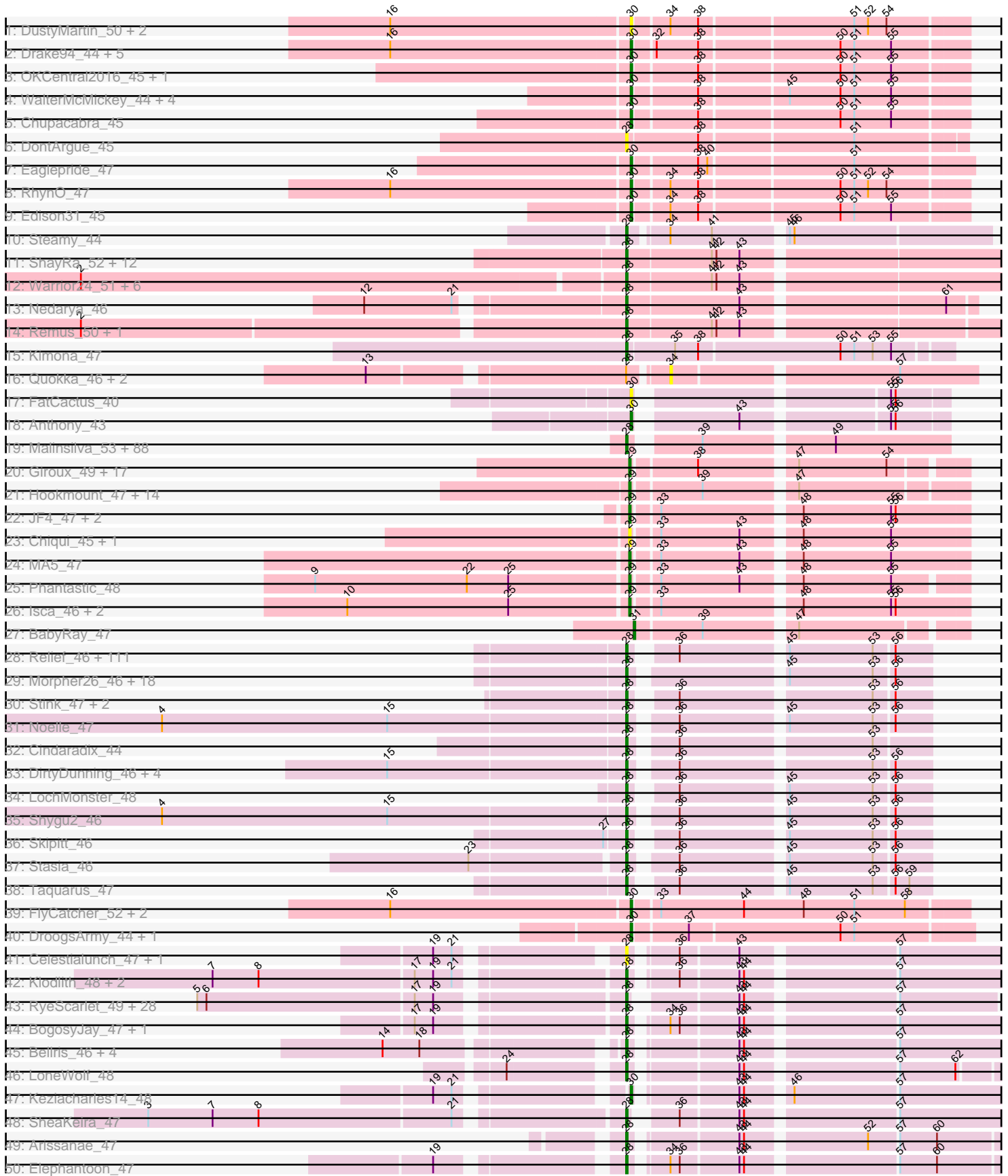


Pham 304627





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 304627 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304627 has 385 members, 48 are drafts.

Phages represented in each track:

- Track 1 : DustyMartin\_50, Shapes\_50, Rowdy\_50
- Track 2 : Drake94\_44, Trike\_44, Poompha\_45, Severus\_44, KittenMittens\_43, PeaceMeal1\_44
- Track 3 : OKCentral2016\_45, Goose\_46
- Track 4 : WalterMcMickey\_44, Rebeuca\_46, Twister\_44, Topanga\_44, Kristoff\_46
- Track 5 : Chupacabra\_45
- Track 6 : DontArgue\_45
- Track 7 : Eaglepride\_47
- Track 8 : RhynO\_47
- Track 9 : Edison31\_45
- Track 10 : Steamy\_44
- Track 11 : ShayRa\_52, Soups\_51, Nebulosus\_50, Ravana\_52, Anaysia\_51, LastResort\_50, Epsocamisio\_49, ReMo\_50, Looper\_51, DekHockey33\_51, Boohoo\_51, Oofda\_50, KatherineG\_52
- Track 12 : Warrior24\_51, Switzerland\_50, Battleship\_51, Rosalind\_49, Waits\_50, MinecraftSteve\_51, JSwag\_49
- Track 13 : Nedarya\_46
- Track 14 : Remus\_50, Strosahl\_50
- Track 15 : Kimona\_47
- Track 16 : Quokka\_46, Bradman\_47, MajorMajor\_47
- Track 17 : FatCactus\_40
- Track 18 : Anthony\_43
- Track 19 : Malinsilva\_53, OlanP\_50, Wooldri\_53, Pembroke\_51, Reba\_51, Aglet\_52, SoYo\_51, MarQuardt\_51, StepMih\_51, MadMarie\_51, DaHudson\_51, BreSam8\_51, Calvinny\_51, Marie\_51, BuzzBuzz\_49, GingkoMaracino\_51, Groupthink\_52, LugYA\_54, Tiffany\_51, Misomonster\_52, Daishi\_50, Farber\_51, ClownCar\_51, PGHhamlin\_53, PotatoSplit\_53, JenCasNa\_52, Lowa\_51, Zetzy\_50, JHC117\_51, Bigflo\_51, Hercules11\_51, Microwolf\_51, Taurus\_52, Fernando\_51, Gwennie\_50, MuchMore\_54, Colbster\_51, Grif\_51, TinyPebbles\_50, PurpleHaze\_51, Sabinator\_50, JeppNRM\_52, LarryKay\_51, Grum1\_51, Ollie\_51, Heliosoles\_50, LBerry\_52, P28Green\_52, Pawn\_51, AgronaGT15\_50, GtownJaz\_51, Phranny\_52, Vix\_51, Rummer\_50, Stagni\_51, MoneyMay\_51, Kalb97\_52, Manu\_51, HashRod\_52, Marius\_52, HaveUMetTed\_52, PhishRPhriends\_49, Louie6\_50, Mainiac\_51, Montavir\_50, Cullens\_51, Phoxy\_51, SoilDragon\_51, Kalnoky\_52, Spike509\_51, Croquant\_52, Sabia\_51, Jobu08\_50, Lilith\_52, ACFishhook\_50, Snickers\_51, Phoebe\_52, Watson\_51, Grub\_51, Dieselweasel\_52, Beauxregard13\_51, AugsMagnumOpus\_54, Anubis\_54, Soshari\_53, Gemma\_50, Bxz2\_47, KADY\_51,

Penny1\_52, EpicPhail\_52

- Track 20 : Giroux\_49, Zarafa\_47, Heathen\_47, Kachowdy\_47, Idleandcovert\_48, SaturnRing\_48, DropBear\_47, Pistachio\_49, Puppy\_49, Scout\_47, BlueBird\_49, Roimos\_47, Fred313\_47, Bugatti\_48, Marchesa\_47, Clammy\_48, TNguyen7\_48, HelDan\_47
- Track 21 : Hookmount\_47, EtoileNova\_48, Texage\_46, Pocahontas\_47, Popcicle\_47, Noella\_47, ResDef\_47, Margo\_47, QuinnKiro\_46, Norbert\_46, Veracruz\_46, Panamaxus\_45, Lambert1\_47, Caviar\_47, Todacoro\_47
- Track 22 : JF4\_47, JF2\_47, B1\_44
- Track 23 : Chiqui\_45, BabyJohn\_45
- Track 24 : MA5\_47
- Track 25 : Phantastic\_48
- Track 26 : Isca\_46, MK4\_47, Rockstar\_47
- Track 27 : BabyRay\_47
- Track 28 : Relief\_46, KekoraPapaka\_47, Jaykayelowell\_45, Sultana\_47, Melvin\_49, HamSlice\_46, RockieBear\_46, Baby16\_47, Blackmoor\_47, Shaka\_47, Clarenza\_46, Ohfah\_48, Annyong\_47, Thanksgivukkah\_46, LappelDuVide\_47, Huxley\_46, Tinybot\_46, Abdiel\_47, Broseidon\_47, Koreni\_46, Cocoaberry\_47, Gadost\_47, Nebs\_48, Avle17\_47, NotAPhaseMom\_47, CentreCat\_47, Lemur\_47, Wander\_47, Morrow\_48, Bruiser\_46, JetBlade\_47, Iracema64\_48, SteMason\_46, Houdini22\_47, Iceman\_47, Polymorphads\_48, Eris\_46, Sparxx\_48, Pumbaa\_47, BubbleTrouble\_46, Kingmustik0402\_47, Kremtemulon\_47, LeoAvram\_47, Florean\_47, MeeZee\_47, Roosevelt\_46, PeterPeter\_47, Nemo27\_47, Spino\_46, Dhanush\_47, Bombshell\_47, Pipcraft\_45, NorthStar\_46, Ruin\_47, Felipe\_48, Rosa24\_46, Alberto7\_48, Nyxis\_47, BellusTerra\_48, Connomayer\_47, KFPoly\_46, Romney\_47, Camperdownii\_45, Scamp\_47, Koan\_45, Druantia\_47, Eros\_47, LittleGuy\_47, Holli\_46, Citius\_47, Eapen\_47, Deano\_46, Palestino\_46, Phontbonne\_47, Kyee\_47, Kampy\_47, Funston\_46, TinaFeyge\_47, OKaNui\_47, ICleared\_47, Wilbur\_47, SeniorClean\_47, Mazhar510\_47, JoongJeon\_46, Ulysses\_46, Chaph\_47, Mayonnaise\_46, TygerBlood\_47, Millski\_46, Caelakin\_47, LittleB\_47, Medusa\_47, Phacado\_47, Sabertooth\_47, Wizard007\_47, Lunsford\_48, Bartimeaus\_47, Peaches\_47, Eurydice\_48, Burger\_45, Happiness\_46, Albee\_47, TroyPia\_48, Maxo\_48, Cintron\_46, Flux\_47, Maverick\_47, Eagle\_47, Commander\_47, Lorenzo\_47, TiroTheta9\_47, YoSam321\_47
- Track 29 : Morpher26\_46, Cici\_46, Xena\_45, BangNhom\_48, Datway\_46, Perplexer\_46, SheldonCooper\_49, Achebe\_45, Badger\_45, Bumblebee11\_45, LHTSCC\_49, AbbysRanger\_46, Obama12\_48, Backyardigan\_45, PetiteSangsue\_46, ChampagnePapi\_49, Cerulean\_48, Wile\_46, Katalie136\_46
- Track 30 : Stink\_47, AvatarAhPeg\_46, Miramae\_46
- Track 31 : Noelle\_47
- Track 32 : Cindaradix\_44
- Track 33 : DirtyDunning\_46, Mundrea\_46, Arturo\_46, Phighter1804\_47, Kratark\_47
- Track 34 : LochMonster\_48
- Track 35 : Shygu2\_46
- Track 36 : Skipitt\_46
- Track 37 : Stasia\_46
- Track 38 : Taquarus\_47
- Track 39 : FlyCatcher\_52, Toro\_50, Sheen\_48
- Track 40 : DroogsArmy\_44, Timshel\_46
- Track 41 : Celestialunch\_47, MegTheThird\_47
- Track 42 : Klodlith\_48, Charm\_47, DreamTeam1\_47
- Track 43 : RyeScarlet\_49, EmyBug\_47, Scherzo\_48, Jiawan\_46, Fayely\_48, Sachima\_45, Hanray\_46, Eidsmoe\_48, Halex\_47, Myxus\_48, Ugenie5\_45,

Conquerage\_48, Phonnegut\_48, Qobbit\_48, Pioneer\_48, Phaeder\_48, PackMan\_47, ExplosioNervosa\_48, Ayanochan\_49, HortumSL17\_48, Tubs\_48, Spouty\_48, Lilleskat\_46, Priya\_48, Beemo\_48, Onglai\_46, EdogawaKiddo\_46, Aliter\_48, Catalina\_49

- Track 44 : BogosyJay\_47, Maminiaina\_47
- Track 45 : Bellris\_46, WorldCup\_46, Minispark\_46, CogOmlette\_46, Rahalelujah\_47
- Track 46 : LoneWolf\_48
- Track 47 : Keziacharles14\_48
- Track 48 : SheaKeira\_47
- Track 49 : Arissanae\_47
- Track 50 : Elephantoon\_47
- Track 51 : Darrell\_49
- Track 52 : Toaka\_47
- Track 53 : Vanisoa\_47
- Track 54 : Alma\_48

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

The start number called the most often in the published annotations is 28, it was called in 282 of the 337 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ACFishhook\_50, AbbysRanger\_46, Abdiel\_47, Achebe\_45, Aglet\_52, AgronaGT15\_50, Albee\_47, Alberto7\_48, Aliter\_48, Alma\_48, Anaysia\_51, Annyong\_47, Anubis\_54, Arissanae\_47, Arturo\_46, AugsMagnumOpus\_54, AvatarAhPeg\_46, Avle17\_47, Ayanochan\_49, Baby16\_47, Backyardigan\_45, Badger\_45, BangNhom\_48, Bartimeaus\_47, Battleship\_51, Beauxregard13\_51, Beemo\_48, Bellris\_46, BellusTerra\_48, Bigflo\_51, Blackmoor\_47, BogosyJay\_47, Bombshell\_47, Boohoo\_51, BreSam8\_51, Broseidon\_47, Bruiser\_46, BubbleTrouble\_46, Bumblebee11\_45, Burger\_45, BuzzBuzz\_49, Bxz2\_47, Caelakin\_47, Calvinny\_51, Camperdownii\_45, Catalina\_49, Celestialunch\_47, CentreCat\_47, Cerulean\_48, ChampagnePapi\_49, Chaph\_47, Charm\_47, Cici\_46, Cindaradix\_44, Cintron\_46, Citius\_47, Clarenza\_46, ClownCar\_51, Cocoaberry\_47, CogOmlette\_46, Colbster\_51, Commander\_47, Connomayer\_47, Conquerage\_48, Croquant\_52, Cullens\_51, DaHudson\_51, Daishi\_50, Darrell\_49, Datway\_46, Deano\_46, DekHockey33\_51, Dhanush\_47, Dieselweasel\_52, DirtyDunning\_46, DontArgue\_45, DreamTeam1\_47, Druantia\_47, Eagle\_47, Eapen\_47, EdogawaKiddo\_46, Eidsmoe\_48, Elephantoon\_47, EmyBug\_47, EpicPhail\_52, Epsocamisio\_49, Eris\_46, Eros\_47, Eurydice\_48, ExplosioNervosa\_48, Farber\_51, Fayely\_48, Fernando\_51, Florean\_47, Flux\_47, Funston\_46, Gadost\_47, Gemma\_50, GingkoMaracino\_51, Grif\_51, Groupthink\_52, Grub\_51, Grum1\_51, GtownJaz\_51, Gwennie\_50, HamSlice\_46, Hanray\_46, Happiness\_46, HashRod\_52, HaveUMetTed\_52, Heliosoles\_50, Hercules11\_51, Horex\_47, Holli\_46, HortumSL17\_48, Houdini22\_47, Huxley\_46, ICleared\_47, Iceman\_47, Iracema64\_48, JHC117\_51, JSwag\_49, Jaykayelowell\_45, JenCasNa\_52, JeppNRM\_52, JetBlade\_47, Jiawan\_46, Jobu08\_50, JoongJeon\_46, KADY\_51, KFPoly\_46, Kalb97\_52, Kalnoky\_52, Kampy\_47, Katalie136\_46, KatherineG\_52, KekoraPapaka\_47, Kimona\_47, Kingmustik0402\_47, Klodlith\_48, Koan\_45, Koreni\_46, Kratak\_47, Kremtemulon\_47, Kyee\_47, LBerry\_52, LHTSCC\_49, LappelDuVide\_47, LarryKay\_51, LastResort\_50, Lemur\_47, LeoAvram\_47, Lilith\_52,

