene: GordDuk1\_31 Start: 36394, Stop: 36792, Start Num: 58  
Candidate Starts for GordDuk1\_31:  
(Start: 58 @36394 has 1 MA's), (59, 36397), (65, 36430), (83, 36493), (103, 36574), (109, 36595), (141, 36742), (149, 36787),

Gene: GordTnk2\_31 Start: 36363, Stop: 36761, Start Num: 58  
Candidate Starts for GordTnk2\_31:  
(Start: 58 @36363 has 1 MA's), (59, 36366), (65, 36399), (83, 36462), (103, 36543), (109, 36564), (141, 36711), (149, 36756),

Gene: GrootJr\_53 Start: 39535, Stop: 39960, Start Num: 56  
Candidate Starts for GrootJr\_53:  
(36, 39478), (42, 39499), (Start: 56 @39535 has 37 MA's), (97, 39706), (109, 39748),

Gene: Guey18\_69 Start: 36988, Stop: 37377, Start Num: 55  
Candidate Starts for Guey18\_69:  
(Start: 55 @36988 has 6 MA's), (63, 37024), (84, 37096), (107, 37201), (120, 37237), (126, 37279), (130, 37312),

Gene: Gustavo\_44 Start: 38884, Stop: 39330, Start Num: 53  
Candidate Starts for Gustavo\_44:  
(10, 38677), (23, 38782), (27, 38797), (Start: 53 @38884 has 344 MA's), (63, 38926), (68, 38941), (72, 38953), (109, 39106), (143, 39265), (154, 39313),

Gene: GuuelaD\_31 Start: 28043, Stop: 28465, Start Num: 51  
Candidate Starts for GuuelaD\_31:  
(Start: 51 @28043 has 28 MA's), (60, 28070), (71, 28115), (77, 28130), (79, 28136), (91, 28187), (109, 28241), (125, 28316), (126, 28319), (137, 28376), (144, 28421), (151, 28448),

Gene: HINdeR\_30 Start: 25427, Stop: 25855, Start Num: 53  
Candidate Starts for HINdeR\_30:

(Start: 53 @25427 has 344 MA's), (68, 25484), (78, 25517), (109, 25637), (124, 25697), (126, 25715), (130, 25748), (152, 25850),

Gene: Hafay\_31 Start: 28042, Stop: 28464, Start Num: 51

Candidate Starts for Hafay\_31:

(Start: 51 @28042 has 28 MA's), (60, 28069), (71, 28114), (77, 28129), (79, 28135), (91, 28186), (109, 28240), (125, 28315), (126, 28318), (137, 28375), (144, 28420), (151, 28447),

Gene: Halena\_29 Start: 27291, Stop: 27710, Start Num: 52

Candidate Starts for Halena\_29:

(Start: 52 @27291 has 34 MA's), (57, 27306), (71, 27360), (77, 27375), (91, 27432), (106, 27480), (109, 27486), (115, 27507), (125, 27561), (144, 27666), (151, 27693),

Gene: HamSlice\_29 Start: 22516, Stop: 22944, Start Num: 53

Candidate Starts for HamSlice\_29:

(Start: 53 @22516 has 344 MA's), (69, 22576), (76, 22597), (86, 22636), (99, 22699), (128, 22834),

Gene: HanKaySha\_37 Start: 32454, Stop: 32870, Start Num: 53

Candidate Starts for HanKaySha\_37:

(Start: 38 @32409 has 1 MA's), (Start: 53 @32454 has 344 MA's), (67, 32508), (72, 32523), (78, 32541), (87, 32571), (121, 32685), (124, 32712), (125, 32727),

Gene: Happiness\_30 Start: 22524, Stop: 22952, Start Num: 53

Candidate Starts for Happiness\_30:

(Start: 53 @22524 has 344 MA's), (62, 22563), (69, 22584), (76, 22605), (86, 22644), (99, 22707), (128, 22842), (130, 22848),

Gene: Harella\_35 Start: 32824, Stop: 33240, Start Num: 53

Candidate Starts for Harella\_35:

(Start: 38 @32779 has 1 MA's), (Start: 53 @32824 has 344 MA's), (67, 32878), (72, 32893), (87, 32941), (121, 33055), (124, 33082), (125, 33097),

Gene: Henry\_37 Start: 32712, Stop: 33128, Start Num: 53

Candidate Starts for Henry\_37:

(Start: 38 @32667 has 1 MA's), (Start: 53 @32712 has 344 MA's), (67, 32766), (72, 32781), (87, 32829), (121, 32943), (124, 32970), (125, 32985),

Gene: Herbertwm\_28 Start: 21463, Stop: 21894, Start Num: 53

Candidate Starts for Herbertwm\_28:

(22, 21358), (26, 21373), (29, 21385), (Start: 53 @21463 has 344 MA's), (69, 21523), (85, 21580), (116, 21700), (139, 21814),

Gene: Herod\_24 Start: 21899, Stop: 22312, Start Num: 54

Candidate Starts for Herod\_24:

(1, 21629), (15, 21755), (37, 21878), (Start: 54 @21899 has 22 MA's), (75, 21974), (77, 21983), (87, 22028), (99, 22091), (133, 22238),

Gene: Highbury\_37 Start: 32370, Stop: 32786, Start Num: 53

Candidate Starts for Highbury\_37:

(Start: 38 @32325 has 1 MA's), (Start: 53 @32370 has 344 MA's), (67, 32424), (72, 32439), (78, 32457), (87, 32487), (121, 32601), (124, 32628), (125, 32643),

Gene: Holli\_30 Start: 22308, Stop: 22736, Start Num: 53



Candidate Starts for Holli\_30:

(Start: 53 @22308 has 344 MA's), (69, 22368), (76, 22389), (86, 22428), (99, 22491), (128, 22626),

Gene: Holt\_37 Start: 31989, Stop: 32405, Start Num: 53

Candidate Starts for Holt\_37:

(Start: 38 @31944 has 1 MA's), (Start: 53 @31989 has 344 MA's), (67, 32043), (72, 32058), (87, 32106), (121, 32220), (124, 32247), (125, 32262),

Gene: Hoonter\_38 Start: 32702, Stop: 33118, Start Num: 53

Candidate Starts for Hoonter\_38:

(Start: 38 @32657 has 1 MA's), (Start: 53 @32702 has 344 MA's), (67, 32756), (72, 32771), (78, 32789), (87, 32819), (121, 32933), (124, 32960), (125, 32975),

Gene: Hokey\_38 Start: 32989, Stop: 33405, Start Num: 53

Candidate Starts for Hokey\_38:

(Start: 38 @32944 has 1 MA's), (Start: 53 @32989 has 344 MA's), (67, 33043), (72, 33058), (78, 33076), (87, 33106), (121, 33220), (124, 33247), (125, 33262),

Gene: Houdini22\_30 Start: 22522, Stop: 22950, Start Num: 53

Candidate Starts for Houdini22\_30:

(Start: 53 @22522 has 344 MA's), (69, 22582), (76, 22603), (86, 22642), (99, 22705), (128, 22840),

Gene: HubbaBubba\_49 Start: 35702, Stop: 36127, Start Num: 56

Candidate Starts for HubbaBubba\_49:

(45, 35669), (Start: 56 @35702 has 37 MA's), (97, 35873), (109, 35915), (134, 36041), (150, 36119),

Gene: HufflyPuff\_35 Start: 32696, Stop: 33112, Start Num: 53

Candidate Starts for HufflyPuff\_35:

(Start: 38 @32651 has 1 MA's), (Start: 53 @32696 has 344 MA's), (67, 32750), (72, 32765), (78, 32783), (87, 32813), (121, 32927), (124, 32954), (125, 32969),

Gene: Hugley\_24 Start: 21899, Stop: 22312, Start Num: 54

Candidate Starts for Hugley\_24:

(1, 21629), (15, 21755), (37, 21878), (Start: 54 @21899 has 22 MA's), (75, 21974), (77, 21983), (87, 22028), (99, 22091), (133, 22238),

Gene: ICleared\_30 Start: 22516, Stop: 22944, Start Num: 53

Candidate Starts for ICleared\_30:

(Start: 53 @22516 has 344 MA's), (69, 22576), (76, 22597), (86, 22636), (99, 22699), (128, 22834),

Gene: IDyn\_52 Start: 37131, Stop: 37559, Start Num: 56

Candidate Starts for IDyn\_52:

(45, 37098), (Start: 56 @37131 has 37 MA's), (97, 37302), (109, 37344), (134, 37470),

Gene: IHOP\_36 Start: 32889, Stop: 33305, Start Num: 53

Candidate Starts for IHOP\_36:

(Start: 38 @32844 has 1 MA's), (Start: 53 @32889 has 344 MA's), (67, 32943), (72, 32958), (87, 33006), (121, 33120), (124, 33147), (125, 33162),

Gene: Icee\_35 Start: 32370, Stop: 32786, Start Num: 53

Candidate Starts for Icee\_35:

(Start: 38 @32325 has 1 MA's), (Start: 53 @32370 has 344 MA's), (67, 32424), (72, 32439), (78, 32457), (87, 32487), (121, 32601), (124, 32628), (125, 32643),

Gene: Iceman\_31 Start: 22807, Stop: 23235, Start Num: 53

Candidate Starts for Iceman\_31:

(Start: 53 @22807 has 344 MA's), (69, 22867), (76, 22888), (86, 22927), (99, 22990), (128, 23125),

Gene: Inca\_35 Start: 31391, Stop: 31807, Start Num: 53

Candidate Starts for Inca\_35:

(Start: 38 @31346 has 1 MA's), (Start: 53 @31391 has 344 MA's), (67, 31445), (72, 31460), (78, 31478), (87, 31508), (121, 31622), (124, 31649), (125, 31664),

Gene: Iracema64\_31 Start: 22826, Stop: 23254, Start Num: 53

Candidate Starts for Iracema64\_31:

(Start: 53 @22826 has 344 MA's), (62, 22865), (69, 22886), (76, 22907), (85, 22943), (86, 22946), (128, 23144),

Gene: IronMan\_33 Start: 24398, Stop: 24832, Start Num: 53

Candidate Starts for IronMan\_33:

(Start: 53 @24398 has 344 MA's), (59, 24416), (69, 24461), (98, 24581), (116, 24638), (137, 24746),

Gene: Itos\_31 Start: 28009, Stop: 28431, Start Num: 51

Candidate Starts for Itos\_31:

(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: JKSyngboy\_42 Start: 39483, Stop: 39929, Start Num: 53

Candidate Starts for JKSyngboy\_42:

(9, 39273), (10, 39276), (12, 39291), (20, 39372), (23, 39381), (27, 39396), (Start: 53 @39483 has 344 MA's), (63, 39525), (68, 39540), (72, 39552), (109, 39705), (143, 39864), (154, 39912),

Gene: Jaan\_34 Start: 24787, Stop: 25221, Start Num: 53

Candidate Starts for Jaan\_34:

(Start: 53 @24787 has 344 MA's), (Start: 54 @24790 has 22 MA's), (69, 24850), (83, 24898), (98, 24970), (116, 25027), (147, 25195), (152, 25210),

Gene: Jabberwocky\_43 Start: 40642, Stop: 41091, Start Num: 53

Candidate Starts for Jabberwocky\_43:

(23, 40543), (Start: 53 @40642 has 344 MA's), (63, 40684), (68, 40699), (72, 40711), (85, 40762), (109, 40864), (136, 40987), (143, 41023), (154, 41074),

Gene: Jaykayelowell\_30 Start: 22514, Stop: 22942, Start Num: 53

Candidate Starts for Jaykayelowell\_30:

(Start: 53 @22514 has 344 MA's), (69, 22574), (76, 22595), (86, 22634), (99, 22697),

Gene: JeTaime\_38 Start: 33513, Stop: 33929, Start Num: 53

Candidate Starts for JeTaime\_38:

(Start: 38 @33468 has 1 MA's), (Start: 53 @33513 has 344 MA's), (67, 33567), (72, 33582), (78, 33600), (87, 33630), (121, 33744), (124, 33771), (125, 33786),

Gene: JetBlade\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for JetBlade\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (128, 22833),

Gene: Jifall16\_50 Start: 39807, Stop: 40232, Start Num: 56

Candidate Starts for Jifall16\_50:

(36, 39750), (42, 39771), (Start: 56 @39807 has 37 MA's), (97, 39978), (109, 40020),

Gene: Jobypre\_30 Start: 28374, Stop: 28793, Start Num: 52

Candidate Starts for Jobypre\_30:

(Start: 52 @28374 has 34 MA's), (60, 28398), (70, 28440), (109, 28569), (115, 28590), (125, 28644), (126, 28647), (144, 28749),

Gene: JoeDirt\_29 Start: 27262, Stop: 27681, Start Num: 52

Candidate Starts for JoeDirt\_29:

(Start: 52 @27262 has 34 MA's), (57, 27277), (71, 27331), (77, 27346), (91, 27403), (106, 27451), (109, 27457), (115, 27478), (125, 27532), (144, 27637), (151, 27664),

Gene: JoongJeon\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for JoongJeon\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Jubie\_30 Start: 28375, Stop: 28794, Start Num: 52

Candidate Starts for Jubie\_30:

(Start: 52 @28375 has 34 MA's), (60, 28399), (70, 28441), (109, 28570), (115, 28591), (125, 28645), (126, 28648), (144, 28750),

Gene: KFPoly\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for KFPoly\_30:

(Start: 53 @22515 has 344 MA's), (62, 22554), (69, 22575), (76, 22596), (85, 22632), (86, 22635), (128, 22833),

Gene: Kabluna\_55 Start: 39229, Stop: 39657, Start Num: 56

Candidate Starts for Kabluna\_55:

(Start: 56 @39229 has 37 MA's), (97, 39400), (141, 39598),

Gene: Kahlid\_31 Start: 28014, Stop: 28436, Start Num: 51

Candidate Starts for Kahlid\_31:

(Start: 51 @28014 has 28 MA's), (60, 28041), (71, 28086), (77, 28101), (79, 28107), (91, 28158), (109, 28212), (125, 28287), (126, 28290), (137, 28347), (144, 28392), (151, 28419),

Gene: Kamashten\_42 Start: 38577, Stop: 39026, Start Num: 53

Candidate Starts for Kamashten\_42:

(23, 38478), (Start: 53 @38577 has 344 MA's), (63, 38619), (68, 38634), (72, 38646), (109, 38799), (136, 38922), (143, 38958), (154, 39009),

Gene: Kamy\_30 Start: 22516, Stop: 22944, Start Num: 53

Candidate Starts for Kamy\_30:

(Start: 53 @22516 has 344 MA's), (69, 22576), (76, 22597), (86, 22636), (99, 22699),

Gene: Kanye\_38 Start: 33698, Stop: 34114, Start Num: 53

Candidate Starts for Kanye\_38:

(Start: 38 @33653 has 1 MA's), (Start: 53 @33698 has 344 MA's), (67, 33752), (72, 33767), (78, 33785), (87, 33815), (121, 33929), (124, 33956), (125, 33971),

Gene: Katalie136\_30 Start: 22533, Stop: 22964, Start Num: 53

Candidate Starts for Katalie136\_30:

(Start: 53 @22533 has 344 MA's), (62, 22572), (69, 22593), (78, 22623), (99, 22716), (124, 22806), (131, 22860), (147, 22938),

Gene: Keelan\_61 Start: 35707, Stop: 36102, Start Num: 55

Candidate Starts for Keelan\_61:

(Start: 55 @35707 has 6 MA's), (84, 35815), (107, 35920), (120, 35956), (128, 36025), (132, 36037),

Gene: Kewpiedoll\_44 Start: 39518, Stop: 39967, Start Num: 53

Candidate Starts for Kewpiedoll\_44:

(23, 39419), (Start: 53 @39518 has 344 MA's), (63, 39560), (68, 39575), (72, 39587), (109, 39740), (136, 39863), (143, 39899), (154, 39950),

Gene: KiSi\_33 Start: 27241, Stop: 27735, Start Num: 53

Candidate Starts for KiSi\_33:

(30, 27169), (Start: 53 @27241 has 344 MA's), (69, 27304), (73, 27316), (86, 27364), (92, 27424), (108, 27493), (117, 27526), (118, 27541), (123, 27571), (138, 27658),

Gene: KidneyBean\_51 Start: 39931, Stop: 40356, Start Num: 56

Candidate Starts for KidneyBean\_51:

(36, 39874), (42, 39895), (Start: 56 @39931 has 37 MA's), (97, 40102), (109, 40144),

Gene: Kimchi\_38 Start: 32705, Stop: 33121, Start Num: 53

Candidate Starts for Kimchi\_38:

(Start: 38 @32660 has 1 MA's), (Start: 53 @32705 has 344 MA's), (67, 32759), (72, 32774), (78, 32792), (87, 32822), (121, 32936), (124, 32963), (125, 32978),

Gene: Kingmustik0402\_30 Start: 22510, Stop: 22938, Start Num: 53

Candidate Starts for Kingmustik0402\_30:

(Start: 53 @22510 has 344 MA's), (69, 22570), (76, 22591), (86, 22630), (99, 22693), (128, 22828),

Gene: Kingsolomon\_30 Start: 28374, Stop: 28793, Start Num: 52

Candidate Starts for Kingsolomon\_30:

(Start: 52 @28374 has 34 MA's), (60, 28398), (70, 28440), (109, 28569), (115, 28590), (125, 28644), (126, 28647), (144, 28749),

Gene: KittenMittens\_30 Start: 20964, Stop: 21392, Start Num: 53

Candidate Starts for KittenMittens\_30:

(Start: 53 @20964 has 344 MA's), (62, 21003), (64, 21009), (71, 21030), (78, 21054), (99, 21147), (148, 21372),

Gene: Koreni\_29 Start: 22164, Stop: 22592, Start Num: 53

Candidate Starts for Koreni\_29:

(Start: 53 @22164 has 344 MA's), (69, 22224), (76, 22245), (86, 22284), (99, 22347), (128, 22482),

Gene: Kostya\_37 Start: 32713, Stop: 33129, Start Num: 53

Candidate Starts for Kostya\_37:

(Start: 38 @32668 has 1 MA's), (Start: 53 @32713 has 344 MA's), (66, 32764), (69, 32773), (72, 32782), (78, 32800), (87, 32830), (121, 32944), (124, 32971), (125, 32986),

Gene: Kratark\_30 Start: 22510, Stop: 22938, Start Num: 53

Candidate Starts for Kratark\_30:

(Start: 53 @22510 has 344 MA's), (62, 22549), (69, 22570), (76, 22591), (85, 22627), (86, 22630), (128, 22828),

Gene: Kremtemulon\_29 Start: 22566, Stop: 22994, Start Num: 53  
Candidate Starts for Kremtemulon\_29:  
(Start: 53 @22566 has 344 MA's), (69, 22626), (76, 22647), (86, 22686), (99, 22749), (128, 22884),  
(141, 22932),

Gene: Kristoff\_32 Start: 23028, Stop: 23459, Start Num: 53  
Candidate Starts for Kristoff\_32:  
(29, 22950), (34, 22971), (Start: 53 @23028 has 344 MA's), (62, 23067), (98, 23208), (99, 23211),  
(122, 23283), (130, 23352), (138, 23376),

Gene: Kroos\_45 Start: 39624, Stop: 40070, Start Num: 53  
Candidate Starts for Kroos\_45:  
(5, 39366), (14, 39447), (23, 39522), (27, 39537), (Start: 53 @39624 has 344 MA's), (63, 39666), (68,  
39681), (72, 39693), (109, 39846), (143, 40005), (154, 40053),

Gene: Krypton555\_30 Start: 28272, Stop: 28691, Start Num: 52  
Candidate Starts for Krypton555\_30:  
(Start: 52 @28272 has 34 MA's), (60, 28296), (70, 28338), (109, 28467), (113, 28482), (125, 28542),  
(126, 28545), (134, 28593), (144, 28647),

Gene: Kurt\_51 Start: 40168, Stop: 40593, Start Num: 56  
Candidate Starts for Kurt\_51:  
(36, 40111), (42, 40132), (Start: 56 @40168 has 37 MA's), (97, 40339), (109, 40381),

Gene: Kwobi\_45 Start: 39610, Stop: 40056, Start Num: 53  
Candidate Starts for Kwobi\_45:  
(5, 39352), (10, 39403), (23, 39508), (27, 39523), (Start: 53 @39610 has 344 MA's), (63, 39652), (68,  
39667), (72, 39679), (109, 39832), (143, 39991), (154, 40039),

Gene: Kyee\_30 Start: 22516, Stop: 22944, Start Num: 53  
Candidate Starts for Kyee\_30:  
(Start: 53 @22516 has 344 MA's), (62, 22555), (69, 22576), (76, 22597), (85, 22633), (86, 22636),  
(128, 22834),

Gene: LHTSCC\_31 Start: 22832, Stop: 23260, Start Num: 53  
Candidate Starts for LHTSCC\_31:  
(Start: 53 @22832 has 344 MA's), (62, 22871), (69, 22892), (76, 22913), (86, 22952), (99, 23015),  
(128, 23150), (130, 23156),

Gene: Landor\_32 Start: 24439, Stop: 24873, Start Num: 53  
Candidate Starts for Landor\_32:  
(Start: 53 @24439 has 344 MA's), (Start: 54 @24442 has 22 MA's), (69, 24502), (98, 24622), (116,  
24679), (147, 24847), (152, 24862),

Gene: LappelDuVide\_29 Start: 22515, Stop: 22943, Start Num: 53  
Candidate Starts for LappelDuVide\_29:  
(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (121, 22761),  
(128, 22833),

Gene: LeBron\_29 Start: 27306, Stop: 27725, Start Num: 52  
Candidate Starts for LeBron\_29:

(Start: 52 @27306 has 34 MA's), (57, 27321), (71, 27375), (77, 27390), (91, 27447), (106, 27495), (109, 27501), (115, 27522), (125, 27576), (144, 27681), (151, 27708),

Gene: LeMond\_33 Start: 27312, Stop: 27806, Start Num: 53

Candidate Starts for LeMond\_33:

(30, 27240), (Start: 53 @27312 has 344 MA's), (69, 27375), (73, 27387), (86, 27435), (92, 27495), (108, 27564), (117, 27597), (118, 27612), (123, 27642), (138, 27729),

Gene: Lemur\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for Lemur\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (128, 22833),

Gene: Lennon\_44 Start: 40321, Stop: 40770, Start Num: 53

Candidate Starts for Lennon\_44:

(23, 40225), (Start: 53 @40321 has 344 MA's), (63, 40363), (68, 40378), (72, 40390), (85, 40441), (109, 40543), (136, 40666), (143, 40702), (154, 40753),

Gene: LeoAvram\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for LeoAvram\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698),

Gene: Lewan\_31 Start: 28009, Stop: 28431, Start Num: 51

Candidate Starts for Lewan\_31:

(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: LilDestine\_31 Start: 28008, Stop: 28430, Start Num: 51

Candidate Starts for LilDestine\_31:

(Start: 51 @28008 has 28 MA's), (60, 28035), (71, 28080), (77, 28095), (79, 28101), (91, 28152), (109, 28206), (125, 28281), (126, 28284), (137, 28341), (144, 28386), (151, 28413),

Gene: LilHam\_42 Start: 38211, Stop: 38657, Start Num: 53

Candidate Starts for LilHam\_42:

(5, 37953), (10, 38004), (23, 38109), (27, 38124), (Start: 53 @38211 has 344 MA's), (63, 38253), (68, 38268), (72, 38280), (109, 38433), (143, 38592), (154, 38640),

Gene: Lilac\_38 Start: 32209, Stop: 32625, Start Num: 53

Candidate Starts for Lilac\_38:

(Start: 38 @32164 has 1 MA's), (Start: 53 @32209 has 344 MA's), (67, 32263), (72, 32278), (78, 32296), (87, 32326), (121, 32440), (124, 32467), (125, 32482),

Gene: Lilbeanie\_43 Start: 34683, Stop: 35099, Start Num: 58

Candidate Starts for Lilbeanie\_43:

(30, 34599), (48, 34656), (Start: 58 @34683 has 1 MA's), (80, 34767), (101, 34878), (124, 34962), (139, 35040), (146, 35082),

Gene: Lilizi\_38 Start: 32417, Stop: 32833, Start Num: 53

Candidate Starts for Lilizi\_38:

(Start: 38 @32372 has 1 MA's), (Start: 53 @32417 has 344 MA's), (67, 32471), (72, 32486), (78, 32504), (87, 32534), (121, 32648), (124, 32675), (125, 32690),

Gene: Lilpickle\_35 Start: 31919, Stop: 32335, Start Num: 53

Candidate Starts for Lilpickle\_35:

(Start: 38 @31874 has 1 MA's), (Start: 53 @31919 has 344 MA's), (67, 31973), (72, 31988), (87, 32036), (121, 32150), (124, 32177), (125, 32192),

Gene: LittleB\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for LittleB\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: LittleGuy\_30 Start: 22461, Stop: 22889, Start Num: 53

Candidate Starts for LittleGuy\_30:

(Start: 53 @22461 has 344 MA's), (69, 22521), (76, 22542), (86, 22581), (99, 22644),

Gene: Loadrie\_31 Start: 28041, Stop: 28463, Start Num: 51

Candidate Starts for Loadrie\_31:

(Start: 51 @28041 has 28 MA's), (60, 28068), (71, 28113), (77, 28128), (79, 28134), (91, 28185), (109, 28239), (125, 28314), (126, 28317), (137, 28374), (144, 28419), (151, 28446),

Gene: LochMonster\_30 Start: 22490, Stop: 22918, Start Num: 53

Candidate Starts for LochMonster\_30:

(Start: 53 @22490 has 344 MA's), (62, 22529), (69, 22550), (76, 22571), (85, 22607), (86, 22610), (128, 22808),

Gene: Lollipop1437\_57 Start: 41155, Stop: 41583, Start Num: 56

Candidate Starts for Lollipop1437\_57:

(31, 41074), (Start: 56 @41155 has 37 MA's), (81, 41245), (83, 41254), (97, 41326), (141, 41524),

Gene: Lolly9\_30 Start: 28138, Stop: 28557, Start Num: 52

Candidate Starts for Lolly9\_30:

(Start: 52 @28138 has 34 MA's), (60, 28162), (71, 28207), (109, 28333), (113, 28348), (115, 28354), (125, 28408), (126, 28411), (144, 28513),

Gene: Lorenzo\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Lorenzo\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Loser\_34 Start: 24594, Stop: 25022, Start Num: 53

Candidate Starts for Loser\_34:

(Start: 53 @24594 has 344 MA's), (72, 24663), (95, 24768), (116, 24831), (130, 24918),

Gene: Love\_48 Start: 40769, Stop: 41218, Start Num: 53

Candidate Starts for Love\_48:

(23, 40670), (Start: 53 @40769 has 344 MA's), (63, 40811), (68, 40826), (72, 40838), (109, 40991), (136, 41114), (143, 41150), (154, 41201),

Gene: Lumos\_30 Start: 28371, Stop: 28790, Start Num: 52

Candidate Starts for Lumos\_30:

(Start: 52 @28371 has 34 MA's), (60, 28395), (70, 28437), (109, 28566), (115, 28587), (125, 28641), (126, 28644), (144, 28746),

Gene: Lunsford\_31 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for Lunsford\_31:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (128, 22833),

Gene: MAckerman\_29 Start: 27280, Stop: 27699, Start Num: 52

Candidate Starts for MAckerman\_29:

(Start: 52 @27280 has 34 MA's), (57, 27295), (71, 27349), (77, 27364), (91, 27421), (106, 27469), (109, 27475), (115, 27496), (125, 27550), (144, 27655), (151, 27682),

Gene: MISSy\_35 Start: 32225, Stop: 32641, Start Num: 53

Candidate Starts for MISSy\_35:

(Start: 38 @32180 has 1 MA's), (Start: 53 @32225 has 344 MA's), (67, 32279), (72, 32294), (78, 32312), (87, 32342), (121, 32456), (124, 32483), (125, 32498),

Gene: MPhalcon\_35 Start: 32218, Stop: 32634, Start Num: 53

Candidate Starts for MPhalcon\_35:

(Start: 38 @32173 has 1 MA's), (Start: 53 @32218 has 344 MA's), (67, 32272), (72, 32287), (78, 32305), (87, 32335), (121, 32449), (124, 32476), (125, 32491),

Gene: MadamMonkfish\_36 Start: 32130, Stop: 32546, Start Num: 53

Candidate Starts for MadamMonkfish\_36:

(Start: 38 @32085 has 1 MA's), (Start: 53 @32130 has 344 MA's), (67, 32184), (72, 32199), (78, 32217), (87, 32247), (121, 32361), (124, 32388), (125, 32403),

Gene: Madeline\_24 Start: 22197, Stop: 22610, Start Num: 54

Candidate Starts for Madeline\_24:

(1, 21927), (18, 22086), (37, 22176), (Start: 54 @22197 has 22 MA's), (75, 22272), (77, 22281), (87, 22326), (99, 22389), (133, 22536),

Gene: Manda\_37 Start: 33197, Stop: 33613, Start Num: 53

Candidate Starts for Manda\_37:

(Start: 38 @33152 has 1 MA's), (Start: 53 @33197 has 344 MA's), (67, 33251), (72, 33266), (78, 33284), (87, 33314), (121, 33428), (124, 33455), (125, 33470),

Gene: Marcoliusprime\_32 Start: 26906, Stop: 27397, Start Num: 53

Candidate Starts for Marcoliusprime\_32:

(Start: 53 @26906 has 344 MA's), (68, 26963), (74, 26981), (89, 27038), (114, 27173), (119, 27203), (123, 27230), (126, 27254), (136, 27308), (138, 27317),

Gene: Marietta\_53 Start: 37025, Stop: 37453, Start Num: 56

Candidate Starts for Marietta\_53:

(45, 36992), (Start: 56 @37025 has 37 MA's), (97, 37196), (109, 37238), (134, 37364),

Gene: MarkPhew\_34 Start: 27210, Stop: 27707, Start Num: 53

Candidate Starts for MarkPhew\_34:

(6, 26973), (17, 27057), (19, 27087), (24, 27114), (34, 27156), (39, 27171), (Start: 53 @27210 has 344 MA's), (69, 27273), (86, 27333), (92, 27393), (101, 27438), (108, 27462), (117, 27495), (118, 27510), (123, 27540),

Gene: Marshawn\_35 Start: 27905, Stop: 28363, Start Num: 53

Candidate Starts for Marshawn\_35:

(Start: 53 @27905 has 344 MA's), (59, 27926), (68, 27968), (72, 27980), (77, 27998), (93, 28097), (99, 28115), (110, 28148), (111, 28151), (130, 28259),

Gene: Marshmallow\_36 Start: 32710, Stop: 33126, Start Num: 53

Candidate Starts for Marshmallow\_36:

(Start: 38 @32665 has 1 MA's), (Start: 53 @32710 has 344 MA's), (67, 32764), (72, 32779), (87, 32827), (121, 32941), (124, 32968), (125, 32983),



Gene: Maverick\_30 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for Maverick\_30:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Maxo\_30 Start: 22516, Stop: 22944, Start Num: 53  
Candidate Starts for Maxo\_30:  
(Start: 53 @22516 has 344 MA's), (69, 22576), (76, 22597), (86, 22636), (99, 22699),

Gene: Maxxinista\_37 Start: 32179, Stop: 32595, Start Num: 53  
Candidate Starts for Maxxinista\_37:  
(Start: 38 @32134 has 1 MA's), (Start: 53 @32179 has 344 MA's), (67, 32233), (72, 32248), (78, 32266), (87, 32296), (121, 32410), (124, 32437), (125, 32452),

Gene: Mazhar510\_30 Start: 22519, Stop: 22947, Start Num: 53  
Candidate Starts for Mazhar510\_30:  
(Start: 53 @22519 has 344 MA's), (69, 22579), (76, 22600), (86, 22639), (99, 22702), (128, 22837),

Gene: McKinley\_46 Start: 40142, Stop: 40591, Start Num: 53  
Candidate Starts for McKinley\_46:  
(23, 40043), (Start: 53 @40142 has 344 MA's), (63, 40184), (68, 40199), (72, 40211), (109, 40364), (136, 40487), (143, 40523), (154, 40574),

Gene: Medusa\_30 Start: 22519, Stop: 22947, Start Num: 53  
Candidate Starts for Medusa\_30:  
(Start: 53 @22519 has 344 MA's), (69, 22579), (76, 22600), (86, 22639), (99, 22702), (128, 22837),

Gene: MeeZee\_30 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for MeeZee\_30:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Melvin\_30 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for Melvin\_30:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: MerCougar\_53 Start: 40431, Stop: 40859, Start Num: 56  
Candidate Starts for MerCougar\_53:  
(Start: 56 @40431 has 37 MA's), (97, 40602), (140, 40794), (141, 40800),

Gene: Meyran\_26 Start: 23021, Stop: 23446, Start Num: 54  
Candidate Starts for Meyran\_26:  
(Start: 54 @23021 has 22 MA's), (63, 23060), (68, 23075), (77, 23105), (107, 23237), (123, 23297),

Gene: Miley16\_31 Start: 28009, Stop: 28431, Start Num: 51  
Candidate Starts for Miley16\_31:  
(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: Millski\_29 Start: 22521, Stop: 22949, Start Num: 53  
Candidate Starts for Millski\_29:  
(Start: 53 @22521 has 344 MA's), (69, 22581), (76, 22602), (86, 22641), (99, 22704), (128, 22839),

Gene: Milly\_32 Start: 26879, Stop: 27370, Start Num: 53

Candidate Starts for Milly\_32:

(Start: 53 @26879 has 344 MA's), (68, 26936), (74, 26954), (89, 27011), (114, 27146), (119, 27176), (123, 27203), (126, 27227), (136, 27281), (138, 27290),

Gene: Mindy\_36 Start: 32490, Stop: 32906, Start Num: 53

Candidate Starts for Mindy\_36:

(Start: 38 @32445 has 1 MA's), (Start: 53 @32490 has 344 MA's), (67, 32544), (72, 32559), (87, 32607), (121, 32721), (124, 32748), (125, 32763),

Gene: MiniLon\_30 Start: 28138, Stop: 28557, Start Num: 52

Candidate Starts for MiniLon\_30:

(Start: 52 @28138 has 34 MA's), (60, 28162), (71, 28207), (109, 28333), (113, 28348), (115, 28354), (125, 28408), (126, 28411), (144, 28513),

Gene: MiniMac\_30 Start: 28139, Stop: 28558, Start Num: 52

Candidate Starts for MiniMac\_30:

(Start: 52 @28139 has 34 MA's), (60, 28163), (71, 28208), (109, 28334), (113, 28349), (115, 28355), (125, 28409), (126, 28412), (144, 28514),

Gene: Miniwave\_36 Start: 32909, Stop: 33325, Start Num: 53

Candidate Starts for Miniwave\_36:

(Start: 38 @32864 has 1 MA's), (Start: 53 @32909 has 344 MA's), (67, 32963), (72, 32978), (78, 32996), (87, 33026), (121, 33140), (124, 33167), (125, 33182),

Gene: Miramae\_30 Start: 22464, Stop: 22889, Start Num: 53

Candidate Starts for Miramae\_30:

(25, 22371), (28, 22380), (29, 22386), (Start: 53 @22464 has 344 MA's), (61, 22488), (64, 22509), (75, 22542), (85, 22581), (109, 22674), (116, 22698), (122, 22716), (135, 22800),