Lilleskat\_46, LittleB\_47, LittleGuy\_47, LochMonster\_48, LoneWolf\_48, Looper\_51, Lorenzo\_47, Louie6\_50, Lowa\_51, LugYA\_54, Lunsford\_48, MadMarie\_51, Mainiac\_51, Malinsilva\_53, Maminaiaina\_47, Manu\_51, MarQuardt\_51, Marie\_51, Marius\_52, Maverick\_47, Maxo\_48, Mayonnaise\_46, Mazhar510\_47, Medusa\_47, MeeZee\_47, MegTheThird\_47, Melvin\_49, Microwolf\_51, Millski\_46, MinecraftSteve\_51, Minispark\_46, Miramae\_46, Misomonster\_52, MoneyMay\_51, Montavir\_50, Morpher26\_46, Morrow\_48, MuchMore\_54, Mundrea\_46, Myxus\_48, Nebs\_48, Nebulosus\_50, Nedarya\_46, Nemo27\_47, Noelle\_47, NorthStar\_46, NotAPhaseMom\_47, Nyxis\_47, OKaNui\_47, Obama12\_48, Ohfah\_48, OlanP\_50, Ollie\_51, Onglai\_46, Oofda\_50, P28Green\_52, PGHhamlin\_53, PackMan\_47, Palestino\_46, Pawn\_51, Peaches\_47, Pembroke\_51, Penny1\_52, Perplexer\_46, PeterPeter\_47, PetiteSangsue\_46, Phacado\_47, Phaeder\_48, Phelipe\_48, Phighter1804\_47, PhishRPhriends\_49, Phoebe\_52, Phonnegut\_48, Phontbonne\_47, Phoxy\_51, Phranny\_52, Pioneer\_48, Pipcraft\_45, Polymorphads\_48, PotatoSplit\_53, Priya\_48, Pumbaa\_47, PurpleHaze\_51, Qobbit\_48, Rahalelujah\_47, Ravana\_52, ReMo\_50, Reba\_51, Relief\_46, Remus\_50, RockieBear\_46, Romney\_47, Roosevelt\_46, Rosa24\_46, Rosalind\_49, Ruin\_47, Rummer\_50, RyeScarlet\_49, Sabertooth\_47, Sabia\_51, Sabinator\_50, Sachima\_45, Scamp\_47, Scherzo\_48, SenorClean\_47, Shaka\_47, ShayRa\_52, SheaKeira\_47, SheldonCooper\_49, Shygu2\_46, Skipitt\_46, Snickers\_51, SoYo\_51, SoilDragon\_51, Soshari\_53, Soups\_51, Sparxx\_48, Spike509\_51, Spino\_46, Spouty\_48, Stagni\_51, Stasia\_46, SteMason\_46, Steamy\_44, StepMih\_51, Stink\_47, Strosahl\_50, Sultana\_47, Switzerland\_50, Taquarus\_47, Taurus\_52, Thanksgivukkah\_46, Tiffany\_51, TinaFeyge\_47, TinyPebbles\_50, Tinybot\_46, TiroTheta9\_47, Toaka\_47, TroyPia\_48, Tubs\_48, TygerBlood\_47, Ugenie5\_45, Ulysses\_46, Vanisoa\_47, Vix\_51, Waits\_50, Wander\_47, Warrior24\_51, Watson\_51, Wilbur\_47, Wile\_46, Wizard007\_47, Wooldri\_53, WorldCup\_46, Xena\_45, YoSam321\_47, Zetzy\_50,

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

- Bradman\_47, MajorMajor\_47, Quokka\_46,

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

- Anthony\_43, B1\_44, BabyJohn\_45, BabyRay\_47, BlueBird\_49, Bugatti\_48, Caviar\_47, Chiqui\_45, Chupacabra\_45, Clammy\_48, Drake94\_44, DroogsArmy\_44, DropBear\_47, DustyMartin\_50, Eaglepride\_47, Edison31\_45, ÉtoileNova\_48, FatCactus\_40, FlyCatcher\_52, Fred313\_47, Giroux\_49, Goose\_46, Heathen\_47, HelDan\_47, Hookmount\_47, Idleandcovert\_48, Isca\_46, JF2\_47, JF4\_47, Kachowdy\_47, Keziacharles14\_48, KittenMittens\_43, Kristoff\_46, Lambert1\_47, MA5\_47, MK4\_47, Marchesa\_47, Margo\_47, Noella\_47, Norbert\_46, OKCentral2016\_45, Panamaxus\_45, PeaceMeal1\_44, Phantastic\_48, Pistachio\_49, Pocahontas\_47, Poompha\_45, Popcicle\_47, Puppy\_49, QuinnKiro\_46, Rebeuca\_46, ResDef\_47, RhynO\_47, Rockstar\_47, Roimos\_47, Rowdy\_50, SaturnRing\_48, Scout\_47, Severus\_44, Shapes\_50, Sheen\_48, TNguyen7\_48, Texage\_46, Timshel\_46, Todacoro\_47, Topanga\_44, Toro\_50, Trike\_44, Twister\_44, Veracruz\_46, WalterMcMickey\_44, Zarafa\_47,

### Summary by start number:

Start 28:

- Found in 313 of 385 ( 81.3% ) of genes in pham
- Manual Annotations of this start: 282 of 337
- Called 99.0% of time when present

• Phage (with cluster) where this start called: ACFishhook\_50 (A3), AbbysRanger\_46 (A4), Abdiel\_47 (A4), Achebe\_45 (A4), Aglet\_52 (A3), AgronaGT15\_50 (A3), Albee\_47 (A4), Alberto7\_48 (A4), Aliter\_48 (A9), Alma\_48 (A9), Anaysia\_51 (A15), Annyong\_47 (A4), Anubis\_54 (A3), Arissanae\_47 (A9), Arturo\_46 (A4), AugsMagnumOpus\_54 (A3), AvatarAhPeg\_46 (A4), Avle17\_47 (A4), Ayanochan\_49 (A9), Baby16\_47 (A4), Backyardigan\_45 (A4), Badger\_45 (A4), BangNhom\_48 (A4), Bartimeaus\_47 (A4), Battleship\_51 (A15), Beauxregard13\_51 (A3), Beemo\_48 (A9), Bellris\_46 (A9), BellusTerra\_48 (A4), Bigflo\_51 (A3), Blackmoor\_47 (A4), BogosyJay\_47 (A9), Bombshell\_47 (A4), Boohoo\_51 (A15), BreSam8\_51 (A3), Broseidon\_47 (A4), Bruiser\_46 (A4), BubbleTrouble\_46 (A4), Bumblebee11\_45 (A4), Burger\_45 (A4), BuzzBuzz\_49 (A3), Bxz2\_47 (A3), Caelakin\_47 (A4), Calvinny\_51 (A3), Camperdownii\_45 (A4), Catalina\_49 (A9), Celestiallunch\_47 (A9), CentreCat\_47 (A4), Cerulean\_48 (A4), ChampagnePapi\_49 (A4), Chaph\_47 (A4), Charm\_47 (A9), Cici\_46 (A4), Cindaradix\_44 (A4), Cintron\_46 (A4), Citius\_47 (A4), Clarenza\_46 (A4), ClownCar\_51 (A3), Cocoaberry\_47 (A4), CogOmlette\_46 (A9), Colbster\_51 (A3), Commander\_47 (A4), Connomayer\_47 (A4), Conquerage\_48 (A9), Croquant\_52 (A3), Cullens\_51 (A3), DaHudson\_51 (A3), Daishi\_50 (A3), Darrell\_49 (A9), Datway\_46 (A4), Deano\_46 (A4), DekHockey33\_51 (A15), Dhanush\_47 (A4), Dieselweasel\_52 (A3), DirtyDunning\_46 (A4), DontArgue\_45 (A10), DreamTeam1\_47 (A9), Druantia\_47 (A4), Eagle\_47 (A4), Eapen\_47 (A4), EdogawaKiddo\_46 (A9), Eidsmoe\_48 (A9), Elephantoon\_47 (A9), EmyBug\_47 (A9), EpicPhail\_52 (A3), Epsocamisio\_49 (A15), Eris\_46 (A4), Eros\_47 (A4), Eurydice\_48 (A4), ExplosioNervosa\_48 (A9), Farber\_51 (A3), Fayely\_48 (A9), Fernando\_51 (A3), Florean\_47 (A4), Flux\_47 (A4), Funston\_46 (A4), Gadost\_47 (A4), Gemma\_50 (A3), GingkoMaracino\_51 (A3), Grif\_51 (A3), Groupthink\_52 (A3), Grub\_51 (A3), Grum1\_51 (A3), GtownJaz\_51 (A3), Gwennie\_50 (A3), HamSlice\_46 (A4), Hanray\_46 (A9), Happiness\_46 (A4), HashRod\_52 (A3), HaveUMetTed\_52 (A3), Heliosoles\_50 (A3), Hercules11\_51 (A3), Halex\_47 (A9), Holli\_46 (A4), HortumSL17\_48 (A9), Houdini22\_47 (A4), Huxley\_46 (A4), ICleared\_47 (A4), Iceman\_47 (A4), Iracema64\_48 (A4), JHC117\_51 (A3), JSwag\_49 (A15), Jaykayelowell\_45 (A4), JenCasNa\_52 (A3), JeppNRM\_52 (A3), JetBlade\_47 (A4), Jiawan\_46 (A9), Jobu08\_50 (A3), JoongJeon\_46 (A4), KADY\_51 (A3), KFPoly\_46 (A4), Kalb97\_52 (A3), Kalnoky\_52 (A3), Kampy\_47 (A4), Katalie136\_46 (A4), KatherineG\_52 (A15), KekoraPapaka\_47 (A4), Kimona\_47 (A19), Kingmustik0402\_47 (A4), Klodlith\_48 (A9), Koan\_45 (A4), Koreni\_46 (A4), Kratark\_47 (A4), Kremtemulon\_47 (A4), Kyee\_47 (A4), LBerry\_52 (A3), LHTSCC\_49 (A4), LappelDuVide\_47 (A4), LarryKay\_51 (A3), LastResort\_50 (A15), Lemur\_47 (A4), LeoAvram\_47 (A4), Lilith\_52 (A3), Lilleskat\_46 (A9), LittleB\_47 (A4), LittleGuy\_47 (A4), LochMonster\_48 (A4), LoneWolf\_48 (A9), Looper\_51 (A15), Lorenzo\_47 (A4), Louie6\_50 (A3), Iowa\_51 (A3), LugYA\_54 (A3), Lunsford\_48 (A4), MadMarie\_51 (A3), Mainiac\_51 (A3), Malinsilva\_53 (A3), Maminiaina\_47 (A9), Manu\_51 (A3), MarQuardt\_51 (A3), Marie\_51 (A3), Marius\_52 (A3), Maverick\_47 (A4), Maxo\_48 (A4), Mayonnaise\_46 (A4), Mazhar510\_47 (A4), Medusa\_47 (A4), MeeZee\_47 (A4), MegTheThird\_47 (A9), Melvin\_49 (A4), Microwolf\_51 (A3), Millski\_46 (A4), MinecraftSteve\_51 (A15), Minispark\_46 (A9), Miramae\_46 (A4), Misomonster\_52 (A3), MoneyMay\_51 (A3), Montavir\_50 (A3), Morpher26\_46 (A4), Morrow\_48 (A4), MuchMore\_54 (A3), Mundrea\_46 (A4), Myxus\_48 (A9), Nebs\_48 (A4), Nebulosus\_50 (A15), Nedarya\_46 (A15), Nemo27\_47 (A4), Noelle\_47 (A4), NorthStar\_46 (A4), NotAPhaseMom\_47 (A4), Nyxis\_47 (A4), OKaNui\_47 (A4), Obama12\_48 (A4), Ohfah\_48 (A4), OlanP\_50 (A3), Ollie\_51 (A3), Onglai\_46 (A9), Oofda\_50 (A15), P28Green\_52 (A3), PGHhamlin\_53 (A3), PackMan\_47 (A9), Palestino\_46 (A4), Pawn\_51 (A3), Peaches\_47 (A4), Pembroke\_51 (A3), Penny1\_52 (A3), Perplexer\_46 (A4), PeterPeter\_47 (A4), PetiteSangsue\_46 (A4), Phacado\_47 (A4), Phaeder\_48

(A9), Phelipe\_48 (A4), Phighter1804\_47 (A4), PhishRPhriends\_49 (A3), Phoebe\_52 (A3), Phonnegut\_48 (A9), Phontbonne\_47 (A4), Phoxy\_51 (A3), Phranny\_52 (A3), Pioneer\_48 (A9), Pipcraft\_45 (A4), Polymorphads\_48 (A4), PotatoSplit\_53 (A3), Priya\_48 (A9), Pumbaa\_47 (A4), PurpleHaze\_51 (A3), Qobbit\_48 (A9), Rahalelujah\_47 (A9), Ravana\_52 (A15), ReMo\_50 (A15), Reba\_51 (A3), Relief\_46 (A4), Remus\_50 (A15), RockieBear\_46 (A4), Romney\_47 (A4), Roosevelt\_46 (A4), Rosa24\_46 (A4), Rosalind\_49 (A15), Ruin\_47 (A4), Rummer\_50 (A3), RyeScarlet\_49 (A9), Sabertooth\_47 (A4), Sabia\_51 (A3), Sabinator\_50 (A3), Sachima\_45 (A9), Scamp\_47 (A4), Scherzo\_48 (A9), SenorClean\_47 (A4), Shaka\_47 (A4), ShayRa\_52 (A15), SheaKeira\_47 (A9), SheldonCooper\_49 (A4), Shygu2\_46 (A4), Skipitt\_46 (A4), Snickers\_51 (A3), SoYo\_51 (A3), SoilDragon\_51 (A3), Soshari\_53 (A3), Soups\_51 (A15), Sparxx\_48 (A4), Spike509\_51 (A3), Spino\_46 (A4), Spouty\_48 (A9), Stagni\_51 (A3), Stasia\_46 (A4), SteMason\_46 (A4), Steamy\_44 (A12), StepMih\_51 (A3), Stink\_47 (A4), Strosahl\_50 (A15), Sultana\_47 (A4), Switzerland\_50 (A15), Taquarus\_47 (A4), Taurus\_52 (A3), Thanksgivukkah\_46 (A4), Tiffany\_51 (A3), TinaFeyge\_47 (A4), TinyPebbles\_50 (A3), Tinybot\_46 (A4), TiroTheta9\_47 (A4), Toaka\_47 (A9), TroyPia\_48 (A4), Tubs\_48 (A9), TygerBlood\_47 (A4), Ugenie5\_45 (A9), Ulysses\_46 (A4), Vanisoa\_47 (A9), Vix\_51 (A3), Waits\_50 (A15), Wander\_47 (A4), Warrior24\_51 (A15), Watson\_51 (A3), Wilbur\_47 (A4), Wile\_46 (A4), Wizard007\_47 (A4), Wooldri\_53 (A3), WorldCup\_46 (A9), Xena\_45 (A4), YoSam321\_47 (A4), Zetzy\_50 (A3),

#### Start 29:

- Found in 43 of 385 ( 11.2% ) of genes in pham
- Manual Annotations of this start: 32 of 337
- Called 100.0% of time when present
- Phage (with cluster) where this start called: B1\_44 (A3), BabyJohn\_45 (A3), BlueBird\_49 (A3), Bugatti\_48 (A3), Caviar\_47 (A3), Chiqui\_45 (A3), Clammy\_48 (A3), DropBear\_47 (A3), EtoileNova\_48 (A3), Fred313\_47 (A3), Giroux\_49 (A3), Heathen\_47 (A3), HelDan\_47 (A3), Hookmount\_47 (A3), Idleandcovert\_48 (A3), Isca\_46 (A3), JF2\_47 (A3), JF4\_47 (A3), Kachowdy\_47 (A3), Lambert1\_47 (A3), MA5\_47 (A3), MK4\_47 (A3), Marchesa\_47 (A3), Margo\_47 (A3), Noella\_47 (A3), Norbert\_46 (A3), Panamaxus\_45 (A3), Phantastic\_48 (A3), Pistachio\_49 (A3), Pocahontas\_47 (A3), Popcicle\_47 (A3), Puppy\_49 (A3), QuinnKiro\_46 (A3), ResDef\_47 (A3), Rockstar\_47 (A3), Roimos\_47 (A3), SaturnRing\_48 (A3), Scout\_47 (A3), TNguyen7\_48 (A3), Texage\_46 (A3), Todacoro\_47 (A3), Veracruz\_46 (A3), Zarafa\_47 (A3),

#### Start 30:

- Found in 28 of 385 ( 7.3% ) of genes in pham
- Manual Annotations of this start: 22 of 337
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anthony\_43 (A20), Chupacabra\_45 (A10), Drake94\_44 (A10), DroogsArmy\_44 (A7), DustyMartin\_50 (A10), Eaglepride\_47 (A10), Edison31\_45 (A10), FatCactus\_40 (A20), FlyCatcher\_52 (A7), Goose\_46 (A10), Keziacharles14\_48 (A9), KittenMittens\_43 (A10), Kristoff\_46 (A10), OKCentral2016\_45 (A10), PeaceMeal1\_44 (A10), Poompha\_45 (A10), Rebeuca\_46 (A10), RhynO\_47 (A10), Rowdy\_50 (A10), Severus\_44 (A10), Shapes\_50 (A10), Sheen\_48 (A7), Timshel\_46 (A7), Topanga\_44 (A10), Toro\_50 (A7), Trike\_44 (A10), Twister\_44 (A10), WalterMcMickey\_44 (A10),

#### Start 31:

- Found in 1 of 385 ( 0.3% ) of genes in pham

- Manual Annotations of this start: 1 of 337
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabyRay\_47 (A3),

Start 34:

- Found in 12 of 385 ( 3.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Bradman\_47 (A2), MajorMajor\_47 (A2), Quokka\_46 (A2),

### **Summary by clusters:**

There are 10 clusters represented in this pham: A15, A20, A10, A12, A19, A3, A2, A4, A7, A9,

Info for manual annotations of cluster A10:

- Start number 30 was manually annotated 17 times for cluster A10.

Info for manual annotations of cluster A12:

- Start number 28 was manually annotated 1 time for cluster A12.

Info for manual annotations of cluster A15:

- Start number 28 was manually annotated 23 times for cluster A15.

Info for manual annotations of cluster A19:

- Start number 28 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A20:

- Start number 30 was manually annotated 1 time for cluster A20.

Info for manual annotations of cluster A3:

- Start number 28 was manually annotated 82 times for cluster A3.
- Start number 29 was manually annotated 32 times for cluster A3.
- Start number 31 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A4:

- Start number 28 was manually annotated 142 times for cluster A4.

Info for manual annotations of cluster A7:

- Start number 30 was manually annotated 3 times for cluster A7.

Info for manual annotations of cluster A9:

- Start number 28 was manually annotated 33 times for cluster A9.
- Start number 30 was manually annotated 1 time for cluster A9.

### **Gene Information:**

Gene: ACFishhook\_50 Start: 32461, Stop: 32273, Start Num: 28

Candidate Starts for ACFishhook\_50:

(Start: 28 @32461 has 282 MA's), (39, 32425), (49, 32347),

Gene: AbbysRanger\_46 Start: 32043, Stop: 31867, Start Num: 28

Candidate Starts for AbbysRanger\_46:

(Start: 28 @32043 has 282 MA's), (45, 31956), (53, 31902), (56, 31890),

Gene: Abdiel\_47 Start: 32054, Stop: 31881, Start Num: 28

Candidate Starts for Abdiel\_47:

(Start: 28 @32054 has 282 MA's), (36, 32033), (45, 31970), (53, 31916), (56, 31904),

Gene: Achebe\_45 Start: 32026, Stop: 31850, Start Num: 28

Candidate Starts for Achebe\_45:

(Start: 28 @32026 has 282 MA's), (45, 31939), (53, 31885), (56, 31873),

Gene: Aglet\_52 Start: 32490, Stop: 32302, Start Num: 28

Candidate Starts for Aglet\_52:

(Start: 28 @32490 has 282 MA's), (39, 32454), (49, 32376),

Gene: AgronaGT15\_50 Start: 32341, Stop: 32153, Start Num: 28

Candidate Starts for AgronaGT15\_50:

(Start: 28 @32341 has 282 MA's), (39, 32305), (49, 32227),

Gene: Albee\_47 Start: 32053, Stop: 31880, Start Num: 28

Candidate Starts for Albee\_47:

(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Alberto7\_48 Start: 32390, Stop: 32217, Start Num: 28

Candidate Starts for Alberto7\_48:

(Start: 28 @32390 has 282 MA's), (36, 32369), (45, 32306), (53, 32252), (56, 32240),

Gene: Aliter\_48 Start: 32246, Stop: 32034, Start Num: 28

Candidate Starts for Aliter\_48:

(5, 32504), (6, 32498), (17, 32366), (19, 32354), (Start: 28 @32246 has 282 MA's), (43, 32189), (44, 32186), (57, 32096),

Gene: Alma\_48 Start: 32372, Stop: 32157, Start Num: 28

Candidate Starts for Alma\_48:

(11, 32525), (17, 32492), (19, 32480), (Start: 28 @32372 has 282 MA's), (43, 32312), (44, 32309), (57, 32219),

Gene: Anaysia\_51 Start: 31080, Stop: 30850, Start Num: 28

Candidate Starts for Anaysia\_51:

(Start: 28 @31080 has 282 MA's), (41, 31026), (42, 31023), (43, 31008),

Gene: Annyong\_47 Start: 32098, Stop: 31925, Start Num: 28

Candidate Starts for Annyong\_47:

(Start: 28 @32098 has 282 MA's), (36, 32077), (45, 32014), (53, 31960), (56, 31948),

Gene: Anthony\_43 Start: 29967, Stop: 29788, Start Num: 30

Candidate Starts for Anthony\_43:

(Start: 30 @29967 has 22 MA's), (43, 29910), (55, 29823), (56, 29820),

Gene: Anubis\_54 Start: 32376, Stop: 32188, Start Num: 28

Candidate Starts for Anubis\_54:

(Start: 28 @32376 has 282 MA's), (39, 32340), (49, 32262),

Gene: Arissanae\_47 Start: 32905, Stop: 32687, Start Num: 28

Candidate Starts for Arissanae\_47:

(Start: 28 @32905 has 282 MA's), (43, 32845), (44, 32842), (52, 32770), (57, 32752), (60, 32728),

Gene: Arturo\_46 Start: 32333, Stop: 32157, Start Num: 28

Candidate Starts for Arturo\_46:

(15, 32483), (Start: 28 @32333 has 282 MA's), (36, 32309), (53, 32192), (56, 32180),

Gene: AugsMagnumOpus\_54 Start: 32481, Stop: 32293, Start Num: 28

Candidate Starts for AugsMagnumOpus\_54:

(Start: 28 @32481 has 282 MA's), (39, 32445), (49, 32367),

Gene: AvatarAhPeg\_46 Start: 32552, Stop: 32379, Start Num: 28

Candidate Starts for AvatarAhPeg\_46:

(Start: 28 @32552 has 282 MA's), (36, 32531), (53, 32414), (56, 32402),

Gene: Avle17\_47 Start: 32050, Stop: 31877, Start Num: 28

Candidate Starts for Avle17\_47:

(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: Ayanochan\_49 Start: 32373, Stop: 32161, Start Num: 28

Candidate Starts for Ayanochan\_49:

(5, 32631), (6, 32625), (17, 32493), (19, 32481), (Start: 28 @32373 has 282 MA's), (43, 32316), (44, 32313), (57, 32223),

Gene: B1\_44 Start: 31212, Stop: 31006, Start Num: 29

Candidate Starts for B1\_44:

(Start: 29 @31212 has 32 MA's), (33, 31197), (48, 31113), (55, 31056), (56, 31053),

Gene: Baby16\_47 Start: 32064, Stop: 31891, Start Num: 28

Candidate Starts for Baby16\_47:

(Start: 28 @32064 has 282 MA's), (36, 32043), (45, 31980), (53, 31926), (56, 31914),

Gene: BabyJohn\_45 Start: 32004, Stop: 31798, Start Num: 29

Candidate Starts for BabyJohn\_45:

(Start: 29 @32004 has 32 MA's), (33, 31989), (43, 31938), (48, 31905), (55, 31848),

Gene: BabyRay\_47 Start: 31939, Stop: 31742, Start Num: 31

Candidate Starts for BabyRay\_47:

(Start: 31 @31939 has 1 MA's), (39, 31897), (47, 31843),

Gene: Backyardigan\_45 Start: 32059, Stop: 31883, Start Num: 28

Candidate Starts for Backyardigan\_45:

(Start: 28 @32059 has 282 MA's), (45, 31972), (53, 31918), (56, 31906),

Gene: Badger\_45 Start: 32027, Stop: 31851, Start Num: 28

Candidate Starts for Badger\_45:

(Start: 28 @32027 has 282 MA's), (45, 31940), (53, 31886), (56, 31874),

Gene: BangNhom\_48 Start: 32475, Stop: 32302, Start Num: 28

Candidate Starts for BangNhom\_48:

(Start: 28 @32475 has 282 MA's), (45, 32391), (53, 32337), (56, 32325),

Gene: Bartimeaus\_47 Start: 32055, Stop: 31882, Start Num: 28

Candidate Starts for Bartimeaus\_47:

(Start: 28 @32055 has 282 MA's), (36, 32034), (45, 31971), (53, 31917), (56, 31905),

Gene: Battleship\_51 Start: 30813, Stop: 30583, Start Num: 28

Candidate Starts for Battleship\_51:

(2, 31158), (Start: 28 @30813 has 282 MA's), (41, 30759), (42, 30756), (43, 30741),

Gene: Beauxregard13\_51 Start: 32493, Stop: 32305, Start Num: 28

Candidate Starts for Beauxregard13\_51:

(Start: 28 @32493 has 282 MA's), (39, 32457), (49, 32379),

Gene: Beemo\_48 Start: 32368, Stop: 32156, Start Num: 28

Candidate Starts for Beemo\_48:

(5, 32626), (6, 32620), (17, 32488), (19, 32476), (Start: 28 @32368 has 282 MA's), (43, 32311), (44, 32308), (57, 32218),

Gene: Bellris\_46 Start: 31616, Stop: 31395, Start Num: 28

Candidate Starts for Bellris\_46:

(14, 31751), (18, 31727), (Start: 28 @31616 has 282 MA's), (43, 31556), (44, 31553), (57, 31463),

Gene: BellusTerra\_48 Start: 32054, Stop: 31881, Start Num: 28

Candidate Starts for BellusTerra\_48:

(Start: 28 @32054 has 282 MA's), (36, 32033), (45, 31970), (53, 31916), (56, 31904),

Gene: Bigflo\_51 Start: 32489, Stop: 32301, Start Num: 28

Candidate Starts for Bigflo\_51:

(Start: 28 @32489 has 282 MA's), (39, 32453), (49, 32375),

Gene: Blackmoor\_47 Start: 32055, Stop: 31882, Start Num: 28

Candidate Starts for Blackmoor\_47:

(Start: 28 @32055 has 282 MA's), (36, 32034), (45, 31971), (53, 31917), (56, 31905),

Gene: BlueBird\_49 Start: 32028, Stop: 31831, Start Num: 29

Candidate Starts for BlueBird\_49:

(Start: 29 @32028 has 32 MA's), (38, 31989), (47, 31932), (54, 31875),

Gene: BogosyJay\_47 Start: 32089, Stop: 31862, Start Num: 28

Candidate Starts for BogosyJay\_47:

(17, 32209), (19, 32197), (Start: 28 @32089 has 282 MA's), (34, 32071), (36, 32065), (43, 32029), (44, 32026), (57, 31936),

Gene: Bombshell\_47 Start: 32050, Stop: 31877, Start Num: 28

Candidate Starts for Bombshell\_47:

(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: Boohoo\_51 Start: 31080, Stop: 30850, Start Num: 28

Candidate Starts for Boohoo\_51:

(Start: 28 @31080 has 282 MA's), (41, 31026), (42, 31023), (43, 31008),

Gene: Bradman\_47 Start: 31270, Stop: 31082, Start Num: 34  
Candidate Starts for Bradman\_47:  
(13, 31444), (Start: 28 @31291 has 282 MA's), (34, 31270), (57, 31132),

Gene: BreSam8\_51 Start: 32483, Stop: 32295, Start Num: 28  
Candidate Starts for BreSam8\_51:  
(Start: 28 @32483 has 282 MA's), (39, 32447), (49, 32369),

Gene: Broseidon\_47 Start: 32055, Stop: 31882, Start Num: 28  
Candidate Starts for Broseidon\_47:  
(Start: 28 @32055 has 282 MA's), (36, 32034), (45, 31971), (53, 31917), (56, 31905),

Gene: Bruiser\_46 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Bruiser\_46:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: BubbleTrouble\_46 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for BubbleTrouble\_46:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Bugatti\_48 Start: 32028, Stop: 31831, Start Num: 29  
Candidate Starts for Bugatti\_48:  
(Start: 29 @32028 has 32 MA's), (38, 31989), (47, 31932), (54, 31875),

Gene: Bumblebee11\_45 Start: 32029, Stop: 31853, Start Num: 28  
Candidate Starts for Bumblebee11\_45:  
(Start: 28 @32029 has 282 MA's), (45, 31942), (53, 31888), (56, 31876),