Gene: Misfit\_36 Start: 32799, Stop: 33215, Start Num: 53

Candidate Starts for Misfit\_36:

(Start: 38 @32754 has 1 MA's), (Start: 53 @32799 has 344 MA's), (67, 32853), (72, 32868), (78, 32886), (87, 32916), (121, 33030), (124, 33057), (125, 33072),

Gene: MkaliMitinis3\_31 Start: 28009, Stop: 28431, Start Num: 51

Candidate Starts for MkaliMitinis3\_31:

(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: Moldemort\_37 Start: 32454, Stop: 32870, Start Num: 53

Candidate Starts for Moldemort\_37:

(Start: 38 @32409 has 1 MA's), (Start: 53 @32454 has 344 MA's), (67, 32508), (72, 32523), (78, 32541), (87, 32571), (121, 32685), (124, 32712), (125, 32727),

Gene: MoontowerMania\_44 Start: 39977, Stop: 40426, Start Num: 53

Candidate Starts for MoontowerMania\_44:

(23, 39878), (Start: 53 @39977 has 344 MA's), (63, 40019), (68, 40034), (72, 40046), (85, 40097), (109, 40199), (136, 40322), (143, 40358), (154, 40409),

Gene: Moostard\_30 Start: 28377, Stop: 28796, Start Num: 52

Candidate Starts for Moostard\_30:

(Start: 52 @28377 has 34 MA's), (60, 28401), (70, 28443), (109, 28572), (115, 28593), (125, 28647), (126, 28650), (144, 28752),

Gene: Morpher26\_30 Start: 22533, Stop: 22964, Start Num: 53

Candidate Starts for Morpher26\_30:

(Start: 53 @22533 has 344 MA's), (62, 22572), (69, 22593), (78, 22623), (99, 22716), (124, 22806), (131, 22860), (147, 22938),

Gene: Morrow\_30 Start: 22521, Stop: 22949, Start Num: 53

Candidate Starts for Morrow\_30:

(Start: 53 @22521 has 344 MA's), (69, 22581), (76, 22602), (86, 22641), (99, 22704),

Gene: Mosby\_35 Start: 32216, Stop: 32632, Start Num: 53

Candidate Starts for Mosby\_35:

(Start: 38 @32171 has 1 MA's), (Start: 53 @32216 has 344 MA's), (67, 32270), (72, 32285), (78, 32303), (87, 32333), (121, 32447), (124, 32474), (125, 32489),

Gene: MsGreen\_30 Start: 28374, Stop: 28793, Start Num: 52

Candidate Starts for MsGreen\_30:

(Start: 52 @28374 has 34 MA's), (60, 28398), (70, 28440), (109, 28569), (115, 28590), (125, 28644), (126, 28647), (144, 28749),

Gene: Mufasa\_33 Start: 26987, Stop: 27478, Start Num: 53

Candidate Starts for Mufasa\_33:

(Start: 53 @26987 has 344 MA's), (68, 27044), (74, 27062), (89, 27119), (114, 27254), (123, 27311), (136, 27389), (152, 27467),

Gene: Mundrea\_30 Start: 22485, Stop: 22916, Start Num: 53

Candidate Starts for Mundrea\_30:

(Start: 53 @22485 has 344 MA's), (62, 22524), (64, 22530), (105, 22683), (126, 22773),

Gene: Murica\_35 Start: 32696, Stop: 33112, Start Num: 53

Candidate Starts for Murica\_35:

(Start: 38 @32651 has 1 MA's), (Start: 53 @32696 has 344 MA's), (67, 32750), (72, 32765), (78, 32783), (87, 32813), (121, 32927), (124, 32954), (125, 32969),

Gene: Murphy\_37 Start: 32691, Stop: 33107, Start Num: 53

Candidate Starts for Murphy\_37:

(Start: 38 @32646 has 1 MA's), (Start: 53 @32691 has 344 MA's), (67, 32745), (72, 32760), (78, 32778), (87, 32808), (121, 32922), (124, 32949), (125, 32964),

Gene: Myrale\_36 Start: 32575, Stop: 32991, Start Num: 53

Candidate Starts for Myrale\_36:

(Start: 38 @32530 has 1 MA's), (Start: 53 @32575 has 344 MA's), (67, 32629), (72, 32644), (87, 32692), (121, 32806), (124, 32833), (125, 32848),

Gene: NadineRae\_51 Start: 36272, Stop: 36697, Start Num: 56

Candidate Starts for NadineRae\_51:

(45, 36239), (Start: 56 @36272 has 37 MA's), (97, 36443), (109, 36485), (134, 36611),

Gene: Nala\_36 Start: 32730, Stop: 33146, Start Num: 53

Candidate Starts for Nala\_36:

(Start: 38 @32685 has 1 MA's), (Start: 53 @32730 has 344 MA's), (67, 32784), (72, 32799), (78, 32817), (87, 32847), (121, 32961), (124, 32988), (125, 33003),

Gene: NatB6\_51 Start: 39225, Stop: 39650, Start Num: 56  
Candidate Starts for NatB6\_51:  
(36, 39168), (42, 39189), (Start: 56 @39225 has 37 MA's), (97, 39396), (109, 39438),

Gene: Nebs\_30 Start: 22515, Stop: 22943, Start Num: 53  
Candidate Starts for Nebs\_30:  
(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698),

Gene: NelitzaMV\_36 Start: 32780, Stop: 33196, Start Num: 53  
Candidate Starts for NelitzaMV\_36:  
(Start: 38 @32735 has 1 MA's), (Start: 53 @32780 has 344 MA's), (67, 32834), (72, 32849), (78, 32867), (87, 32897), (121, 33011), (124, 33038), (125, 33053),

Gene: Nemo27\_30 Start: 22517, Stop: 22945, Start Num: 53  
Candidate Starts for Nemo27\_30:  
(Start: 53 @22517 has 344 MA's), (69, 22577), (76, 22598), (86, 22637), (99, 22700), (128, 22835), (141, 22883),

Gene: Netyap\_31 Start: 28009, Stop: 28431, Start Num: 51  
Candidate Starts for Netyap\_31:  
(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: Nicholas\_30 Start: 28374, Stop: 28793, Start Num: 52  
Candidate Starts for Nicholas\_30:  
(Start: 52 @28374 has 34 MA's), (60, 28398), (70, 28440), (109, 28569), (115, 28590), (125, 28644), (126, 28647), (144, 28749),

Gene: Nicholasp3\_31 Start: 28011, Stop: 28433, Start Num: 51  
Candidate Starts for Nicholasp3\_31:  
(Start: 51 @28011 has 28 MA's), (60, 28038), (71, 28083), (77, 28098), (79, 28104), (91, 28155), (109, 28209), (125, 28284), (126, 28287), (137, 28344), (144, 28389), (151, 28416),

Gene: Nimrod\_36 Start: 32954, Stop: 33370, Start Num: 53  
Candidate Starts for Nimrod\_36:  
(Start: 38 @32909 has 1 MA's), (Start: 53 @32954 has 344 MA's), (67, 33008), (72, 33023), (78, 33041), (87, 33071), (121, 33185), (124, 33212), (125, 33227),

Gene: NoSleep\_37 Start: 32451, Stop: 32867, Start Num: 53  
Candidate Starts for NoSleep\_37:  
(Start: 38 @32406 has 1 MA's), (Start: 53 @32451 has 344 MA's), (67, 32505), (72, 32520), (78, 32538), (87, 32568), (121, 32682), (124, 32709), (125, 32724),

Gene: Noelle\_30 Start: 22590, Stop: 23024, Start Num: 53  
Candidate Starts for Noelle\_30:  
(Start: 53 @22590 has 344 MA's), (Start: 58 @22602 has 1 MA's), (59, 22605), (62, 22629), (69, 22650), (99, 22773), (123, 22857), (130, 22914), (152, 23013),

Gene: Nordenberg\_39 Start: 38962, Stop: 39411, Start Num: 53  
Candidate Starts for Nordenberg\_39:  
(20, 38854), (23, 38863), (Start: 53 @38962 has 344 MA's), (63, 39004), (68, 39019), (72, 39031), (109, 39184), (136, 39307), (143, 39343), (154, 39394),

Gene: NorthStar\_30 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for NorthStar\_30:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: NosilaM\_55 Start: 40126, Stop: 40554, Start Num: 56  
Candidate Starts for NosilaM\_55:  
(Start: 56 @40126 has 37 MA's), (97, 40297), (141, 40495),

Gene: NotAPhaseMom\_30 Start: 22522, Stop: 22950, Start Num: 53  
Candidate Starts for NotAPhaseMom\_30:  
(Start: 53 @22522 has 344 MA's), (69, 22582), (76, 22603), (86, 22642), (99, 22705), (128, 22840),

Gene: NovumRegina\_51 Start: 39534, Stop: 39959, Start Num: 56  
Candidate Starts for NovumRegina\_51:  
(36, 39477), (42, 39498), (Start: 56 @39534 has 37 MA's), (97, 39705), (109, 39747),

Gene: Nyceirae\_28 Start: 22758, Stop: 23174, Start Num: 54  
Candidate Starts for Nyceirae\_28:  
(32, 22719), (37, 22731), (Start: 52 @22752 has 34 MA's), (Start: 54 @22758 has 22 MA's), (63, 22797), (67, 22809), (70, 22818), (77, 22842), (85, 22875), (99, 22950), (107, 22974),

Gene: Nymphadora\_24 Start: 21899, Stop: 22312, Start Num: 54  
Candidate Starts for Nymphadora\_24:  
(1, 21629), (15, 21755), (37, 21878), (Start: 54 @21899 has 22 MA's), (75, 21974), (77, 21983), (87, 22028), (99, 22091), (133, 22238),

Gene: Nyxis\_30 Start: 22461, Stop: 22889, Start Num: 53  
Candidate Starts for Nyxis\_30:  
(Start: 53 @22461 has 344 MA's), (69, 22521), (76, 22542), (86, 22581), (99, 22644),

Gene: OKCentral2016\_31 Start: 22531, Stop: 22962, Start Num: 53  
Candidate Starts for OKCentral2016\_31:  
(28, 22447), (Start: 53 @22531 has 344 MA's), (69, 22591), (71, 22597), (78, 22621), (122, 22786), (130, 22855),

Gene: OKaNui\_31 Start: 22571, Stop: 22999, Start Num: 53  
Candidate Starts for OKaNui\_31:  
(Start: 53 @22571 has 344 MA's), (69, 22631), (76, 22652), (86, 22691), (99, 22754), (128, 22889),

Gene: Obama12\_31 Start: 22834, Stop: 23262, Start Num: 53  
Candidate Starts for Obama12\_31:  
(Start: 53 @22834 has 344 MA's), (62, 22873), (69, 22894), (76, 22915), (86, 22954), (99, 23017), (128, 23152), (130, 23158),

Gene: OhShagHennessy\_29 Start: 27245, Stop: 27664, Start Num: 52  
Candidate Starts for OhShagHennessy\_29:  
(Start: 52 @27245 has 34 MA's), (57, 27260), (71, 27314), (77, 27329), (91, 27386), (106, 27434), (109, 27440), (115, 27461), (125, 27515), (144, 27620), (151, 27647),

Gene: Ohfah\_30 Start: 22515, Stop: 22943, Start Num: 53  
Candidate Starts for Ohfah\_30:  
(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698),

Gene: Ohgeesy\_24 Start: 21522, Stop: 21935, Start Num: 54

Candidate Starts for Ohgeesy\_24:

(1, 21252), (18, 21411), (21, 21444), (37, 21501), (Start: 54 @21522 has 22 MA's), (75, 21597), (77, 21606), (87, 21651), (99, 21714), (133, 21861),

Gene: OrionPax\_37 Start: 32457, Stop: 32873, Start Num: 53

Candidate Starts for OrionPax\_37:

(Start: 38 @32412 has 1 MA's), (Start: 53 @32457 has 344 MA's), (67, 32511), (72, 32526), (78, 32544), (87, 32574), (121, 32688), (124, 32715), (125, 32730),

Gene: Oscar\_33 Start: 27313, Stop: 27807, Start Num: 53

Candidate Starts for Oscar\_33:

(30, 27241), (Start: 53 @27313 has 344 MA's), (69, 27376), (73, 27388), (86, 27436), (92, 27496), (108, 27565), (117, 27598), (118, 27613), (123, 27643), (138, 27730),

Gene: Outis\_53 Start: 40125, Stop: 40553, Start Num: 56

Candidate Starts for Outis\_53:

(Start: 56 @40125 has 37 MA's), (97, 40296), (140, 40488), (141, 40494),

Gene: Palestino\_29 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Palestino\_29:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Palpatine\_36 Start: 32726, Stop: 33142, Start Num: 53

Candidate Starts for Palpatine\_36:

(Start: 38 @32681 has 1 MA's), (Start: 53 @32726 has 344 MA's), (67, 32780), (72, 32795), (78, 32813), (87, 32843), (121, 32957), (124, 32984), (125, 32999),

Gene: Paperbeatsrock\_38 Start: 33692, Stop: 34108, Start Num: 53

Candidate Starts for Paperbeatsrock\_38:

(Start: 38 @33647 has 1 MA's), (Start: 53 @33692 has 344 MA's), (67, 33746), (72, 33761), (78, 33779), (87, 33809), (121, 33923), (124, 33950), (125, 33965),

Gene: Paries\_47 Start: 40431, Stop: 40880, Start Num: 53

Candidate Starts for Paries\_47:

(20, 40323), (23, 40332), (Start: 53 @40431 has 344 MA's), (63, 40473), (68, 40488), (72, 40500), (85, 40551), (109, 40653), (136, 40776), (143, 40812), (154, 40863),

Gene: Pat3\_35 Start: 31438, Stop: 31854, Start Num: 53

Candidate Starts for Pat3\_35:

(Start: 38 @31393 has 1 MA's), (Start: 53 @31438 has 344 MA's), (67, 31492), (72, 31507), (87, 31555), (121, 31669), (124, 31696), (125, 31711),

Gene: Patio\_55 Start: 40391, Stop: 40819, Start Num: 56

Candidate Starts for Patio\_55:

(Start: 56 @40391 has 37 MA's), (81, 40481), (83, 40490), (97, 40562), (141, 40760),

Gene: PeaceMeal1\_30 Start: 20965, Stop: 21393, Start Num: 53

Candidate Starts for PeaceMeal1\_30:

(Start: 53 @20965 has 344 MA's), (62, 21004), (64, 21010), (71, 21031), (78, 21055), (99, 21148), (148, 21373),

Gene: Peaches\_30 Start: 22517, Stop: 22945, Start Num: 53

Candidate Starts for Peaches\_30:  
(Start: 53 @22517 has 344 MA's), (69, 22577), (76, 22598), (86, 22637), (99, 22700), (128, 22835),

Gene: Perplexer\_30 Start: 22530, Stop: 22961, Start Num: 53  
Candidate Starts for Perplexer\_30:  
(Start: 53 @22530 has 344 MA's), (62, 22569), (69, 22590), (78, 22620), (99, 22713), (124, 22803),  
(131, 22857), (147, 22935),

Gene: PeterPeter\_30 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for PeterPeter\_30:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: PetiteSangsue\_30 Start: 22533, Stop: 22964, Start Num: 53  
Candidate Starts for PetiteSangsue\_30:  
(Start: 53 @22533 has 344 MA's), (62, 22572), (69, 22593), (78, 22623), (99, 22716), (124, 22806),  
(131, 22860), (147, 22938),

Gene: Petra64142\_38 Start: 33172, Stop: 33588, Start Num: 53  
Candidate Starts for Petra64142\_38:  
(Start: 38 @33127 has 1 MA's), (Start: 53 @33172 has 344 MA's), (67, 33226), (72, 33241), (78,  
33259), (87, 33289), (121, 33403), (124, 33430), (125, 33445),

Gene: Phacado\_30 Start: 22517, Stop: 22945, Start Num: 53  
Candidate Starts for Phacado\_30:  
(Start: 53 @22517 has 344 MA's), (69, 22577), (76, 22598), (86, 22637), (99, 22700), (128, 22835),  
(141, 22883),

Gene: Phaded\_34 Start: 24786, Stop: 25220, Start Num: 53  
Candidate Starts for Phaded\_34:  
(Start: 53 @24786 has 344 MA's), (Start: 54 @24789 has 22 MA's), (69, 24849), (83, 24897), (98,  
24969), (116, 25026), (147, 25194), (152, 25209),

Gene: Phaja\_36 Start: 32888, Stop: 33304, Start Num: 53  
Candidate Starts for Phaja\_36:  
(Start: 38 @32843 has 1 MA's), (Start: 53 @32888 has 344 MA's), (67, 32942), (72, 32957), (87,  
33005), (121, 33119), (124, 33146), (125, 33161),

Gene: Pharsalus\_37 Start: 33492, Stop: 33908, Start Num: 53  
Candidate Starts for Pharsalus\_37:  
(Start: 38 @33447 has 1 MA's), (Start: 53 @33492 has 344 MA's), (67, 33546), (72, 33561), (78,  
33579), (87, 33609), (121, 33723), (124, 33750), (125, 33765),

Gene: PhatBacter\_36 Start: 32740, Stop: 33156, Start Num: 53  
Candidate Starts for PhatBacter\_36:  
(Start: 38 @32695 has 1 MA's), (Start: 53 @32740 has 344 MA's), (67, 32794), (72, 32809), (78,  
32827), (87, 32857), (121, 32971), (124, 32998), (125, 33013),

Gene: Phaux\_35 Start: 32738, Stop: 33154, Start Num: 53  
Candidate Starts for Phaux\_35:  
(Start: 38 @32693 has 1 MA's), (Start: 53 @32738 has 344 MA's), (67, 32792), (72, 32807), (78,  
32825), (87, 32855), (121, 32969), (124, 32996), (125, 33011),

Gene: Phelipe\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Phelipe\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Phighter1804\_30 Start: 22493, Stop: 22921, Start Num: 53

Candidate Starts for Phighter1804\_30:

(Start: 53 @22493 has 344 MA's), (62, 22532), (69, 22553), (76, 22574), (85, 22610), (86, 22613), (128, 22811),

Gene: Phomeo\_50 Start: 39803, Stop: 40228, Start Num: 56

Candidate Starts for Phomeo\_50:

(36, 39746), (42, 39767), (Start: 56 @39803 has 37 MA's), (97, 39974), (109, 40016),

Gene: Phontbonne\_30 Start: 22462, Stop: 22890, Start Num: 53

Candidate Starts for Phontbonne\_30:

(Start: 53 @22462 has 344 MA's), (69, 22522), (76, 22543), (86, 22582), (99, 22645),

Gene: Phrux\_36 Start: 32453, Stop: 32869, Start Num: 53

Candidate Starts for Phrux\_36:

(Start: 38 @32408 has 1 MA's), (Start: 53 @32453 has 344 MA's), (67, 32507), (72, 32522), (78, 32540), (87, 32570), (121, 32684), (124, 32711), (125, 32726),

Gene: Pipcraft\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Pipcraft\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Pleakley\_59 Start: 39332, Stop: 39745, Start Num: 56

Candidate Starts for Pleakley\_59:

(46, 39305), (Start: 56 @39332 has 37 MA's), (81, 39422), (83, 39431), (97, 39503), (109, 39545), (123, 39599), (134, 39671), (141, 39701),

Gene: Policronamos\_37 Start: 32738, Stop: 33154, Start Num: 53

Candidate Starts for Policronamos\_37:

(Start: 38 @32693 has 1 MA's), (Start: 53 @32738 has 344 MA's), (67, 32792), (72, 32807), (78, 32825), (87, 32855), (121, 32969), (124, 32996), (125, 33011),

Gene: Polly\_23 Start: 21339, Stop: 21752, Start Num: 54

Candidate Starts for Polly\_23:

(3, 21093), (4, 21096), (11, 21168), (15, 21195), (24, 21270), (37, 21318), (Start: 54 @21339 has 22 MA's), (75, 21414), (77, 21423), (133, 21678), (139, 21696),

Gene: Polymorphads\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for Polymorphads\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698),

Gene: Poompha\_30 Start: 20963, Stop: 21391, Start Num: 53

Candidate Starts for Poompha\_30:

(Start: 53 @20963 has 344 MA's), (62, 21002), (64, 21008), (71, 21029), (78, 21053), (99, 21146), (148, 21371),

Gene: Porky\_36 Start: 32549, Stop: 32965, Start Num: 53

Candidate Starts for Porky\_36:

(Start: 38 @32504 has 1 MA's), (Start: 53 @32549 has 344 MA's), (67, 32603), (72, 32618), (87, 32666), (121, 32780), (124, 32807), (125, 32822),



Gene: Pumbaa\_30 Start: 22493, Stop: 22921, Start Num: 53

Candidate Starts for Pumbaa\_30:

(Start: 53 @22493 has 344 MA's), (69, 22553), (76, 22574), (86, 22613), (99, 22676), (128, 22811), (130, 22817),

Gene: Pumpkin\_38 Start: 32789, Stop: 33205, Start Num: 53

Candidate Starts for Pumpkin\_38:

(Start: 38 @32744 has 1 MA's), (Start: 53 @32789 has 344 MA's), (67, 32843), (72, 32858), (78, 32876), (87, 32906), (121, 33020), (124, 33047), (125, 33062),

Gene: Quallification\_37 Start: 32918, Stop: 33334, Start Num: 53

Candidate Starts for Quallification\_37:

(Start: 38 @32873 has 1 MA's), (Start: 53 @32918 has 344 MA's), (67, 32972), (72, 32987), (78, 33005), (87, 33035), (121, 33149), (124, 33176), (125, 33191),

Gene: Rakim\_37 Start: 32818, Stop: 33234, Start Num: 53

Candidate Starts for Rakim\_37:

(Start: 38 @32773 has 1 MA's), (Start: 53 @32818 has 344 MA's), (67, 32872), (72, 32887), (78, 32905), (87, 32935), (121, 33049), (124, 33076), (125, 33091),

Gene: Rebeuca\_32 Start: 23029, Stop: 23460, Start Num: 53

Candidate Starts for Rebeuca\_32:

(29, 22951), (34, 22972), (Start: 53 @23029 has 344 MA's), (62, 23068), (98, 23209), (99, 23212), (122, 23284), (130, 23353), (138, 23377),

Gene: RedRock\_34 Start: 24752, Stop: 25180, Start Num: 53

Candidate Starts for RedRock\_34:

(Start: 53 @24752 has 344 MA's), (72, 24821), (95, 24926), (116, 24989), (130, 25076), (138, 25097),

Gene: Refuge\_34 Start: 25756, Stop: 26211, Start Num: 53

Candidate Starts for Refuge\_34:

(Start: 53 @25756 has 344 MA's), (57, 25768), (59, 25774), (62, 25798), (68, 25816), (69, 25819), (98, 25939), (99, 25942), (116, 25996), (126, 26050), (153, 26188),

Gene: Relief\_30 Start: 22516, Stop: 22944, Start Num: 53

Candidate Starts for Relief\_30:

(Start: 53 @22516 has 344 MA's), (69, 22576), (76, 22597), (86, 22636), (99, 22699), (128, 22834),

Gene: RhynO\_32 Start: 23010, Stop: 23441, Start Num: 53

Candidate Starts for RhynO\_32:

(Start: 53 @23010 has 344 MA's), (69, 23070), (99, 23193), (130, 23334), (138, 23358),

Gene: Ribeye\_45 Start: 40042, Stop: 40488, Start Num: 53

Candidate Starts for Ribeye\_45:

(5, 39784), (10, 39835), (23, 39940), (27, 39955), (Start: 53 @40042 has 344 MA's), (63, 40084), (68, 40099), (72, 40111), (109, 40264), (143, 40423), (154, 40471),

Gene: Rimmer\_35 Start: 32278, Stop: 32694, Start Num: 53

Candidate Starts for Rimmer\_35:

(Start: 38 @32233 has 1 MA's), (Start: 53 @32278 has 344 MA's), (67, 32332), (72, 32347), (78, 32365), (87, 32395), (121, 32509), (124, 32536), (125, 32551),

Gene: RiverMonster\_36 Start: 32467, Stop: 32883, Start Num: 53

Candidate Starts for RiverMonster\_36:

(Start: 38 @32422 has 1 MA's), (Start: 53 @32467 has 344 MA's), (67, 32521), (72, 32536), (78, 32554), (87, 32584), (121, 32698), (124, 32725), (125, 32740),

Gene: Rofo\_45 Start: 39757, Stop: 40206, Start Num: 53

Candidate Starts for Rofo\_45:

(20, 39649), (23, 39658), (Start: 53 @39757 has 344 MA's), (63, 39799), (68, 39814), (72, 39826), (109, 39979), (136, 40102), (143, 40138), (154, 40189),

Gene: Romney\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Romney\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Ronaldo\_66 Start: 36367, Stop: 36756, Start Num: 55

Candidate Starts for Ronaldo\_66:

(Start: 55 @36367 has 6 MA's), (63, 36403), (84, 36475), (107, 36580), (120, 36616), (126, 36658), (130, 36691),

Gene: Roosevelt\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Roosevelt\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Rose5\_29 Start: 27280, Stop: 27699, Start Num: 52

Candidate Starts for Rose5\_29:

(Start: 52 @27280 has 34 MA's), (57, 27295), (71, 27349), (77, 27364), (91, 27421), (106, 27469), (109, 27475), (115, 27496), (125, 27550), (144, 27655), (151, 27682),

Gene: Ruin\_30 Start: 22514, Stop: 22942, Start Num: 53

Candidate Starts for Ruin\_30:

(Start: 53 @22514 has 344 MA's), (69, 22574), (76, 22595), (86, 22634), (99, 22697), (128, 22832), (141, 22880),

Gene: Rumpelstiltskin\_31 Start: 28277, Stop: 28699, Start Num: 51

Candidate Starts for Rumpelstiltskin\_31:

(Start: 51 @28277 has 28 MA's), (60, 28304), (71, 28349), (77, 28364), (79, 28370), (91, 28421), (109, 28475), (125, 28550), (126, 28553), (137, 28610), (144, 28655), (151, 28682),

Gene: Sabertooth\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for Sabertooth\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (128, 22833),

Gene: Saints25\_37 Start: 32370, Stop: 32786, Start Num: 53

Candidate Starts for Saints25\_37:

(Start: 38 @32325 has 1 MA's), (Start: 53 @32370 has 344 MA's), (67, 32424), (72, 32439), (78, 32457), (87, 32487), (121, 32601), (124, 32628), (125, 32643),

Gene: Samty\_30 Start: 28377, Stop: 28796, Start Num: 52

Candidate Starts for Samty\_30:

(Start: 52 @28377 has 34 MA's), (60, 28401), (70, 28443), (109, 28572), (115, 28593), (125, 28647), (126, 28650), (144, 28752),

Gene: Sanjuju\_43 Start: 40371, Stop: 40820, Start Num: 53

Candidate Starts for Sanjuju\_43:

(20, 40263), (23, 40272), (Start: 53 @40371 has 344 MA's), (63, 40413), (68, 40428), (72, 40440), (109, 40593), (136, 40716), (143, 40752), (154, 40803),

Gene: Sapo\_22 Start: 19503, Stop: 19937, Start Num: 50

Candidate Starts for Sapo\_22:

(Start: 50 @19503 has 1 MA's), (68, 19560), (104, 19713), (142, 19872),

Gene: Saronaya\_44 Start: 38884, Stop: 39330, Start Num: 53

Candidate Starts for Saronaya\_44:

(10, 38677), (23, 38782), (27, 38797), (Start: 53 @38884 has 344 MA's), (63, 38926), (68, 38941), (72, 38953), (109, 39106), (143, 39265), (154, 39313),

Gene: Sassay\_35 Start: 32216, Stop: 32632, Start Num: 53

Candidate Starts for Sassay\_35:

(Start: 38 @32171 has 1 MA's), (Start: 53 @32216 has 344 MA's), (67, 32270), (72, 32285), (78, 32303), (87, 32333), (121, 32447), (124, 32474), (125, 32489),

Gene: Scamp\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Scamp\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Scarlett\_33 Start: 27314, Stop: 27808, Start Num: 53

Candidate Starts for Scarlett\_33:

(30, 27242), (Start: 53 @27314 has 344 MA's), (69, 27377), (73, 27389), (86, 27437), (92, 27497), (108, 27566), (117, 27599), (118, 27614), (123, 27644), (138, 27731),

Gene: SchottB\_43 Start: 39884, Stop: 40330, Start Num: 53

Candidate Starts for SchottB\_43:

(5, 39626), (10, 39677), (23, 39782), (27, 39797), (Start: 53 @39884 has 344 MA's), (63, 39926), (68, 39941), (72, 39953), (109, 40106), (143, 40265), (154, 40313),

Gene: Severus\_30 Start: 20963, Stop: 21391, Start Num: 53

Candidate Starts for Severus\_30:

(Start: 53 @20963 has 344 MA's), (62, 21002), (71, 21029), (78, 21053), (99, 21146), (148, 21371),

Gene: Shaka\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Shaka\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836), (130, 22842),

Gene: ShamWow\_36 Start: 32712, Stop: 33128, Start Num: 53

Candidate Starts for ShamWow\_36:

(Start: 38 @32667 has 1 MA's), (Start: 53 @32712 has 344 MA's), (67, 32766), (72, 32781), (78, 32799), (87, 32829), (121, 32943), (124, 32970), (125, 32985),

Gene: SheldonCooper\_31 Start: 22833, Stop: 23261, Start Num: 53

Candidate Starts for SheldonCooper\_31:

(Start: 53 @22833 has 344 MA's), (62, 22872), (69, 22893), (76, 22914), (86, 22953), (99, 23016), (128, 23151), (130, 23157),

Gene: ShereKhan\_38 Start: 33695, Stop: 34111, Start Num: 53

Candidate Starts for ShereKhan\_38:

(Start: 38 @33650 has 1 MA's), (Start: 53 @33695 has 344 MA's), (67, 33749), (72, 33764), (87, 33812), (121, 33926), (124, 33953), (125, 33968),

Gene: Shivanishola\_44 Start: 38638, Stop: 39087, Start Num: 53

Candidate Starts for Shivanishola\_44:

(23, 38539), (Start: 53 @38638 has 344 MA's), (63, 38680), (68, 38695), (72, 38707), (85, 38758), (109, 38860), (136, 38983), (143, 39019), (154, 39070),

Gene: Shygu2\_30 Start: 22524, Stop: 22955, Start Num: 53

Candidate Starts for Shygu2\_30:

(Start: 53 @22524 has 344 MA's), (62, 22563), (69, 22584), (78, 22614), (99, 22707), (124, 22797), (131, 22851), (147, 22929),

Gene: Silverleaf\_29 Start: 27280, Stop: 27699, Start Num: 52

Candidate Starts for Silverleaf\_29:

(Start: 52 @27280 has 34 MA's), (57, 27295), (71, 27349), (77, 27364), (91, 27421), (106, 27469), (109, 27475), (115, 27496), (125, 27550), (144, 27655), (151, 27682),

Gene: Simpliphy\_37 Start: 32457, Stop: 32873, Start Num: 53

Candidate Starts for Simpliphy\_37:

(Start: 38 @32412 has 1 MA's), (Start: 53 @32457 has 344 MA's), (67, 32511), (72, 32526), (78, 32544), (87, 32574), (121, 32688), (124, 32715), (125, 32730),

Gene: SirDuracell\_35 Start: 31377, Stop: 31793, Start Num: 53

Candidate Starts for SirDuracell\_35:

(Start: 38 @31332 has 1 MA's), (Start: 53 @31377 has 344 MA's), (67, 31431), (72, 31446), (87, 31494), (121, 31608), (124, 31635), (125, 31650),

Gene: Sitar\_44 Start: 40321, Stop: 40770, Start Num: 53

Candidate Starts for Sitar\_44:

(23, 40225), (Start: 53 @40321 has 344 MA's), (63, 40363), (68, 40378), (72, 40390), (85, 40441), (109, 40543), (136, 40666), (143, 40702), (154, 40753),

Gene: Skipitt\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for Skipitt\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (121, 22761), (128, 22833),

Gene: Skysand\_54 Start: 40611, Stop: 41039, Start Num: 56

Candidate Starts for Skysand\_54:

(Start: 56 @40611 has 37 MA's), (81, 40701), (83, 40710), (141, 40980),

Gene: Snenia\_30 Start: 28375, Stop: 28794, Start Num: 52

Candidate Starts for Snenia\_30:

(Start: 52 @28375 has 34 MA's), (60, 28399), (70, 28441), (109, 28570), (115, 28591), (125, 28645), (126, 28648), (144, 28750),

Gene: SophKB\_36 Start: 32711, Stop: 33127, Start Num: 53

Candidate Starts for SophKB\_36:

(Start: 38 @32666 has 1 MA's), (Start: 53 @32711 has 344 MA's), (67, 32765), (72, 32780), (78, 32798), (87, 32828), (121, 32942), (124, 32969), (125, 32984),

Gene: Sotrice96\_36 Start: 32666, Stop: 33082, Start Num: 53

Candidate Starts for Sotrice96\_36:

(Start: 38 @32621 has 1 MA's), (Start: 53 @32666 has 344 MA's), (67, 32720), (72, 32735), (78, 32753), (87, 32783), (121, 32897), (124, 32924), (125, 32939),

Gene: Sparxx\_30 Start: 22516, Stop: 22944, Start Num: 53

Candidate Starts for Sparxx\_30:

(Start: 53 @22516 has 344 MA's), (69, 22576), (76, 22597), (86, 22636), (99, 22699), (128, 22834),

Gene: Spino\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for Spino\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Stank\_39 Start: 33218, Stop: 33634, Start Num: 53

Candidate Starts for Stank\_39:

(Start: 38 @33173 has 1 MA's), (Start: 53 @33218 has 344 MA's), (67, 33272), (72, 33287), (87, 33335), (121, 33449), (124, 33476), (125, 33491),

Gene: StarStruck\_53 Start: 40125, Stop: 40553, Start Num: 56

Candidate Starts for StarStruck\_53:

(Start: 56 @40125 has 37 MA's), (97, 40296), (140, 40488), (141, 40494),

Gene: Stark\_37 Start: 32470, Stop: 32886, Start Num: 53

Candidate Starts for Stark\_37:

(Start: 38 @32425 has 1 MA's), (Start: 53 @32470 has 344 MA's), (67, 32524), (72, 32539), (78, 32557), (87, 32587), (121, 32701), (124, 32728), (125, 32743),

Gene: Stasia\_31 Start: 22953, Stop: 23387, Start Num: 53

Candidate Starts for Stasia\_31:

(39, 22911), (Start: 53 @22953 has 344 MA's), (69, 23013), (99, 23136), (123, 23220), (130, 23277), (152, 23376),

Gene: Steamy\_32 Start: 23901, Stop: 24398, Start Num: 53

Candidate Starts for Steamy\_32:

(Start: 53 @23901 has 344 MA's), (62, 23946), (77, 23994), (85, 24024), (92, 24087), (108, 24156), (109, 24159),

Gene: StellaBean\_36 Start: 32711, Stop: 33127, Start Num: 53

Candidate Starts for StellaBean\_36:

(Start: 38 @32666 has 1 MA's), (Start: 53 @32711 has 344 MA's), (67, 32765), (72, 32780), (78, 32798), (87, 32828), (121, 32942), (124, 32969), (125, 32984),