Gene: Burger\_45 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Burger\_45:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: BuzzBuzz\_49 Start: 32520, Stop: 32332, Start Num: 28  
Candidate Starts for BuzzBuzz\_49:  
(Start: 28 @32520 has 282 MA's), (39, 32484), (49, 32406),

Gene: Bxz2\_47 Start: 32527, Stop: 32339, Start Num: 28  
Candidate Starts for Bxz2\_47:  
(Start: 28 @32527 has 282 MA's), (39, 32491), (49, 32413),

Gene: Caelakin\_47 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Caelakin\_47:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Calvinny\_51 Start: 32389, Stop: 32201, Start Num: 28  
Candidate Starts for Calvinny\_51:  
(Start: 28 @32389 has 282 MA's), (39, 32353), (49, 32275),

Gene: Camperdownii\_45 Start: 31726, Stop: 31553, Start Num: 28  
Candidate Starts for Camperdownii\_45:  
(Start: 28 @31726 has 282 MA's), (36, 31705), (45, 31642), (53, 31588), (56, 31576),

Gene: Catalina\_49 Start: 32319, Stop: 32107, Start Num: 28

Candidate Starts for Catalina\_49:

(5, 32577), (6, 32571), (17, 32439), (19, 32427), (Start: 28 @32319 has 282 MA's), (43, 32262), (44, 32259), (57, 32169),

Gene: Caviar\_47 Start: 32274, Stop: 32074, Start Num: 29

Candidate Starts for Caviar\_47:

(Start: 29 @32274 has 32 MA's), (39, 32232), (47, 32178),

Gene: Celestiallunch\_47 Start: 31903, Stop: 31673, Start Num: 28

Candidate Starts for Celestiallunch\_47:

(19, 32005), (21, 31993), (Start: 28 @31903 has 282 MA's), (36, 31879), (43, 31843), (57, 31750),

Gene: CentreCat\_47 Start: 32056, Stop: 31883, Start Num: 28

Candidate Starts for CentreCat\_47:

(Start: 28 @32056 has 282 MA's), (36, 32035), (45, 31972), (53, 31918), (56, 31906),

Gene: Cerulean\_48 Start: 32476, Stop: 32303, Start Num: 28

Candidate Starts for Cerulean\_48:

(Start: 28 @32476 has 282 MA's), (45, 32392), (53, 32338), (56, 32326),

Gene: ChampagnePapi\_49 Start: 32475, Stop: 32302, Start Num: 28

Candidate Starts for ChampagnePapi\_49:

(Start: 28 @32475 has 282 MA's), (45, 32391), (53, 32337), (56, 32325),

Gene: Chaph\_47 Start: 32064, Stop: 31891, Start Num: 28

Candidate Starts for Chaph\_47:

(Start: 28 @32064 has 282 MA's), (36, 32043), (45, 31980), (53, 31926), (56, 31914),

Gene: Charm\_47 Start: 32120, Stop: 31896, Start Num: 28

Candidate Starts for Charm\_47:

(7, 32369), (8, 32339), (17, 32240), (19, 32228), (21, 32216), (Start: 28 @32120 has 282 MA's), (36, 32096), (43, 32060), (44, 32057), (57, 31967),

Gene: Chiqui\_45 Start: 32013, Stop: 31807, Start Num: 29

Candidate Starts for Chiqui\_45:

(Start: 29 @32013 has 32 MA's), (33, 31998), (43, 31947), (48, 31914), (55, 31857),

Gene: Chupacabra\_45 Start: 31666, Stop: 31460, Start Num: 30

Candidate Starts for Chupacabra\_45:

(Start: 30 @31666 has 22 MA's), (38, 31627), (50, 31540), (51, 31531), (55, 31507),

Gene: Cici\_46 Start: 32044, Stop: 31868, Start Num: 28

Candidate Starts for Cici\_46:

(Start: 28 @32044 has 282 MA's), (45, 31957), (53, 31903), (56, 31891),

Gene: Cindaradix\_44 Start: 31669, Stop: 31493, Start Num: 28

Candidate Starts for Cindaradix\_44:

(Start: 28 @31669 has 282 MA's), (36, 31645), (53, 31528),

Gene: Cintron\_46 Start: 32033, Stop: 31860, Start Num: 28

Candidate Starts for Cintron\_46:

(Start: 28 @32033 has 282 MA's), (36, 32012), (45, 31949), (53, 31895), (56, 31883),

Gene: Citius\_47 Start: 32074, Stop: 31901, Start Num: 28  
Candidate Starts for Citius\_47:  
(Start: 28 @32074 has 282 MA's), (36, 32053), (45, 31990), (53, 31936), (56, 31924),

Gene: Clammy\_48 Start: 32028, Stop: 31831, Start Num: 29  
Candidate Starts for Clammy\_48:  
(Start: 29 @32028 has 32 MA's), (38, 31989), (47, 31932), (54, 31875),

Gene: Clarenza\_46 Start: 32050, Stop: 31877, Start Num: 28  
Candidate Starts for Clarenza\_46:  
(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: ClownCar\_51 Start: 32382, Stop: 32194, Start Num: 28  
Candidate Starts for ClownCar\_51:  
(Start: 28 @32382 has 282 MA's), (39, 32346), (49, 32268),

Gene: Cocoaberry\_47 Start: 32057, Stop: 31884, Start Num: 28  
Candidate Starts for Cocoaberry\_47:  
(Start: 28 @32057 has 282 MA's), (36, 32036), (45, 31973), (53, 31919), (56, 31907),

Gene: CogOmlette\_46 Start: 31613, Stop: 31392, Start Num: 28  
Candidate Starts for CogOmlette\_46:  
(14, 31748), (18, 31724), (Start: 28 @31613 has 282 MA's), (43, 31553), (44, 31550), (57, 31460),

Gene: Colbster\_51 Start: 32493, Stop: 32305, Start Num: 28  
Candidate Starts for Colbster\_51:  
(Start: 28 @32493 has 282 MA's), (39, 32457), (49, 32379),

Gene: Commander\_47 Start: 32052, Stop: 31879, Start Num: 28  
Candidate Starts for Commander\_47:  
(Start: 28 @32052 has 282 MA's), (36, 32031), (45, 31968), (53, 31914), (56, 31902),

Gene: Connomayer\_47 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Connomayer\_47:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Conquerage\_48 Start: 32342, Stop: 32130, Start Num: 28  
Candidate Starts for Conquerage\_48:  
(5, 32600), (6, 32594), (17, 32462), (19, 32450), (Start: 28 @32342 has 282 MA's), (43, 32285), (44, 32282), (57, 32192),

Gene: Croquant\_52 Start: 32488, Stop: 32300, Start Num: 28  
Candidate Starts for Croquant\_52:  
(Start: 28 @32488 has 282 MA's), (39, 32452), (49, 32374),

Gene: Cullens\_51 Start: 32489, Stop: 32301, Start Num: 28  
Candidate Starts for Cullens\_51:  
(Start: 28 @32489 has 282 MA's), (39, 32453), (49, 32375),

Gene: DaHudson\_51 Start: 32482, Stop: 32294, Start Num: 28  
Candidate Starts for DaHudson\_51:  
(Start: 28 @32482 has 282 MA's), (39, 32446), (49, 32368),

Gene: Daishi\_50 Start: 31361, Stop: 31173, Start Num: 28  
Candidate Starts for Daishi\_50:  
(Start: 28 @31361 has 282 MA's), (39, 31325), (49, 31247),

Gene: Darrell\_49 Start: 32708, Stop: 32490, Start Num: 28  
Candidate Starts for Darrell\_49:  
(14, 32843), (18, 32819), (Start: 28 @32708 has 282 MA's), (36, 32684), (43, 32648), (57, 32555), (60, 32531),

Gene: Datway\_46 Start: 32015, Stop: 31839, Start Num: 28  
Candidate Starts for Datway\_46:  
(Start: 28 @32015 has 282 MA's), (45, 31928), (53, 31874), (56, 31862),

Gene: Deano\_46 Start: 32061, Stop: 31888, Start Num: 28  
Candidate Starts for Deano\_46:  
(Start: 28 @32061 has 282 MA's), (36, 32040), (45, 31977), (53, 31923), (56, 31911),

Gene: DekHockey33\_51 Start: 31295, Stop: 31065, Start Num: 28  
Candidate Starts for DekHockey33\_51:  
(Start: 28 @31295 has 282 MA's), (41, 31241), (42, 31238), (43, 31223),

Gene: Dhanush\_47 Start: 32056, Stop: 31883, Start Num: 28  
Candidate Starts for Dhanush\_47:  
(Start: 28 @32056 has 282 MA's), (36, 32035), (45, 31972), (53, 31918), (56, 31906),

Gene: Dieselweasel\_52 Start: 32492, Stop: 32304, Start Num: 28  
Candidate Starts for Dieselweasel\_52:  
(Start: 28 @32492 has 282 MA's), (39, 32456), (49, 32378),

Gene: DirtyDunning\_46 Start: 32074, Stop: 31898, Start Num: 28  
Candidate Starts for DirtyDunning\_46:  
(15, 32224), (Start: 28 @32074 has 282 MA's), (36, 32050), (53, 31933), (56, 31921),

Gene: DontArgue\_45 Start: 30902, Stop: 30693, Start Num: 28  
Candidate Starts for DontArgue\_45:  
(Start: 28 @30902 has 282 MA's), (38, 30857), (51, 30761),

Gene: Drake94\_44 Start: 30942, Stop: 30736, Start Num: 30  
Candidate Starts for Drake94\_44:  
(16, 31095), (Start: 30 @30942 has 22 MA's), (32, 30930), (38, 30903), (50, 30816), (51, 30807), (55, 30783),

Gene: DreamTeam1\_47 Start: 31994, Stop: 31770, Start Num: 28  
Candidate Starts for DreamTeam1\_47:  
(7, 32243), (8, 32213), (17, 32114), (19, 32102), (21, 32090), (Start: 28 @31994 has 282 MA's), (36, 31970), (43, 31934), (44, 31931), (57, 31841),

Gene: DroogsArmy\_44 Start: 33755, Stop: 33543, Start Num: 30  
Candidate Starts for DroogsArmy\_44:  
(Start: 30 @33755 has 22 MA's), (37, 33722), (50, 33626), (51, 33617),

Gene: DropBear\_47 Start: 31916, Stop: 31719, Start Num: 29  
Candidate Starts for DropBear\_47:

(Start: 29 @31916 has 32 MA's), (38, 31877), (47, 31820), (54, 31763),

Gene: Druantia\_47 Start: 32056, Stop: 31883, Start Num: 28

Candidate Starts for Druantia\_47:

(Start: 28 @32056 has 282 MA's), (36, 32035), (45, 31972), (53, 31918), (56, 31906),

Gene: DustyMartin\_50 Start: 31746, Stop: 31540, Start Num: 30

Candidate Starts for DustyMartin\_50:

(16, 31899), (Start: 30 @31746 has 22 MA's), (34, 31725), (38, 31707), (51, 31611), (52, 31602), (54, 31590),

Gene: Eagle\_47 Start: 32078, Stop: 31905, Start Num: 28

Candidate Starts for Eagle\_47:

(Start: 28 @32078 has 282 MA's), (36, 32057), (45, 31994), (53, 31940), (56, 31928),

Gene: Eaglepride\_47 Start: 31736, Stop: 31527, Start Num: 30

Candidate Starts for Eaglepride\_47:

(Start: 30 @31736 has 22 MA's), (38, 31697), (40, 31691), (51, 31601),

Gene: Eapen\_47 Start: 32048, Stop: 31875, Start Num: 28

Candidate Starts for Eapen\_47:

(Start: 28 @32048 has 282 MA's), (36, 32027), (45, 31964), (53, 31910), (56, 31898),

Gene: Edison31\_45 Start: 31686, Stop: 31480, Start Num: 30

Candidate Starts for Edison31\_45:

(Start: 30 @31686 has 22 MA's), (34, 31665), (38, 31647), (50, 31560), (51, 31551), (55, 31527),

Gene: EdogawaKiddo\_46 Start: 32319, Stop: 32107, Start Num: 28

Candidate Starts for EdogawaKiddo\_46:

(5, 32577), (6, 32571), (17, 32439), (19, 32427), (Start: 28 @32319 has 282 MA's), (43, 32262), (44, 32259), (57, 32169),

Gene: Eidsmoe\_48 Start: 32382, Stop: 32170, Start Num: 28

Candidate Starts for Eidsmoe\_48:

(5, 32640), (6, 32634), (17, 32502), (19, 32490), (Start: 28 @32382 has 282 MA's), (43, 32325), (44, 32322), (57, 32232),

Gene: Elephantoon\_47 Start: 31688, Stop: 31470, Start Num: 28

Candidate Starts for Elephantoon\_47:

(19, 31790), (Start: 28 @31688 has 282 MA's), (34, 31670), (36, 31664), (43, 31628), (44, 31625), (57, 31535), (60, 31511),

Gene: EmyBug\_47 Start: 32384, Stop: 32172, Start Num: 28

Candidate Starts for EmyBug\_47:

(5, 32642), (6, 32636), (17, 32504), (19, 32492), (Start: 28 @32384 has 282 MA's), (43, 32327), (44, 32324), (57, 32234),

Gene: EpicPhail\_52 Start: 32493, Stop: 32305, Start Num: 28

Candidate Starts for EpicPhail\_52:

(Start: 28 @32493 has 282 MA's), (39, 32457), (49, 32379),

Gene: Epsocamisio\_49 Start: 30615, Stop: 30388, Start Num: 28

Candidate Starts for Epsocamisio\_49:

(Start: 28 @30615 has 282 MA's), (41, 30561), (42, 30558), (43, 30543),

Gene: Eris\_46 Start: 32053, Stop: 31880, Start Num: 28

Candidate Starts for Eris\_46:

(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Eros\_47 Start: 32055, Stop: 31882, Start Num: 28

Candidate Starts for Eros\_47:

(Start: 28 @32055 has 282 MA's), (36, 32034), (45, 31971), (53, 31917), (56, 31905),

Gene: EtoileNova\_48 Start: 32278, Stop: 32078, Start Num: 29

Candidate Starts for EtoileNova\_48:

(Start: 29 @32278 has 32 MA's), (39, 32236), (47, 32182),

Gene: Eurydice\_48 Start: 32050, Stop: 31877, Start Num: 28

Candidate Starts for Eurydice\_48:

(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: ExplosioNervosa\_48 Start: 32402, Stop: 32190, Start Num: 28

Candidate Starts for ExplosioNervosa\_48:

(5, 32660), (6, 32654), (17, 32522), (19, 32510), (Start: 28 @32402 has 282 MA's), (43, 32345), (44, 32342), (57, 32252),

Gene: Farber\_51 Start: 32482, Stop: 32294, Start Num: 28

Candidate Starts for Farber\_51:

(Start: 28 @32482 has 282 MA's), (39, 32446), (49, 32368),

Gene: FatCactus\_40 Start: 29627, Stop: 29448, Start Num: 30

Candidate Starts for FatCactus\_40:

(Start: 30 @29627 has 22 MA's), (55, 29483), (56, 29480),

Gene: Fayely\_48 Start: 32351, Stop: 32139, Start Num: 28

Candidate Starts for Fayely\_48:

(5, 32609), (6, 32603), (17, 32471), (19, 32459), (Start: 28 @32351 has 282 MA's), (43, 32294), (44, 32291), (57, 32201),

Gene: Fernando\_51 Start: 32489, Stop: 32301, Start Num: 28

Candidate Starts for Fernando\_51:

(Start: 28 @32489 has 282 MA's), (39, 32453), (49, 32375),

Gene: Florean\_47 Start: 32052, Stop: 31879, Start Num: 28

Candidate Starts for Florean\_47:

(Start: 28 @32052 has 282 MA's), (36, 32031), (45, 31968), (53, 31914), (56, 31902),

Gene: Flux\_47 Start: 32052, Stop: 31879, Start Num: 28

Candidate Starts for Flux\_47:

(Start: 28 @32052 has 282 MA's), (36, 32031), (45, 31968), (53, 31914), (56, 31902),

Gene: FlyCatcher\_52 Start: 34416, Stop: 34204, Start Num: 30

Candidate Starts for FlyCatcher\_52:

(16, 34569), (Start: 30 @34416 has 22 MA's), (33, 34401), (44, 34347), (48, 34308), (51, 34275), (58, 34242),

Gene: Fred313\_47 Start: 31601, Stop: 31404, Start Num: 29  
Candidate Starts for Fred313\_47:  
(Start: 29 @31601 has 32 MA's), (38, 31562), (47, 31505), (54, 31448),

Gene: Funston\_46 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Funston\_46:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Gadost\_47 Start: 32057, Stop: 31884, Start Num: 28  
Candidate Starts for Gadost\_47:  
(Start: 28 @32057 has 282 MA's), (36, 32036), (45, 31973), (53, 31919), (56, 31907),

Gene: Gemma\_50 Start: 32385, Stop: 32197, Start Num: 28  
Candidate Starts for Gemma\_50:  
(Start: 28 @32385 has 282 MA's), (39, 32349), (49, 32271),

Gene: GingkoMaracino\_51 Start: 32375, Stop: 32187, Start Num: 28  
Candidate Starts for GingkoMaracino\_51:  
(Start: 28 @32375 has 282 MA's), (39, 32339), (49, 32261),

Gene: Giroux\_49 Start: 32027, Stop: 31830, Start Num: 29  
Candidate Starts for Giroux\_49:  
(Start: 29 @32027 has 32 MA's), (38, 31988), (47, 31931), (54, 31874),

Gene: Goose\_46 Start: 31470, Stop: 31264, Start Num: 30  
Candidate Starts for Goose\_46:  
(Start: 30 @31470 has 22 MA's), (38, 31431), (50, 31344), (51, 31335), (55, 31311),

Gene: Grif\_51 Start: 32564, Stop: 32376, Start Num: 28  
Candidate Starts for Grif\_51:  
(Start: 28 @32564 has 282 MA's), (39, 32528), (49, 32450),

Gene: Groupthink\_52 Start: 32389, Stop: 32201, Start Num: 28  
Candidate Starts for Groupthink\_52:  
(Start: 28 @32389 has 282 MA's), (39, 32353), (49, 32275),

Gene: Grub\_51 Start: 32481, Stop: 32293, Start Num: 28  
Candidate Starts for Grub\_51:  
(Start: 28 @32481 has 282 MA's), (39, 32445), (49, 32367),

Gene: Grum1\_51 Start: 32489, Stop: 32301, Start Num: 28  
Candidate Starts for Grum1\_51:  
(Start: 28 @32489 has 282 MA's), (39, 32453), (49, 32375),

Gene: GtownJaz\_51 Start: 32491, Stop: 32303, Start Num: 28  
Candidate Starts for GtownJaz\_51:  
(Start: 28 @32491 has 282 MA's), (39, 32455), (49, 32377),

Gene: Gwennie\_50 Start: 32493, Stop: 32305, Start Num: 28  
Candidate Starts for Gwennie\_50:  
(Start: 28 @32493 has 282 MA's), (39, 32457), (49, 32379),

Gene: HamSlice\_46 Start: 32051, Stop: 31878, Start Num: 28

Candidate Starts for HamSlice\_46:

(Start: 28 @32051 has 282 MA's), (36, 32030), (45, 31967), (53, 31913), (56, 31901),

Gene: Hanray\_46 Start: 32323, Stop: 32111, Start Num: 28

Candidate Starts for Hanray\_46:

(5, 32581), (6, 32575), (17, 32443), (19, 32431), (Start: 28 @32323 has 282 MA's), (43, 32266), (44, 32263), (57, 32173),

Gene: Happiness\_46 Start: 32058, Stop: 31885, Start Num: 28

Candidate Starts for Happiness\_46:

(Start: 28 @32058 has 282 MA's), (36, 32037), (45, 31974), (53, 31920), (56, 31908),

Gene: HashRod\_52 Start: 32520, Stop: 32332, Start Num: 28

Candidate Starts for HashRod\_52:

(Start: 28 @32520 has 282 MA's), (39, 32484), (49, 32406),

Gene: HaveUMetTed\_52 Start: 32371, Stop: 32183, Start Num: 28

Candidate Starts for HaveUMetTed\_52:

(Start: 28 @32371 has 282 MA's), (39, 32335), (49, 32257),

Gene: Heathen\_47 Start: 31657, Stop: 31460, Start Num: 29

Candidate Starts for Heathen\_47:

(Start: 29 @31657 has 32 MA's), (38, 31618), (47, 31561), (54, 31504),

Gene: HelDan\_47 Start: 31909, Stop: 31712, Start Num: 29

Candidate Starts for HelDan\_47:

(Start: 29 @31909 has 32 MA's), (38, 31870), (47, 31813), (54, 31756),

Gene: Heliosoles\_50 Start: 32392, Stop: 32204, Start Num: 28

Candidate Starts for Heliosoles\_50:

(Start: 28 @32392 has 282 MA's), (39, 32356), (49, 32278),

Gene: Hercules11\_51 Start: 32498, Stop: 32310, Start Num: 28

Candidate Starts for Hercules11\_51:

(Start: 28 @32498 has 282 MA's), (39, 32462), (49, 32384),

Gene: Horex\_47 Start: 32342, Stop: 32130, Start Num: 28

Candidate Starts for Horex\_47:

(5, 32600), (6, 32594), (17, 32462), (19, 32450), (Start: 28 @32342 has 282 MA's), (43, 32285), (44, 32282), (57, 32192),

Gene: Holli\_46 Start: 31843, Stop: 31670, Start Num: 28

Candidate Starts for Holli\_46:

(Start: 28 @31843 has 282 MA's), (36, 31822), (45, 31759), (53, 31705), (56, 31693),

Gene: Hookmount\_47 Start: 32275, Stop: 32075, Start Num: 29

Candidate Starts for Hookmount\_47:

(Start: 29 @32275 has 32 MA's), (39, 32233), (47, 32179),

Gene: HortumSL17\_48 Start: 32318, Stop: 32106, Start Num: 28

Candidate Starts for HortumSL17\_48:

(5, 32576), (6, 32570), (17, 32438), (19, 32426), (Start: 28 @32318 has 282 MA's), (43, 32261), (44, 32258), (57, 32168),

Gene: Houdini22\_47 Start: 32057, Stop: 31884, Start Num: 28  
Candidate Starts for Houdini22\_47:  
(Start: 28 @32057 has 282 MA's), (36, 32036), (45, 31973), (53, 31919), (56, 31907),

Gene: Huxley\_46 Start: 32114, Stop: 31941, Start Num: 28  
Candidate Starts for Huxley\_46:  
(Start: 28 @32114 has 282 MA's), (36, 32093), (45, 32030), (53, 31976), (56, 31964),

Gene: ICleared\_47 Start: 32082, Stop: 31909, Start Num: 28  
Candidate Starts for ICleared\_47:  
(Start: 28 @32082 has 282 MA's), (36, 32061), (45, 31998), (53, 31944), (56, 31932),

Gene: Iceman\_47 Start: 32339, Stop: 32166, Start Num: 28  
Candidate Starts for Iceman\_47:  
(Start: 28 @32339 has 282 MA's), (36, 32318), (45, 32255), (53, 32201), (56, 32189),

Gene: Idleandcovert\_48 Start: 32028, Stop: 31831, Start Num: 29  
Candidate Starts for Idleandcovert\_48:  
(Start: 29 @32028 has 32 MA's), (38, 31989), (47, 31932), (54, 31875),

Gene: Iracema64\_48 Start: 32317, Stop: 32144, Start Num: 28  
Candidate Starts for Iracema64\_48:  
(Start: 28 @32317 has 282 MA's), (36, 32296), (45, 32233), (53, 32179), (56, 32167),

Gene: Isca\_46 Start: 31461, Stop: 31255, Start Num: 29  
Candidate Starts for Isca\_46:  
(10, 31641), (25, 31536), (Start: 29 @31461 has 32 MA's), (33, 31446), (48, 31362), (55, 31305), (56, 31302),

Gene: JF2\_47 Start: 31212, Stop: 31006, Start Num: 29  
Candidate Starts for JF2\_47:  
(Start: 29 @31212 has 32 MA's), (33, 31197), (48, 31113), (55, 31056), (56, 31053),

Gene: JF4\_47 Start: 31212, Stop: 31006, Start Num: 29  
Candidate Starts for JF4\_47:  
(Start: 29 @31212 has 32 MA's), (33, 31197), (48, 31113), (55, 31056), (56, 31053),

Gene: JHC117\_51 Start: 32488, Stop: 32300, Start Num: 28  
Candidate Starts for JHC117\_51:  
(Start: 28 @32488 has 282 MA's), (39, 32452), (49, 32374),

Gene: JSwag\_49 Start: 30553, Stop: 30326, Start Num: 28  
Candidate Starts for JSwag\_49:  
(2, 30898), (Start: 28 @30553 has 282 MA's), (41, 30499), (42, 30496), (43, 30481),

Gene: Jaykayelowell\_45 Start: 32046, Stop: 31873, Start Num: 28  
Candidate Starts for Jaykayelowell\_45:  
(Start: 28 @32046 has 282 MA's), (36, 32025), (45, 31962), (53, 31908), (56, 31896),

Gene: JenCasNa\_52 Start: 32489, Stop: 32301, Start Num: 28  
Candidate Starts for JenCasNa\_52:  
(Start: 28 @32489 has 282 MA's), (39, 32453), (49, 32375),

Gene: JeppNRM\_52 Start: 32390, Stop: 32202, Start Num: 28

Candidate Starts for JeppNRM\_52:

(Start: 28 @32390 has 282 MA's), (39, 32354), (49, 32276),

Gene: JetBlade\_47 Start: 32047, Stop: 31874, Start Num: 28

Candidate Starts for JetBlade\_47:

(Start: 28 @32047 has 282 MA's), (36, 32026), (45, 31963), (53, 31909), (56, 31897),

Gene: Jiawan\_46 Start: 32355, Stop: 32143, Start Num: 28

Candidate Starts for Jiawan\_46:

(5, 32613), (6, 32607), (17, 32475), (19, 32463), (Start: 28 @32355 has 282 MA's), (43, 32298), (44, 32295), (57, 32205),

Gene: Jobu08\_50 Start: 32321, Stop: 32133, Start Num: 28

Candidate Starts for Jobu08\_50:

(Start: 28 @32321 has 282 MA's), (39, 32285), (49, 32207),

Gene: JoongJeon\_46 Start: 32050, Stop: 31877, Start Num: 28

Candidate Starts for JoongJeon\_46:

(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: KADY\_51 Start: 32520, Stop: 32332, Start Num: 28

Candidate Starts for KADY\_51:

(Start: 28 @32520 has 282 MA's), (39, 32484), (49, 32406),

Gene: KFPoly\_46 Start: 32047, Stop: 31874, Start Num: 28

Candidate Starts for KFPoly\_46:

(Start: 28 @32047 has 282 MA's), (36, 32026), (45, 31963), (53, 31909), (56, 31897),

Gene: Kachowdy\_47 Start: 31909, Stop: 31712, Start Num: 29

Candidate Starts for Kachowdy\_47:

(Start: 29 @31909 has 32 MA's), (38, 31870), (47, 31813), (54, 31756),

Gene: Kalb97\_52 Start: 32388, Stop: 32200, Start Num: 28

Candidate Starts for Kalb97\_52:

(Start: 28 @32388 has 282 MA's), (39, 32352), (49, 32274),

Gene: Kalnoky\_52 Start: 32386, Stop: 32198, Start Num: 28

Candidate Starts for Kalnoky\_52:

(Start: 28 @32386 has 282 MA's), (39, 32350), (49, 32272),

Gene: Kampy\_47 Start: 32055, Stop: 31882, Start Num: 28

Candidate Starts for Kampy\_47:

(Start: 28 @32055 has 282 MA's), (36, 32034), (45, 31971), (53, 31917), (56, 31905),

Gene: Katalie136\_46 Start: 32029, Stop: 31853, Start Num: 28

Candidate Starts for Katalie136\_46:

(Start: 28 @32029 has 282 MA's), (45, 31942), (53, 31888), (56, 31876),

Gene: KatherineG\_52 Start: 31295, Stop: 31065, Start Num: 28

Candidate Starts for KatherineG\_52:

(Start: 28 @31295 has 282 MA's), (41, 31241), (42, 31238), (43, 31223),

Gene: KekoraPapaka\_47 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for KekoraPapaka\_47:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Keziacharles14\_48 Start: 33355, Stop: 33137, Start Num: 30  
Candidate Starts for Keziacharles14\_48:  
(19, 33457), (21, 33445), (Start: 30 @33355 has 22 MA's), (43, 33298), (44, 33295), (46, 33271), (57, 33205),

Gene: Kimona\_47 Start: 30659, Stop: 30456, Start Num: 28  
Candidate Starts for Kimona\_47:  
(Start: 28 @30659 has 282 MA's), (35, 30629), (38, 30614), (50, 30524), (51, 30515), (53, 30503), (55, 30491),

Gene: Kingmustik0402\_47 Start: 32042, Stop: 31869, Start Num: 28  
Candidate Starts for Kingmustik0402\_47:  
(Start: 28 @32042 has 282 MA's), (36, 32021), (45, 31958), (53, 31904), (56, 31892),

Gene: KittenMittens\_43 Start: 30950, Stop: 30744, Start Num: 30  
Candidate Starts for KittenMittens\_43:  
(16, 31103), (Start: 30 @30950 has 22 MA's), (32, 30938), (38, 30911), (50, 30824), (51, 30815), (55, 30791),

Gene: Klodlith\_48 Start: 32014, Stop: 31787, Start Num: 28  
Candidate Starts for Klodlith\_48:  
(7, 32263), (8, 32233), (17, 32134), (19, 32122), (21, 32110), (Start: 28 @32014 has 282 MA's), (36, 31990), (43, 31954), (44, 31951), (57, 31861),

Gene: Koan\_45 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Koan\_45:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Koreni\_46 Start: 31734, Stop: 31561, Start Num: 28  
Candidate Starts for Koreni\_46:  
(Start: 28 @31734 has 282 MA's), (36, 31713), (45, 31650), (53, 31596), (56, 31584),

Gene: Kratark\_47 Start: 32216, Stop: 32040, Start Num: 28  
Candidate Starts for Kratark\_47:  
(15, 32366), (Start: 28 @32216 has 282 MA's), (36, 32192), (53, 32075), (56, 32063),