Gene: Stink\_31 Start: 22801, Stop: 23226, Start Num: 53

Candidate Starts for Stink\_31:

(25, 22708), (28, 22717), (Start: 53 @22801 has 344 MA's), (61, 22825), (75, 22879), (85, 22918), (109, 23011), (116, 23035), (122, 23053), (135, 23137),

Gene: StolenFromERC\_38 Start: 32702, Stop: 33118, Start Num: 53

Candidate Starts for StolenFromERC\_38:

(Start: 38 @32657 has 1 MA's), (Start: 53 @32702 has 344 MA's), (67, 32756), (72, 32771), (78, 32789), (87, 32819), (121, 32933), (124, 32960), (125, 32975),

Gene: StorminNorm\_44 Start: 38975, Stop: 39421, Start Num: 53

Candidate Starts for StorminNorm\_44:

(2, 38687), (14, 38798), (23, 38873), (Start: 53 @38975 has 344 MA's), (63, 39017), (68, 39032), (72, 39044), (109, 39197), (143, 39356), (154, 39404),

Gene: Strobilo\_32 Start: 26879, Stop: 27370, Start Num: 53

Candidate Starts for Strobilo\_32:

(Start: 53 @26879 has 344 MA's), (68, 26936), (74, 26954), (89, 27011), (114, 27146), (119, 27176), (123, 27203), (126, 27227), (136, 27281), (138, 27290),

Gene: Stultus\_43 Start: 39274, Stop: 39723, Start Num: 53

Candidate Starts for Stultus\_43:

(23, 39175), (Start: 53 @39274 has 344 MA's), (63, 39316), (68, 39331), (72, 39343), (109, 39496), (136, 39619), (143, 39655), (154, 39706),

Gene: Sukkupi\_52 Start: 38578, Stop: 39006, Start Num: 56

Candidate Starts for Sukkupi\_52:

(40, 38533), (41, 38536), (45, 38545), (Start: 56 @38578 has 37 MA's), (97, 38749), (109, 38791), (134, 38917), (140, 38941),

Gene: SuperSulley\_53 Start: 40293, Stop: 40721, Start Num: 56

Candidate Starts for SuperSulley\_53:

(Start: 56 @40293 has 37 MA's), (97, 40464), (141, 40662),

Gene: TBrady12\_38 Start: 32702, Stop: 33118, Start Num: 53

Candidate Starts for TBrady12\_38:

(Start: 38 @32657 has 1 MA's), (Start: 53 @32702 has 344 MA's), (67, 32756), (72, 32771), (78, 32789), (87, 32819), (121, 32933), (124, 32960), (125, 32975),

Gene: TM4\_34 Start: 27085, Stop: 27576, Start Num: 53

Candidate Starts for TM4\_34:

(7, 26857), (Start: 53 @27085 has 344 MA's), (68, 27142), (74, 27160), (89, 27217), (114, 27352), (123, 27409), (126, 27433), (136, 27487), (152, 27565),

Gene: Tangent\_45 Start: 39348, Stop: 39797, Start Num: 53

Candidate Starts for Tangent\_45:

(20, 39240), (23, 39249), (Start: 53 @39348 has 344 MA's), (63, 39390), (68, 39405), (72, 39417), (109, 39570), (136, 39693), (143, 39729), (154, 39780),

Gene: Tangerine\_44 Start: 38756, Stop: 39202, Start Num: 53

Candidate Starts for Tangerine\_44:

(5, 38498), (10, 38549), (23, 38654), (27, 38669), (Start: 53 @38756 has 344 MA's), (63, 38798), (68, 38813), (72, 38825), (109, 38978), (143, 39137), (154, 39185),

Gene: Taquarus\_30 Start: 22521, Stop: 22949, Start Num: 53

Candidate Starts for Taquarus\_30:

(Start: 53 @22521 has 344 MA's), (69, 22581), (76, 22602), (86, 22641), (99, 22704), (128, 22839),

Gene: Tarkin\_38 Start: 33701, Stop: 34117, Start Num: 53

Candidate Starts for Tarkin\_38:

(Start: 38 @33656 has 1 MA's), (Start: 53 @33701 has 344 MA's), (67, 33755), (72, 33770), (78, 33788), (87, 33818), (121, 33932), (124, 33959), (125, 33974),

Gene: TeardropMSU\_35 Start: 32612, Stop: 33028, Start Num: 53

Candidate Starts for TeardropMSU\_35:

(Start: 38 @32567 has 1 MA's), (Start: 53 @32612 has 344 MA's), (67, 32666), (72, 32681), (78, 32699), (87, 32729), (121, 32843), (124, 32870), (125, 32885),

Gene: Teaspoon\_37 Start: 32665, Stop: 33081, Start Num: 53

Candidate Starts for Teaspoon\_37:

(Start: 38 @32620 has 1 MA's), (Start: 53 @32665 has 344 MA's), (67, 32719), (72, 32734), (78, 32752), (87, 32782), (121, 32896), (124, 32923), (125, 32938),

Gene: Terminus\_36 Start: 32799, Stop: 33215, Start Num: 53

Candidate Starts for Terminus\_36:

(Start: 38 @32754 has 1 MA's), (Start: 53 @32799 has 344 MA's), (67, 32853), (72, 32868), (78, 32886), (87, 32916), (121, 33030), (124, 33057), (125, 33072),

Gene: Thanksgivukkah\_30 Start: 22519, Stop: 22947, Start Num: 53

Candidate Starts for Thanksgivukkah\_30:

(Start: 53 @22519 has 344 MA's), (62, 22558), (69, 22579), (76, 22600), (85, 22636), (86, 22639), (128, 22837),

Gene: ThankyouJordi\_23 Start: 21874, Stop: 22287, Start Num: 54

Candidate Starts for ThankyouJordi\_23:

(3, 21628), (8, 21676), (11, 21703), (24, 21805), (37, 21853), (Start: 54 @21874 has 22 MA's), (75, 21949), (77, 21958), (87, 22003), (133, 22213),

Gene: Thing3\_42 Start: 38577, Stop: 39026, Start Num: 53

Candidate Starts for Thing3\_42:

(23, 38478), (Start: 53 @38577 has 344 MA's), (63, 38619), (68, 38634), (72, 38646), (109, 38799), (136, 38922), (143, 38958), (154, 39009),

Gene: Thresher\_37 Start: 33466, Stop: 33882, Start Num: 53

Candidate Starts for Thresher\_37:

(Start: 38 @33421 has 1 MA's), (Start: 53 @33466 has 344 MA's), (67, 33520), (72, 33535), (87, 33583), (121, 33697), (124, 33724), (125, 33739),

Gene: TimTam\_24 Start: 21899, Stop: 22312, Start Num: 54

Candidate Starts for TimTam\_24:

(1, 21629), (15, 21755), (37, 21878), (Start: 54 @21899 has 22 MA's), (75, 21974), (77, 21983), (87, 22028), (99, 22091), (133, 22238),

Gene: Timshel\_31 Start: 25553, Stop: 25981, Start Num: 53

Candidate Starts for Timshel\_31:

(Start: 53 @25553 has 344 MA's), (68, 25610), (72, 25622), (78, 25643), (109, 25763), (115, 25784), (124, 25823), (126, 25841), (130, 25874), (139, 25907),

Gene: TinaFeyge\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for TinaFeyge\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (128, 22833),

Gene: Tinybot\_29 Start: 22495, Stop: 22923, Start Num: 53

Candidate Starts for Tinybot\_29:

(Start: 53 @22495 has 344 MA's), (62, 22534), (69, 22555), (76, 22576), (85, 22612), (86, 22615), (128, 22813),

Gene: TiroTheta9\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for TiroTheta9\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (128, 22833),

Gene: Tomaszewski\_35 Start: 32309, Stop: 32725, Start Num: 53

Candidate Starts for Tomaszewski\_35:

(Start: 38 @32264 has 1 MA's), (Start: 53 @32309 has 344 MA's), (67, 32363), (72, 32378), (78, 32396), (87, 32426), (121, 32540), (124, 32567), (125, 32582),

Gene: Topanga\_31 Start: 22953, Stop: 23384, Start Num: 53

Candidate Starts for Topanga\_31:

(Start: 53 @22953 has 344 MA's), (62, 22992), (69, 23013), (71, 23019), (99, 23136), (147, 23358),

Gene: Toto\_36 Start: 32712, Stop: 33128, Start Num: 53

Candidate Starts for Toto\_36:

(Start: 38 @32667 has 1 MA's), (Start: 53 @32712 has 344 MA's), (67, 32766), (72, 32781), (78, 32799), (87, 32829), (121, 32943), (124, 32970), (125, 32985),

Gene: Tourach\_31 Start: 28000, Stop: 28422, Start Num: 51

Candidate Starts for Tourach\_31:

(Start: 51 @28000 has 28 MA's), (60, 28027), (66, 28057), (71, 28072), (77, 28087), (91, 28144), (109, 28198), (122, 28240), (125, 28273), (126, 28276), (137, 28333), (144, 28378), (151, 28405),

Gene: Traaww1\_34 Start: 32350, Stop: 32766, Start Num: 53

Candidate Starts for Traaww1\_34:

(Start: 38 @32305 has 1 MA's), (Start: 53 @32350 has 344 MA's), (67, 32404), (72, 32419), (78, 32437), (87, 32467), (121, 32581), (124, 32608), (125, 32623),

Gene: Tracker\_51 Start: 38952, Stop: 39377, Start Num: 56

Candidate Starts for Tracker\_51:

(36, 38895), (42, 38916), (Start: 56 @38952 has 37 MA's), (97, 39123), (109, 39165),

Gene: Trike\_29 Start: 20971, Stop: 21399, Start Num: 53

Candidate Starts for Trike\_29:

(Start: 53 @20971 has 344 MA's), (62, 21010), (71, 21037), (78, 21061), (99, 21154), (148, 21379),

Gene: TroyPia\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for TroyPia\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Tuco\_37 Start: 33220, Stop: 33636, Start Num: 53

Candidate Starts for Tuco\_37:

(Start: 38 @33175 has 1 MA's), (Start: 53 @33220 has 344 MA's), (67, 33274), (72, 33289), (87, 33337), (121, 33451), (124, 33478), (125, 33493),

Gene: Turuncu\_56 Start: 40541, Stop: 40978, Start Num: 56

Candidate Starts for Turuncu\_56:

(31, 40457), (33, 40472), (44, 40502), (46, 40511), (Start: 56 @40541 has 37 MA's), (81, 40631), (97, 40712), (109, 40754), (124, 40814), (141, 40910),

Gene: Twister\_31 Start: 22862, Stop: 23293, Start Num: 53

Candidate Starts for Twister\_31:

(29, 22784), (34, 22805), (Start: 53 @22862 has 344 MA's), (62, 22901), (98, 23042), (99, 23045), (122, 23117), (130, 23186), (138, 23210),



Gene: Tycho\_44 Start: 38843, Stop: 39289, Start Num: 53

Candidate Starts for Tycho\_44:

(2, 38555), (14, 38666), (23, 38741), (27, 38756), (Start: 53 @38843 has 344 MA's), (63, 38885), (68, 38900), (72, 38912), (109, 39065), (143, 39224), (154, 39272),

Gene: TygerBlood\_30 Start: 22518, Stop: 22946, Start Num: 53

Candidate Starts for TygerBlood\_30:

(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Tyson\_29 Start: 27280, Stop: 27699, Start Num: 52

Candidate Starts for Tyson\_29:

(Start: 52 @27280 has 34 MA's), (57, 27295), (71, 27349), (77, 27364), (91, 27421), (106, 27469), (109, 27475), (115, 27496), (125, 27550), (144, 27655), (151, 27682),

Gene: UPIE\_29 Start: 27278, Stop: 27697, Start Num: 52

Candidate Starts for UPIE\_29:

(Start: 52 @27278 has 34 MA's), (57, 27293), (71, 27347), (77, 27362), (91, 27419), (106, 27467), (109, 27473), (115, 27494), (125, 27548), (144, 27653), (151, 27680),

Gene: Ukulele\_36 Start: 32470, Stop: 32886, Start Num: 53

Candidate Starts for Ukulele\_36:

(Start: 38 @32425 has 1 MA's), (Start: 53 @32470 has 344 MA's), (67, 32524), (72, 32539), (87, 32587), (121, 32701), (124, 32728), (125, 32743),

Gene: Ulysses\_29 Start: 22236, Stop: 22664, Start Num: 53

Candidate Starts for Ulysses\_29:

(Start: 53 @22236 has 344 MA's), (62, 22275), (69, 22296), (76, 22317), (85, 22353), (86, 22356), (128, 22554),

Gene: VanLee\_31 Start: 26056, Stop: 26493, Start Num: 54

Candidate Starts for VanLee\_31:

(16, 25918), (35, 26029), (Start: 54 @26056 has 22 MA's), (63, 26095), (68, 26110), (70, 26116), (77, 26140), (94, 26239), (107, 26272), (152, 26482),

Gene: Vetric\_31 Start: 28015, Stop: 28437, Start Num: 51

Candidate Starts for Vetric\_31:

(Start: 51 @28015 has 28 MA's), (60, 28042), (71, 28087), (77, 28102), (79, 28108), (91, 28159), (109, 28213), (125, 28288), (126, 28291), (137, 28348), (144, 28393), (151, 28420),

Gene: Vivi2\_47 Start: 40374, Stop: 40823, Start Num: 53

Candidate Starts for Vivi2\_47:

(23, 40275), (Start: 53 @40374 has 344 MA's), (63, 40416), (68, 40431), (72, 40443), (109, 40596), (136, 40719), (143, 40755), (154, 40806),

Gene: Volt\_66 Start: 36531, Stop: 36920, Start Num: 55

Candidate Starts for Volt\_66:

(Start: 55 @36531 has 6 MA's), (63, 36567), (84, 36639), (107, 36744), (120, 36780), (126, 36822), (130, 36855),

Gene: Vordorf\_27 Start: 22487, Stop: 22912, Start Num: 54

Candidate Starts for Vordorf\_27:

(Start: 54 @22487 has 22 MA's), (63, 22526), (68, 22541), (77, 22571), (107, 22703), (123, 22763),

Gene: WalterMcMickey\_31 Start: 22862, Stop: 23293, Start Num: 53  
Candidate Starts for WalterMcMickey\_31:  
(29, 22784), (34, 22805), (Start: 53 @22862 has 344 MA's), (62, 22901), (98, 23042), (99, 23045),  
(122, 23117), (130, 23186), (138, 23210),

Gene: Wamburgexpress\_29 Start: 27293, Stop: 27712, Start Num: 52  
Candidate Starts for Wamburgexpress\_29:  
(Start: 52 @27293 has 34 MA's), (57, 27308), (71, 27362), (77, 27377), (91, 27434), (106, 27482),  
(109, 27488), (115, 27509), (125, 27563), (144, 27668), (151, 27695),

Gene: Wander\_30 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for Wander\_30:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: WelcomeAyanna\_23 Start: 21874, Stop: 22287, Start Num: 54  
Candidate Starts for WelcomeAyanna\_23:  
(3, 21628), (8, 21676), (11, 21703), (24, 21805), (37, 21853), (Start: 54 @21874 has 22 MA's), (75,  
21949), (77, 21958), (87, 22003), (133, 22213),

Gene: Wheezy\_51 Start: 39157, Stop: 39582, Start Num: 56  
Candidate Starts for Wheezy\_51:  
(36, 39100), (42, 39121), (Start: 56 @39157 has 37 MA's), (97, 39328), (109, 39370),

Gene: Whirlwind\_31 Start: 28115, Stop: 28534, Start Num: 52  
Candidate Starts for Whirlwind\_31:  
(Start: 52 @28115 has 34 MA's), (60, 28139), (66, 28169), (70, 28181), (109, 28310), (113, 28325),  
(125, 28385), (126, 28388), (134, 28436), (144, 28490),

Gene: WhoseManz\_52 Start: 36638, Stop: 37066, Start Num: 56  
Candidate Starts for WhoseManz\_52:  
(45, 36605), (Start: 56 @36638 has 37 MA's), (97, 36809), (109, 36851), (134, 36977),

Gene: Wiggin\_39 Start: 33216, Stop: 33632, Start Num: 53  
Candidate Starts for Wiggin\_39:  
(Start: 38 @33171 has 1 MA's), (Start: 53 @33216 has 344 MA's), (67, 33270), (72, 33285), (78,  
33303), (87, 33333), (121, 33447), (124, 33474), (125, 33489),

Gene: Wigglewiggles\_31 Start: 28041, Stop: 28463, Start Num: 51  
Candidate Starts for Wigglewiggles\_31:  
(Start: 51 @28041 has 28 MA's), (60, 28068), (71, 28113), (77, 28128), (79, 28134), (91, 28185), (109,  
28239), (125, 28314), (126, 28317), (137, 28374), (144, 28419), (151, 28446),

Gene: Wilbur\_30 Start: 22518, Stop: 22946, Start Num: 53  
Candidate Starts for Wilbur\_30:  
(Start: 53 @22518 has 344 MA's), (69, 22578), (76, 22599), (86, 22638), (99, 22701), (128, 22836),

Gene: Wilder\_31 Start: 28014, Stop: 28436, Start Num: 51  
Candidate Starts for Wilder\_31:  
(Start: 51 @28014 has 28 MA's), (60, 28041), (71, 28086), (77, 28101), (79, 28107), (91, 28158), (109,  
28212), (125, 28287), (126, 28290), (137, 28347), (144, 28392), (151, 28419),

Gene: Wile\_30 Start: 22543, Stop: 22974, Start Num: 53

Candidate Starts for Wile\_30:

(Start: 53 @22543 has 344 MA's), (62, 22582), (69, 22603), (78, 22633), (99, 22726), (124, 22816), (131, 22870), (147, 22948),

Gene: Willez\_35 Start: 32216, Stop: 32632, Start Num: 53

Candidate Starts for Willez\_35:

(Start: 38 @32171 has 1 MA's), (Start: 53 @32216 has 344 MA's), (67, 32270), (72, 32285), (78, 32303), (87, 32333), (121, 32447), (124, 32474), (125, 32489),

Gene: Winky\_31 Start: 28009, Stop: 28431, Start Num: 51

Candidate Starts for Winky\_31:

(Start: 51 @28009 has 28 MA's), (60, 28036), (71, 28081), (77, 28096), (79, 28102), (91, 28153), (109, 28207), (125, 28282), (126, 28285), (137, 28342), (144, 28387), (151, 28414),

Gene: Wizard007\_30 Start: 22520, Stop: 22948, Start Num: 53

Candidate Starts for Wizard007\_30:

(Start: 53 @22520 has 344 MA's), (69, 22580), (76, 22601), (86, 22640), (99, 22703), (128, 22838),

Gene: Wyatt2\_29 Start: 27280, Stop: 27699, Start Num: 52

Candidate Starts for Wyatt2\_29:

(Start: 52 @27280 has 34 MA's), (57, 27295), (71, 27349), (77, 27364), (91, 27421), (106, 27469), (109, 27475), (115, 27496), (125, 27550), (144, 27655), (151, 27682),

Gene: Xandras\_38 Start: 32702, Stop: 33118, Start Num: 53

Candidate Starts for Xandras\_38:

(Start: 38 @32657 has 1 MA's), (Start: 53 @32702 has 344 MA's), (67, 32756), (72, 32771), (78, 32789), (87, 32819), (121, 32933), (124, 32960), (125, 32975),

Gene: Xena\_30 Start: 22530, Stop: 22961, Start Num: 53

Candidate Starts for Xena\_30:

(Start: 53 @22530 has 344 MA's), (62, 22569), (69, 22590), (78, 22620), (99, 22713), (124, 22803), (131, 22857), (147, 22935),

Gene: YassJohnny\_37 Start: 33227, Stop: 33643, Start Num: 53

Candidate Starts for YassJohnny\_37:

(Start: 38 @33182 has 1 MA's), (Start: 53 @33227 has 344 MA's), (67, 33281), (72, 33296), (78, 33314), (87, 33344), (121, 33458), (124, 33485), (125, 33500),

Gene: Yndexa\_52 Start: 38578, Stop: 39006, Start Num: 56

Candidate Starts for Yndexa\_52:

(40, 38533), (41, 38536), (45, 38545), (Start: 56 @38578 has 37 MA's), (97, 38749), (109, 38791), (134, 38917), (140, 38941),

Gene: YoSam321\_30 Start: 22515, Stop: 22943, Start Num: 53

Candidate Starts for YoSam321\_30:

(Start: 53 @22515 has 344 MA's), (69, 22575), (76, 22596), (86, 22635), (99, 22698), (128, 22833),

Gene: YorkOnyx\_45 Start: 39100, Stop: 39546, Start Num: 53

Candidate Starts for YorkOnyx\_45:

(10, 38893), (23, 38998), (27, 39013), (Start: 53 @39100 has 344 MA's), (63, 39142), (68, 39157), (72, 39169), (109, 39322), (143, 39481), (154, 39529),

Gene: Youngblood\_36 Start: 32872, Stop: 33288, Start Num: 53

Candidate Starts for Youngblood\_36:

(Start: 38 @32827 has 1 MA's), (Start: 53 @32872 has 344 MA's), (67, 32926), (72, 32941), (87, 32989), (121, 33103), (124, 33130), (125, 33145),

Gene: Zakai\_31 Start: 28265, Stop: 28687, Start Num: 51

Candidate Starts for Zakai\_31:

(Start: 51 @28265 has 28 MA's), (60, 28292), (66, 28322), (71, 28337), (77, 28352), (79, 28358), (91, 28409), (109, 28463), (125, 28538), (126, 28541), (137, 28598), (144, 28643), (151, 28670),

Gene: Zaria\_29 Start: 27294, Stop: 27713, Start Num: 52

Candidate Starts for Zaria\_29:

(Start: 52 @27294 has 34 MA's), (57, 27309), (71, 27363), (77, 27378), (91, 27435), (106, 27483), (109, 27489), (115, 27510), (125, 27564), (144, 27669), (151, 27696),

Gene: ZhongYanYuan\_30 Start: 27830, Stop: 28252, Start Num: 51

Candidate Starts for ZhongYanYuan\_30:

(Start: 51 @27830 has 28 MA's), (60, 27857), (71, 27902), (77, 27917), (79, 27923), (91, 27974), (109, 28028), (125, 28103), (126, 28106), (137, 28163), (144, 28208), (151, 28235),

Gene: Ziko\_66 Start: 36353, Stop: 36742, Start Num: 55

Candidate Starts for Ziko\_66:

(Start: 55 @36353 has 6 MA's), (63, 36389), (84, 36461), (107, 36566), (120, 36602), (126, 36644), (130, 36677),

Gene: Zirinka\_24 Start: 21911, Stop: 22324, Start Num: 54

Candidate Starts for Zirinka\_24:

(1, 21641), (18, 21800), (37, 21890), (Start: 54 @21911 has 22 MA's), (75, 21986), (77, 21995), (87, 22040), (99, 22103), (133, 22250),

Gene: ZoeJ\_32 Start: 26884, Stop: 27375, Start Num: 53

Candidate Starts for ZoeJ\_32:

(Start: 53 @26884 has 344 MA's), (68, 26941), (74, 26959), (89, 27016), (114, 27151), (123, 27208), (126, 27232), (136, 27286), (152, 27364),

Gene: xkcd\_37 Start: 32881, Stop: 33297, Start Num: 53

Candidate Starts for xkcd\_37:

(Start: 38 @32836 has 1 MA's), (Start: 53 @32881 has 344 MA's), (67, 32935), (72, 32950), (78, 32968), (87, 32998), (121, 33112), (124, 33139), (125, 33154),