Gene: Kremtemulon\_47 Start: 32004, Stop: 31831, Start Num: 28  
Candidate Starts for Kremtemulon\_47:  
(Start: 28 @32004 has 282 MA's), (36, 31983), (45, 31920), (53, 31866), (56, 31854),

Gene: Kristoff\_46 Start: 32038, Stop: 31832, Start Num: 30  
Candidate Starts for Kristoff\_46:  
(Start: 30 @32038 has 22 MA's), (38, 31999), (45, 31945), (50, 31912), (51, 31903), (55, 31879),

Gene: Kyee\_47 Start: 32051, Stop: 31878, Start Num: 28  
Candidate Starts for Kyee\_47:  
(Start: 28 @32051 has 282 MA's), (36, 32030), (45, 31967), (53, 31913), (56, 31901),

Gene: LBerry\_52 Start: 32493, Stop: 32305, Start Num: 28

Candidate Starts for LBerry\_52:

(Start: 28 @32493 has 282 MA's), (39, 32457), (49, 32379),

Gene: LHTSCC\_49 Start: 32475, Stop: 32302, Start Num: 28

Candidate Starts for LHTSCC\_49:

(Start: 28 @32475 has 282 MA's), (45, 32391), (53, 32337), (56, 32325),

Gene: Lambert1\_47 Start: 32274, Stop: 32074, Start Num: 29

Candidate Starts for Lambert1\_47:

(Start: 29 @32274 has 32 MA's), (39, 32232), (47, 32178),

Gene: LappelDuVide\_47 Start: 32052, Stop: 31879, Start Num: 28

Candidate Starts for LappelDuVide\_47:

(Start: 28 @32052 has 282 MA's), (36, 32031), (45, 31968), (53, 31914), (56, 31902),

Gene: LarryKay\_51 Start: 32522, Stop: 32334, Start Num: 28

Candidate Starts for LarryKay\_51:

(Start: 28 @32522 has 282 MA's), (39, 32486), (49, 32408),

Gene: LastResort\_50 Start: 30856, Stop: 30626, Start Num: 28

Candidate Starts for LastResort\_50:

(Start: 28 @30856 has 282 MA's), (41, 30802), (42, 30799), (43, 30784),

Gene: Lemur\_47 Start: 32050, Stop: 31877, Start Num: 28

Candidate Starts for Lemur\_47:

(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: LeoAvram\_47 Start: 32053, Stop: 31880, Start Num: 28

Candidate Starts for LeoAvram\_47:

(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Lilith\_52 Start: 32482, Stop: 32294, Start Num: 28

Candidate Starts for Lilith\_52:

(Start: 28 @32482 has 282 MA's), (39, 32446), (49, 32368),

Gene: Lilleskat\_46 Start: 32272, Stop: 32060, Start Num: 28

Candidate Starts for Lilleskat\_46:

(5, 32530), (6, 32524), (17, 32392), (19, 32380), (Start: 28 @32272 has 282 MA's), (43, 32215), (44, 32212), (57, 32122),

Gene: LittleB\_47 Start: 32054, Stop: 31881, Start Num: 28

Candidate Starts for LittleB\_47:

(Start: 28 @32054 has 282 MA's), (36, 32033), (45, 31970), (53, 31916), (56, 31904),

Gene: LittleGuy\_47 Start: 31949, Stop: 31776, Start Num: 28

Candidate Starts for LittleGuy\_47:

(Start: 28 @31949 has 282 MA's), (36, 31928), (45, 31865), (53, 31811), (56, 31799),

Gene: LochMonster\_48 Start: 32289, Stop: 32116, Start Num: 28

Candidate Starts for LochMonster\_48:

(Start: 28 @32289 has 282 MA's), (36, 32268), (45, 32205), (53, 32151), (56, 32139),

Gene: LoneWolf\_48 Start: 32078, Stop: 31863, Start Num: 28  
Candidate Starts for LoneWolf\_48:  
(24, 32144), (Start: 28 @32078 has 282 MA's), (43, 32018), (44, 32015), (57, 31925), (62, 31889),

Gene: Looper\_51 Start: 30833, Stop: 30603, Start Num: 28  
Candidate Starts for Looper\_51:  
(Start: 28 @30833 has 282 MA's), (41, 30779), (42, 30776), (43, 30761),

Gene: Lorenzo\_47 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Lorenzo\_47:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Louie6\_50 Start: 32521, Stop: 32333, Start Num: 28  
Candidate Starts for Louie6\_50:  
(Start: 28 @32521 has 282 MA's), (39, 32485), (49, 32407),

Gene: Lowa\_51 Start: 32481, Stop: 32293, Start Num: 28  
Candidate Starts for Lowa\_51:  
(Start: 28 @32481 has 282 MA's), (39, 32445), (49, 32367),

Gene: LugYA\_54 Start: 32490, Stop: 32302, Start Num: 28  
Candidate Starts for LugYA\_54:  
(Start: 28 @32490 has 282 MA's), (39, 32454), (49, 32376),

Gene: Lunsford\_48 Start: 32047, Stop: 31874, Start Num: 28  
Candidate Starts for Lunsford\_48:  
(Start: 28 @32047 has 282 MA's), (36, 32026), (45, 31963), (53, 31909), (56, 31897),

Gene: MA5\_47 Start: 31363, Stop: 31157, Start Num: 29  
Candidate Starts for MA5\_47:  
(Start: 29 @31363 has 32 MA's), (33, 31348), (43, 31297), (48, 31264), (55, 31207),

Gene: MK4\_47 Start: 31446, Stop: 31240, Start Num: 29  
Candidate Starts for MK4\_47:  
(10, 31626), (25, 31521), (Start: 29 @31446 has 32 MA's), (33, 31431), (48, 31347), (55, 31290), (56, 31287),

Gene: MadMarie\_51 Start: 32491, Stop: 32303, Start Num: 28  
Candidate Starts for MadMarie\_51:  
(Start: 28 @32491 has 282 MA's), (39, 32455), (49, 32377),

Gene: Mainiac\_51 Start: 32483, Stop: 32295, Start Num: 28  
Candidate Starts for Mainiac\_51:  
(Start: 28 @32483 has 282 MA's), (39, 32447), (49, 32369),

Gene: MajorMajor\_47 Start: 31270, Stop: 31082, Start Num: 34  
Candidate Starts for MajorMajor\_47:  
(13, 31444), (Start: 28 @31291 has 282 MA's), (34, 31270), (57, 31132),

Gene: Malinsilva\_53 Start: 32481, Stop: 32293, Start Num: 28  
Candidate Starts for Malinsilva\_53:  
(Start: 28 @32481 has 282 MA's), (39, 32445), (49, 32367),

Gene: Maminaiaina\_47 Start: 32071, Stop: 31844, Start Num: 28  
Candidate Starts for Maminaiaina\_47:  
(17, 32191), (19, 32179), (Start: 28 @32071 has 282 MA's), (34, 32053), (36, 32047), (43, 32011), (44, 32008), (57, 31918),

Gene: Manu\_51 Start: 32389, Stop: 32201, Start Num: 28  
Candidate Starts for Manu\_51:  
(Start: 28 @32389 has 282 MA's), (39, 32353), (49, 32275),

Gene: MarQuardt\_51 Start: 32491, Stop: 32303, Start Num: 28  
Candidate Starts for MarQuardt\_51:  
(Start: 28 @32491 has 282 MA's), (39, 32455), (49, 32377),

Gene: Marchesa\_47 Start: 31907, Stop: 31710, Start Num: 29  
Candidate Starts for Marchesa\_47:  
(Start: 29 @31907 has 32 MA's), (38, 31868), (47, 31811), (54, 31754),

Gene: Margo\_47 Start: 32300, Stop: 32100, Start Num: 29  
Candidate Starts for Margo\_47:  
(Start: 29 @32300 has 32 MA's), (39, 32258), (47, 32204),

Gene: Marie\_51 Start: 32489, Stop: 32301, Start Num: 28  
Candidate Starts for Marie\_51:  
(Start: 28 @32489 has 282 MA's), (39, 32453), (49, 32375),

Gene: Marius\_52 Start: 32386, Stop: 32198, Start Num: 28  
Candidate Starts for Marius\_52:  
(Start: 28 @32386 has 282 MA's), (39, 32350), (49, 32272),

Gene: Maverick\_47 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Maverick\_47:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Maxo\_48 Start: 32055, Stop: 31882, Start Num: 28  
Candidate Starts for Maxo\_48:  
(Start: 28 @32055 has 282 MA's), (36, 32034), (45, 31971), (53, 31917), (56, 31905),

Gene: Mayonnaise\_46 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Mayonnaise\_46:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Mazhar510\_47 Start: 32054, Stop: 31881, Start Num: 28  
Candidate Starts for Mazhar510\_47:  
(Start: 28 @32054 has 282 MA's), (36, 32033), (45, 31970), (53, 31916), (56, 31904),

Gene: Medusa\_47 Start: 32052, Stop: 31879, Start Num: 28  
Candidate Starts for Medusa\_47:  
(Start: 28 @32052 has 282 MA's), (36, 32031), (45, 31968), (53, 31914), (56, 31902),

Gene: MeeZee\_47 Start: 32050, Stop: 31877, Start Num: 28  
Candidate Starts for MeeZee\_47:  
(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: MegTheThird\_47 Start: 31902, Stop: 31672, Start Num: 28  
Candidate Starts for MegTheThird\_47:  
(19, 32004), (21, 31992), (Start: 28 @31902 has 282 MA's), (36, 31878), (43, 31842), (57, 31749),

Gene: Melvin\_49 Start: 32048, Stop: 31875, Start Num: 28  
Candidate Starts for Melvin\_49:  
(Start: 28 @32048 has 282 MA's), (36, 32027), (45, 31964), (53, 31910), (56, 31898),

Gene: Microwolf\_51 Start: 32490, Stop: 32302, Start Num: 28  
Candidate Starts for Microwolf\_51:  
(Start: 28 @32490 has 282 MA's), (39, 32454), (49, 32376),

Gene: Millski\_46 Start: 32054, Stop: 31881, Start Num: 28  
Candidate Starts for Millski\_46:  
(Start: 28 @32054 has 282 MA's), (36, 32033), (45, 31970), (53, 31916), (56, 31904),

Gene: MinecraftSteve\_51 Start: 30817, Stop: 30590, Start Num: 28  
Candidate Starts for MinecraftSteve\_51:  
(2, 31162), (Start: 28 @30817 has 282 MA's), (41, 30763), (42, 30760), (43, 30745),

Gene: Minispark\_46 Start: 31610, Stop: 31389, Start Num: 28  
Candidate Starts for Minispark\_46:  
(14, 31745), (18, 31721), (Start: 28 @31610 has 282 MA's), (43, 31550), (44, 31547), (57, 31457),

Gene: Miramae\_46 Start: 32214, Stop: 32041, Start Num: 28  
Candidate Starts for Miramae\_46:  
(Start: 28 @32214 has 282 MA's), (36, 32193), (53, 32076), (56, 32064),

Gene: Misomonster\_52 Start: 32519, Stop: 32331, Start Num: 28  
Candidate Starts for Misomonster\_52:  
(Start: 28 @32519 has 282 MA's), (39, 32483), (49, 32405),

Gene: MoneyMay\_51 Start: 32489, Stop: 32301, Start Num: 28  
Candidate Starts for MoneyMay\_51:  
(Start: 28 @32489 has 282 MA's), (39, 32453), (49, 32375),

Gene: Montavir\_50 Start: 32490, Stop: 32302, Start Num: 28  
Candidate Starts for Montavir\_50:  
(Start: 28 @32490 has 282 MA's), (39, 32454), (49, 32376),

Gene: Morpher26\_46 Start: 32050, Stop: 31874, Start Num: 28  
Candidate Starts for Morpher26\_46:  
(Start: 28 @32050 has 282 MA's), (45, 31963), (53, 31909), (56, 31897),

Gene: Morrow\_48 Start: 32059, Stop: 31886, Start Num: 28  
Candidate Starts for Morrow\_48:  
(Start: 28 @32059 has 282 MA's), (36, 32038), (45, 31975), (53, 31921), (56, 31909),

Gene: MuchMore\_54 Start: 32481, Stop: 32293, Start Num: 28  
Candidate Starts for MuchMore\_54:  
(Start: 28 @32481 has 282 MA's), (39, 32445), (49, 32367),

Gene: Mundrea\_46 Start: 32037, Stop: 31861, Start Num: 28

Candidate Starts for Mundrea\_46:

(15, 32187), (Start: 28 @32037 has 282 MA's), (36, 32013), (53, 31896), (56, 31884),

Gene: Myxus\_48 Start: 32318, Stop: 32106, Start Num: 28

Candidate Starts for Myxus\_48:

(5, 32576), (6, 32570), (17, 32438), (19, 32426), (Start: 28 @32318 has 282 MA's), (43, 32261), (44, 32258), (57, 32168),

Gene: Nebs\_48 Start: 32053, Stop: 31880, Start Num: 28

Candidate Starts for Nebs\_48:

(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Nebulosus\_50 Start: 30852, Stop: 30622, Start Num: 28

Candidate Starts for Nebulosus\_50:

(Start: 28 @30852 has 282 MA's), (41, 30798), (42, 30795), (43, 30780),

Gene: Nedarya\_46 Start: 30263, Stop: 30051, Start Num: 28

Candidate Starts for Nedarya\_46:

(12, 30416), (21, 30359), (Start: 28 @30263 has 282 MA's), (43, 30191), (61, 30068),

Gene: Nemo27\_47 Start: 32052, Stop: 31879, Start Num: 28

Candidate Starts for Nemo27\_47:

(Start: 28 @32052 has 282 MA's), (36, 32031), (45, 31968), (53, 31914), (56, 31902),

Gene: Noella\_47 Start: 32275, Stop: 32075, Start Num: 29

Candidate Starts for Noella\_47:

(Start: 29 @32275 has 32 MA's), (39, 32233), (47, 32179),

Gene: Noelle\_47 Start: 32339, Stop: 32163, Start Num: 28

Candidate Starts for Noelle\_47:

(4, 32636), (15, 32489), (Start: 28 @32339 has 282 MA's), (36, 32315), (45, 32252), (53, 32198), (56, 32186),

Gene: Norbert\_46 Start: 32274, Stop: 32074, Start Num: 29

Candidate Starts for Norbert\_46:

(Start: 29 @32274 has 32 MA's), (39, 32232), (47, 32178),

Gene: NorthStar\_46 Start: 32053, Stop: 31880, Start Num: 28

Candidate Starts for NorthStar\_46:

(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: NotAPhaseMom\_47 Start: 32057, Stop: 31884, Start Num: 28

Candidate Starts for NotAPhaseMom\_47:

(Start: 28 @32057 has 282 MA's), (36, 32036), (45, 31973), (53, 31919), (56, 31907),

Gene: Nyxis\_47 Start: 31943, Stop: 31770, Start Num: 28

Candidate Starts for Nyxis\_47:

(Start: 28 @31943 has 282 MA's), (36, 31922), (45, 31859), (53, 31805), (56, 31793),

Gene: OKCentral2016\_45 Start: 31373, Stop: 31167, Start Num: 30

Candidate Starts for OKCentral2016\_45:

(Start: 30 @31373 has 22 MA's), (38, 31334), (50, 31247), (51, 31238), (55, 31214),

Gene: OKaNui\_47 Start: 32103, Stop: 31930, Start Num: 28  
Candidate Starts for OKaNui\_47:  
(Start: 28 @32103 has 282 MA's), (36, 32082), (45, 32019), (53, 31965), (56, 31953),

Gene: Obama12\_48 Start: 32477, Stop: 32304, Start Num: 28  
Candidate Starts for Obama12\_48:  
(Start: 28 @32477 has 282 MA's), (45, 32393), (53, 32339), (56, 32327),

Gene: Ohfah\_48 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Ohfah\_48:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: OlanP\_50 Start: 32559, Stop: 32371, Start Num: 28  
Candidate Starts for OlanP\_50:  
(Start: 28 @32559 has 282 MA's), (39, 32523), (49, 32445),

Gene: Ollie\_51 Start: 32360, Stop: 32172, Start Num: 28  
Candidate Starts for Ollie\_51:  
(Start: 28 @32360 has 282 MA's), (39, 32324), (49, 32246),

Gene: Onglai\_46 Start: 30659, Stop: 30447, Start Num: 28  
Candidate Starts for Onglai\_46:  
(5, 30917), (6, 30911), (17, 30779), (19, 30767), (Start: 28 @30659 has 282 MA's), (43, 30602), (44, 30599), (57, 30509),

Gene: Oofda\_50 Start: 30708, Stop: 30481, Start Num: 28  
Candidate Starts for Oofda\_50:  
(Start: 28 @30708 has 282 MA's), (41, 30654), (42, 30651), (43, 30636),

Gene: P28Green\_52 Start: 32492, Stop: 32304, Start Num: 28  
Candidate Starts for P28Green\_52:  
(Start: 28 @32492 has 282 MA's), (39, 32456), (49, 32378),

Gene: PGHhamlin\_53 Start: 32481, Stop: 32293, Start Num: 28  
Candidate Starts for PGHhamlin\_53:  
(Start: 28 @32481 has 282 MA's), (39, 32445), (49, 32367),

Gene: PackMan\_47 Start: 32318, Stop: 32106, Start Num: 28  
Candidate Starts for PackMan\_47:  
(5, 32576), (6, 32570), (17, 32438), (19, 32426), (Start: 28 @32318 has 282 MA's), (43, 32261), (44, 32258), (57, 32168),

Gene: Palestino\_46 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Palestino\_46:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Panamaxus\_45 Start: 32274, Stop: 32074, Start Num: 29  
Candidate Starts for Panamaxus\_45:  
(Start: 29 @32274 has 32 MA's), (39, 32232), (47, 32178),

Gene: Pawn\_51 Start: 32393, Stop: 32205, Start Num: 28  
Candidate Starts for Pawn\_51:  
(Start: 28 @32393 has 282 MA's), (39, 32357), (49, 32279),

Gene: PeaceMeal1\_44 Start: 30951, Stop: 30745, Start Num: 30  
Candidate Starts for PeaceMeal1\_44:  
(16, 31104), (Start: 30 @30951 has 22 MA's), (32, 30939), (38, 30912), (50, 30825), (51, 30816), (55, 30792),

Gene: Peaches\_47 Start: 32052, Stop: 31879, Start Num: 28  
Candidate Starts for Peaches\_47:  
(Start: 28 @32052 has 282 MA's), (36, 32031), (45, 31968), (53, 31914), (56, 31902),

Gene: Pembroke\_51 Start: 32490, Stop: 32302, Start Num: 28  
Candidate Starts for Pembroke\_51:  
(Start: 28 @32490 has 282 MA's), (39, 32454), (49, 32376),

Gene: Penny1\_52 Start: 32493, Stop: 32305, Start Num: 28  
Candidate Starts for Penny1\_52:  
(Start: 28 @32493 has 282 MA's), (39, 32457), (49, 32379),

Gene: Perplexer\_46 Start: 32026, Stop: 31850, Start Num: 28  
Candidate Starts for Perplexer\_46:  
(Start: 28 @32026 has 282 MA's), (45, 31939), (53, 31885), (56, 31873),

Gene: PeterPeter\_47 Start: 32050, Stop: 31877, Start Num: 28  
Candidate Starts for PeterPeter\_47:  
(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: PetiteSangsue\_46 Start: 32029, Stop: 31853, Start Num: 28  
Candidate Starts for PetiteSangsue\_46:  
(Start: 28 @32029 has 282 MA's), (45, 31942), (53, 31888), (56, 31876),

Gene: Phacado\_47 Start: 32052, Stop: 31879, Start Num: 28  
Candidate Starts for Phacado\_47:  
(Start: 28 @32052 has 282 MA's), (36, 32031), (45, 31968), (53, 31914), (56, 31902),

Gene: Phaeder\_48 Start: 32318, Stop: 32106, Start Num: 28  
Candidate Starts for Phaeder\_48:  
(5, 32576), (6, 32570), (17, 32438), (19, 32426), (Start: 28 @32318 has 282 MA's), (43, 32261), (44, 32258), (57, 32168),

Gene: Phantastic\_48 Start: 31650, Stop: 31450, Start Num: 29  
Candidate Starts for Phantastic\_48:  
(9, 31851), (22, 31752), (25, 31725), (Start: 29 @31650 has 32 MA's), (33, 31635), (43, 31584), (48, 31551), (55, 31494),

Gene: Phelipe\_48 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Phelipe\_48:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Phighter1804\_47 Start: 32119, Stop: 31943, Start Num: 28  
Candidate Starts for Phighter1804\_47:  
(15, 32269), (Start: 28 @32119 has 282 MA's), (36, 32095), (53, 31978), (56, 31966),

Gene: PhishRPhriends\_49 Start: 31567, Stop: 31379, Start Num: 28

Candidate Starts for PhishRPhriends\_49:  
(Start: 28 @31567 has 282 MA's), (39, 31531), (49, 31453),

Gene: Phoebe\_52 Start: 32482, Stop: 32294, Start Num: 28  
Candidate Starts for Phoebe\_52:  
(Start: 28 @32482 has 282 MA's), (39, 32446), (49, 32368),

Gene: Phonnegut\_48 Start: 32367, Stop: 32155, Start Num: 28  
Candidate Starts for Phonnegut\_48:  
(5, 32625), (6, 32619), (17, 32487), (19, 32475), (Start: 28 @32367 has 282 MA's), (43, 32310), (44, 32307), (57, 32217),

Gene: Phontbonne\_47 Start: 31944, Stop: 31771, Start Num: 28  
Candidate Starts for Phontbonne\_47:  
(Start: 28 @31944 has 282 MA's), (36, 31923), (45, 31860), (53, 31806), (56, 31794),

Gene: Phoxy\_51 Start: 32517, Stop: 32329, Start Num: 28  
Candidate Starts for Phoxy\_51:  
(Start: 28 @32517 has 282 MA's), (39, 32481), (49, 32403),

Gene: Phranny\_52 Start: 32375, Stop: 32187, Start Num: 28  
Candidate Starts for Phranny\_52:  
(Start: 28 @32375 has 282 MA's), (39, 32339), (49, 32261),

Gene: Pioneer\_48 Start: 32367, Stop: 32155, Start Num: 28  
Candidate Starts for Pioneer\_48:  
(5, 32625), (6, 32619), (17, 32487), (19, 32475), (Start: 28 @32367 has 282 MA's), (43, 32310), (44, 32307), (57, 32217),

Gene: Pipcraft\_45 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for Pipcraft\_45:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Pistachio\_49 Start: 31575, Stop: 31378, Start Num: 29  
Candidate Starts for Pistachio\_49:  
(Start: 29 @31575 has 32 MA's), (38, 31536), (47, 31479), (54, 31422),

Gene: Pocahontas\_47 Start: 32271, Stop: 32071, Start Num: 29  
Candidate Starts for Pocahontas\_47:  
(Start: 29 @32271 has 32 MA's), (39, 32229), (47, 32175),

Gene: Polymorphads\_48 Start: 32046, Stop: 31873, Start Num: 28  
Candidate Starts for Polymorphads\_48:  
(Start: 28 @32046 has 282 MA's), (36, 32025), (45, 31962), (53, 31908), (56, 31896),

Gene: Poompha\_45 Start: 30949, Stop: 30743, Start Num: 30  
Candidate Starts for Poompha\_45:  
(16, 31102), (Start: 30 @30949 has 22 MA's), (32, 30937), (38, 30910), (50, 30823), (51, 30814), (55, 30790),

Gene: Popcicle\_47 Start: 32271, Stop: 32071, Start Num: 29  
Candidate Starts for Popcicle\_47:  
(Start: 29 @32271 has 32 MA's), (39, 32229), (47, 32175),

Gene: PotatoSplit\_53 Start: 32493, Stop: 32305, Start Num: 28

Candidate Starts for PotatoSplit\_53:

(Start: 28 @32493 has 282 MA's), (39, 32457), (49, 32379),

Gene: Priya\_48 Start: 32385, Stop: 32173, Start Num: 28

Candidate Starts for Priya\_48:

(5, 32643), (6, 32637), (17, 32505), (19, 32493), (Start: 28 @32385 has 282 MA's), (43, 32328), (44, 32325), (57, 32235),

Gene: Pumbaa\_47 Start: 31998, Stop: 31825, Start Num: 28

Candidate Starts for Pumbaa\_47:

(Start: 28 @31998 has 282 MA's), (36, 31977), (45, 31914), (53, 31860), (56, 31848),

Gene: Puppy\_49 Start: 31648, Stop: 31451, Start Num: 29

Candidate Starts for Puppy\_49:

(Start: 29 @31648 has 32 MA's), (38, 31609), (47, 31552), (54, 31495),

Gene: PurpleHaze\_51 Start: 32388, Stop: 32200, Start Num: 28

Candidate Starts for PurpleHaze\_51:

(Start: 28 @32388 has 282 MA's), (39, 32352), (49, 32274),

Gene: Qobbit\_48 Start: 32347, Stop: 32135, Start Num: 28

Candidate Starts for Qobbit\_48:

(5, 32605), (6, 32599), (17, 32467), (19, 32455), (Start: 28 @32347 has 282 MA's), (43, 32290), (44, 32287), (57, 32197),

Gene: QuinnKiro\_46 Start: 32274, Stop: 32074, Start Num: 29

Candidate Starts for QuinnKiro\_46:

(Start: 29 @32274 has 32 MA's), (39, 32232), (47, 32178),

Gene: Quokka\_46 Start: 31270, Stop: 31082, Start Num: 34

Candidate Starts for Quokka\_46:

(13, 31444), (Start: 28 @31291 has 282 MA's), (34, 31270), (57, 31132),

Gene: Rahalelujah\_47 Start: 31625, Stop: 31404, Start Num: 28

Candidate Starts for Rahalelujah\_47:

(14, 31760), (18, 31736), (Start: 28 @31625 has 282 MA's), (43, 31565), (44, 31562), (57, 31472),

Gene: Ravana\_52 Start: 31445, Stop: 31218, Start Num: 28

Candidate Starts for Ravana\_52:

(Start: 28 @31445 has 282 MA's), (41, 31391), (42, 31388), (43, 31373),

Gene: ReMo\_50 Start: 30853, Stop: 30623, Start Num: 28

Candidate Starts for ReMo\_50:

(Start: 28 @30853 has 282 MA's), (41, 30799), (42, 30796), (43, 30781),

Gene: Reba\_51 Start: 32048, Stop: 31860, Start Num: 28

Candidate Starts for Reba\_51:

(Start: 28 @32048 has 282 MA's), (39, 32012), (49, 31934),

Gene: Rebeuca\_46 Start: 32039, Stop: 31833, Start Num: 30

Candidate Starts for Rebeuca\_46:

(Start: 30 @32039 has 22 MA's), (38, 32000), (45, 31946), (50, 31913), (51, 31904), (55, 31880),

Gene: Relief\_46 Start: 32050, Stop: 31877, Start Num: 28

Candidate Starts for Relief\_46:

(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: Remus\_50 Start: 30533, Stop: 30306, Start Num: 28

Candidate Starts for Remus\_50:

(2, 30875), (Start: 28 @30533 has 282 MA's), (41, 30479), (42, 30476), (43, 30461),

Gene: ResDef\_47 Start: 32274, Stop: 32074, Start Num: 29

Candidate Starts for ResDef\_47:

(Start: 29 @32274 has 32 MA's), (39, 32232), (47, 32178),

Gene: RhynO\_47 Start: 31838, Stop: 31632, Start Num: 30

Candidate Starts for RhynO\_47:

(16, 31991), (Start: 30 @31838 has 22 MA's), (34, 31817), (38, 31799), (50, 31712), (51, 31703), (52, 31694), (54, 31682),

Gene: RockieBear\_46 Start: 32053, Stop: 31880, Start Num: 28

Candidate Starts for RockieBear\_46:

(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Rockstar\_47 Start: 31455, Stop: 31249, Start Num: 29

Candidate Starts for Rockstar\_47:

(10, 31635), (25, 31530), (Start: 29 @31455 has 32 MA's), (33, 31440), (48, 31356), (55, 31299), (56, 31296),

Gene: Roimos\_47 Start: 31825, Stop: 31628, Start Num: 29

Candidate Starts for Roimos\_47:

(Start: 29 @31825 has 32 MA's), (38, 31786), (47, 31729), (54, 31672),

Gene: Romney\_47 Start: 32050, Stop: 31877, Start Num: 28

Candidate Starts for Romney\_47:

(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: Roosevelt\_46 Start: 32055, Stop: 31882, Start Num: 28

Candidate Starts for Roosevelt\_46:

(Start: 28 @32055 has 282 MA's), (36, 32034), (45, 31971), (53, 31917), (56, 31905),

Gene: Rosa24\_46 Start: 32084, Stop: 31911, Start Num: 28

Candidate Starts for Rosa24\_46:

(Start: 28 @32084 has 282 MA's), (36, 32063), (45, 32000), (53, 31946), (56, 31934),

Gene: Rosalind\_49 Start: 30736, Stop: 30509, Start Num: 28

Candidate Starts for Rosalind\_49:

(2, 31081), (Start: 28 @30736 has 282 MA's), (41, 30682), (42, 30679), (43, 30664),

Gene: Rowdy\_50 Start: 31746, Stop: 31540, Start Num: 30

Candidate Starts for Rowdy\_50:

(16, 31899), (Start: 30 @31746 has 22 MA's), (34, 31725), (38, 31707), (51, 31611), (52, 31602), (54, 31590),

Gene: Ruin\_47 Start: 32046, Stop: 31873, Start Num: 28  
Candidate Starts for Ruin\_47:  
(Start: 28 @32046 has 282 MA's), (36, 32025), (45, 31962), (53, 31908), (56, 31896),

Gene: Rummer\_50 Start: 32520, Stop: 32332, Start Num: 28  
Candidate Starts for Rummer\_50:  
(Start: 28 @32520 has 282 MA's), (39, 32484), (49, 32406),

Gene: RyeScarlet\_49 Start: 32342, Stop: 32130, Start Num: 28  
Candidate Starts for RyeScarlet\_49:  
(5, 32600), (6, 32594), (17, 32462), (19, 32450), (Start: 28 @32342 has 282 MA's), (43, 32285), (44, 32282), (57, 32192),

Gene: Sabertooth\_47 Start: 32055, Stop: 31882, Start Num: 28  
Candidate Starts for Sabertooth\_47:  
(Start: 28 @32055 has 282 MA's), (36, 32034), (45, 31971), (53, 31917), (56, 31905),

Gene: Sabia\_51 Start: 32483, Stop: 32295, Start Num: 28  
Candidate Starts for Sabia\_51:  
(Start: 28 @32483 has 282 MA's), (39, 32447), (49, 32369),

Gene: Sabinator\_50 Start: 32488, Stop: 32300, Start Num: 28  
Candidate Starts for Sabinator\_50:  
(Start: 28 @32488 has 282 MA's), (39, 32452), (49, 32374),

Gene: Sachima\_45 Start: 32252, Stop: 32040, Start Num: 28  
Candidate Starts for Sachima\_45:  
(5, 32510), (6, 32504), (17, 32372), (19, 32360), (Start: 28 @32252 has 282 MA's), (43, 32195), (44, 32192), (57, 32102),

Gene: SaturnRing\_48 Start: 32028, Stop: 31831, Start Num: 29  
Candidate Starts for SaturnRing\_48:  
(Start: 29 @32028 has 32 MA's), (38, 31989), (47, 31932), (54, 31875),

Gene: Scamp\_47 Start: 32055, Stop: 31882, Start Num: 28  
Candidate Starts for Scamp\_47:  
(Start: 28 @32055 has 282 MA's), (36, 32034), (45, 31971), (53, 31917), (56, 31905),

Gene: Scherzo\_48 Start: 32556, Stop: 32344, Start Num: 28  
Candidate Starts for Scherzo\_48:  
(5, 32814), (6, 32808), (17, 32676), (19, 32664), (Start: 28 @32556 has 282 MA's), (43, 32499), (44, 32496), (57, 32406),

Gene: Scout\_47 Start: 31156, Stop: 30959, Start Num: 29  
Candidate Starts for Scout\_47:  
(Start: 29 @31156 has 32 MA's), (38, 31117), (47, 31060), (54, 31003),

Gene: SenorClean\_47 Start: 32053, Stop: 31880, Start Num: 28  
Candidate Starts for SenorClean\_47:  
(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Severus\_44 Start: 30949, Stop: 30743, Start Num: 30  
Candidate Starts for Severus\_44:

(16, 31102), (Start: 30 @30949 has 22 MA's), (32, 30937), (38, 30910), (50, 30823), (51, 30814), (55, 30790),

Gene: Shaka\_47 Start: 32050, Stop: 31877, Start Num: 28

Candidate Starts for Shaka\_47:

(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: Shapes\_50 Start: 31746, Stop: 31540, Start Num: 30

Candidate Starts for Shapes\_50:

(16, 31899), (Start: 30 @31746 has 22 MA's), (34, 31725), (38, 31707), (51, 31611), (52, 31602), (54, 31590),

Gene: ShayRa\_52 Start: 31057, Stop: 30827, Start Num: 28

Candidate Starts for ShayRa\_52:

(Start: 28 @31057 has 282 MA's), (41, 31003), (42, 31000), (43, 30985),

Gene: SheaKeira\_47 Start: 31905, Stop: 31681, Start Num: 28

Candidate Starts for SheaKeira\_47:

(3, 32196), (7, 32154), (8, 32124), (21, 32001), (Start: 28 @31905 has 282 MA's), (36, 31884), (43, 31848), (44, 31845), (57, 31755),

Gene: Sheen\_48 Start: 34305, Stop: 34093, Start Num: 30

Candidate Starts for Sheen\_48:

(16, 34458), (Start: 30 @34305 has 22 MA's), (33, 34290), (44, 34236), (48, 34197), (51, 34164), (58, 34131),

Gene: SheldonCooper\_49 Start: 32476, Stop: 32303, Start Num: 28

Candidate Starts for SheldonCooper\_49:

(Start: 28 @32476 has 282 MA's), (45, 32392), (53, 32338), (56, 32326),

Gene: Shygu2\_46 Start: 32029, Stop: 31853, Start Num: 28

Candidate Starts for Shygu2\_46:

(4, 32326), (15, 32179), (Start: 28 @32029 has 282 MA's), (36, 32005), (45, 31942), (53, 31888), (56, 31876),

Gene: Skipitt\_46 Start: 32047, Stop: 31874, Start Num: 28

Candidate Starts for Skipitt\_46:

(27, 32059), (Start: 28 @32047 has 282 MA's), (36, 32026), (45, 31963), (53, 31909), (56, 31897),

Gene: Snickers\_51 Start: 32463, Stop: 32275, Start Num: 28

Candidate Starts for Snickers\_51:

(Start: 28 @32463 has 282 MA's), (39, 32427), (49, 32349),

Gene: SoYo\_51 Start: 32401, Stop: 32213, Start Num: 28

Candidate Starts for SoYo\_51:

(Start: 28 @32401 has 282 MA's), (39, 32365), (49, 32287),

Gene: SoilDragon\_51 Start: 31937, Stop: 31749, Start Num: 28

Candidate Starts for SoilDragon\_51:

(Start: 28 @31937 has 282 MA's), (39, 31901), (49, 31823),

Gene: Soshari\_53 Start: 32516, Stop: 32328, Start Num: 28

Candidate Starts for Soshari\_53:

(Start: 28 @32516 has 282 MA's), (39, 32480), (49, 32402),

Gene: Soups\_51 Start: 31056, Stop: 30826, Start Num: 28

Candidate Starts for Soups\_51:

(Start: 28 @31056 has 282 MA's), (41, 31002), (42, 30999), (43, 30984),

Gene: Sparxx\_48 Start: 32048, Stop: 31875, Start Num: 28

Candidate Starts for Sparxx\_48:

(Start: 28 @32048 has 282 MA's), (36, 32027), (45, 31964), (53, 31910), (56, 31898),

Gene: Spike509\_51 Start: 32517, Stop: 32329, Start Num: 28

Candidate Starts for Spike509\_51:

(Start: 28 @32517 has 282 MA's), (39, 32481), (49, 32403),

Gene: Spino\_46 Start: 32053, Stop: 31880, Start Num: 28

Candidate Starts for Spino\_46:

(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Spouty\_48 Start: 32384, Stop: 32172, Start Num: 28

Candidate Starts for Spouty\_48:

(5, 32642), (6, 32636), (17, 32504), (19, 32492), (Start: 28 @32384 has 282 MA's), (43, 32327), (44, 32324), (57, 32234),

Gene: Stagni\_51 Start: 32492, Stop: 32304, Start Num: 28

Candidate Starts for Stagni\_51:

(Start: 28 @32492 has 282 MA's), (39, 32456), (49, 32378),

Gene: Stasia\_46 Start: 31928, Stop: 31752, Start Num: 28

Candidate Starts for Stasia\_46:

(23, 32021), (Start: 28 @31928 has 282 MA's), (36, 31904), (45, 31841), (53, 31787), (56, 31775),

Gene: SteMason\_46 Start: 32050, Stop: 31877, Start Num: 28

Candidate Starts for SteMason\_46:

(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: Steamy\_44 Start: 31813, Stop: 31595, Start Num: 28

Candidate Starts for Steamy\_44:

(Start: 28 @31813 has 282 MA's), (34, 31792), (41, 31765), (45, 31723), (46, 31720),

Gene: StepMih\_51 Start: 32483, Stop: 32295, Start Num: 28

Candidate Starts for StepMih\_51:

(Start: 28 @32483 has 282 MA's), (39, 32447), (49, 32369),

Gene: Stink\_47 Start: 32494, Stop: 32321, Start Num: 28

Candidate Starts for Stink\_47:

(Start: 28 @32494 has 282 MA's), (36, 32473), (53, 32356), (56, 32344),

Gene: Strosahl\_50 Start: 30533, Stop: 30306, Start Num: 28

Candidate Starts for Strosahl\_50:

(2, 30875), (Start: 28 @30533 has 282 MA's), (41, 30479), (42, 30476), (43, 30461),

Gene: Sultana\_47 Start: 32053, Stop: 31880, Start Num: 28

Candidate Starts for Sultana\_47:

(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Switzerland\_50 Start: 30916, Stop: 30689, Start Num: 28

Candidate Starts for Switzerland\_50:

(2, 31261), (Start: 28 @30916 has 282 MA's), (41, 30862), (42, 30859), (43, 30844),

Gene: TNguyen7\_48 Start: 31995, Stop: 31798, Start Num: 29

Candidate Starts for TNguyen7\_48:

(Start: 29 @31995 has 32 MA's), (38, 31956), (47, 31899), (54, 31842),

Gene: Taquarus\_47 Start: 32056, Stop: 31883, Start Num: 28

Candidate Starts for Taquarus\_47:

(Start: 28 @32056 has 282 MA's), (36, 32035), (45, 31972), (53, 31918), (56, 31906), (59, 31897),

Gene: Taurus\_52 Start: 32489, Stop: 32301, Start Num: 28

Candidate Starts for Taurus\_52:

(Start: 28 @32489 has 282 MA's), (39, 32453), (49, 32375),

Gene: Texage\_46 Start: 32275, Stop: 32075, Start Num: 29

Candidate Starts for Texage\_46:

(Start: 29 @32275 has 32 MA's), (39, 32233), (47, 32179),

Gene: Thanksgivukkah\_46 Start: 32051, Stop: 31878, Start Num: 28

Candidate Starts for Thanksgivukkah\_46:

(Start: 28 @32051 has 282 MA's), (36, 32030), (45, 31967), (53, 31913), (56, 31901),

Gene: Tiffany\_51 Start: 32375, Stop: 32187, Start Num: 28

Candidate Starts for Tiffany\_51:

(Start: 28 @32375 has 282 MA's), (39, 32339), (49, 32261),

Gene: Timshel\_46 Start: 34012, Stop: 33800, Start Num: 30

Candidate Starts for Timshel\_46:

(Start: 30 @34012 has 22 MA's), (37, 33979), (50, 33883), (51, 33874),

Gene: TinaFeyge\_47 Start: 32048, Stop: 31875, Start Num: 28

Candidate Starts for TinaFeyge\_47:

(Start: 28 @32048 has 282 MA's), (36, 32027), (45, 31964), (53, 31910), (56, 31898),

Gene: TinyPebbles\_50 Start: 32522, Stop: 32334, Start Num: 28

Candidate Starts for TinyPebbles\_50:

(Start: 28 @32522 has 282 MA's), (39, 32486), (49, 32408),

Gene: Tinybot\_46 Start: 32080, Stop: 31907, Start Num: 28

Candidate Starts for Tinybot\_46:

(Start: 28 @32080 has 282 MA's), (36, 32059), (45, 31996), (53, 31942), (56, 31930),

Gene: TiroTheta9\_47 Start: 32047, Stop: 31874, Start Num: 28

Candidate Starts for TiroTheta9\_47:

(Start: 28 @32047 has 282 MA's), (36, 32026), (45, 31963), (53, 31909), (56, 31897),

Gene: Toaka\_47 Start: 31887, Stop: 31669, Start Num: 28

Candidate Starts for Toaka\_47:

(1, 32235), (26, 31899), (Start: 28 @31887 has 282 MA's), (43, 31827), (44, 31824), (57, 31734),

Gene: Todacoro\_47 Start: 32274, Stop: 32074, Start Num: 29

Candidate Starts for Todacoro\_47:

(Start: 29 @32274 has 32 MA's), (39, 32232), (47, 32178),

Gene: Topanga\_44 Start: 31688, Stop: 31482, Start Num: 30

Candidate Starts for Topanga\_44:

(Start: 30 @31688 has 22 MA's), (38, 31649), (45, 31595), (50, 31562), (51, 31553), (55, 31529),

Gene: Toro\_50 Start: 34416, Stop: 34204, Start Num: 30

Candidate Starts for Toro\_50:

(16, 34569), (Start: 30 @34416 has 22 MA's), (33, 34401), (44, 34347), (48, 34308), (51, 34275), (58, 34242),

Gene: Trike\_44 Start: 30957, Stop: 30751, Start Num: 30

Candidate Starts for Trike\_44:

(16, 31110), (Start: 30 @30957 has 22 MA's), (32, 30945), (38, 30918), (50, 30831), (51, 30822), (55, 30798),

Gene: TroyPia\_48 Start: 32051, Stop: 31878, Start Num: 28

Candidate Starts for TroyPia\_48:

(Start: 28 @32051 has 282 MA's), (36, 32030), (45, 31967), (53, 31913), (56, 31901),

Gene: Tubs\_48 Start: 32318, Stop: 32106, Start Num: 28

Candidate Starts for Tubs\_48:

(5, 32576), (6, 32570), (17, 32438), (19, 32426), (Start: 28 @32318 has 282 MA's), (43, 32261), (44, 32258), (57, 32168),

Gene: Twister\_44 Start: 31599, Stop: 31393, Start Num: 30

Candidate Starts for Twister\_44:

(Start: 30 @31599 has 22 MA's), (38, 31560), (45, 31506), (50, 31473), (51, 31464), (55, 31440),

Gene: TygerBlood\_47 Start: 32053, Stop: 31880, Start Num: 28

Candidate Starts for TygerBlood\_47:

(Start: 28 @32053 has 282 MA's), (36, 32032), (45, 31969), (53, 31915), (56, 31903),

Gene: Ugenie5\_45 Start: 32555, Stop: 32343, Start Num: 28

Candidate Starts for Ugenie5\_45:

(5, 32813), (6, 32807), (17, 32675), (19, 32663), (Start: 28 @32555 has 282 MA's), (43, 32498), (44, 32495), (57, 32405),

Gene: Ulysses\_46 Start: 31730, Stop: 31557, Start Num: 28

Candidate Starts for Ulysses\_46:

(Start: 28 @31730 has 282 MA's), (36, 31709), (45, 31646), (53, 31592), (56, 31580),

Gene: Vanisoa\_47 Start: 32916, Stop: 32698, Start Num: 28

Candidate Starts for Vanisoa\_47:

(20, 33006), (26, 32925), (Start: 28 @32916 has 282 MA's), (43, 32856), (44, 32853), (57, 32763),

Gene: Veracruz\_46 Start: 32274, Stop: 32074, Start Num: 29

Candidate Starts for Veracruz\_46:

(Start: 29 @32274 has 32 MA's), (39, 32232), (47, 32178),

Gene: Vix\_51 Start: 32572, Stop: 32384, Start Num: 28  
Candidate Starts for Vix\_51:  
(Start: 28 @32572 has 282 MA's), (39, 32536), (49, 32458),

Gene: Waits\_50 Start: 30705, Stop: 30478, Start Num: 28  
Candidate Starts for Waits\_50:  
(2, 31050), (Start: 28 @30705 has 282 MA's), (41, 30651), (42, 30648), (43, 30633),

Gene: WalterMcMickey\_44 Start: 31599, Stop: 31393, Start Num: 30  
Candidate Starts for WalterMcMickey\_44:  
(Start: 30 @31599 has 22 MA's), (38, 31560), (45, 31506), (50, 31473), (51, 31464), (55, 31440),

Gene: Wander\_47 Start: 32050, Stop: 31877, Start Num: 28  
Candidate Starts for Wander\_47:  
(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: Warrior24\_51 Start: 30915, Stop: 30685, Start Num: 28  
Candidate Starts for Warrior24\_51:  
(2, 31260), (Start: 28 @30915 has 282 MA's), (41, 30861), (42, 30858), (43, 30843),

Gene: Watson\_51 Start: 32481, Stop: 32293, Start Num: 28  
Candidate Starts for Watson\_51:  
(Start: 28 @32481 has 282 MA's), (39, 32445), (49, 32367),

Gene: Wilbur\_47 Start: 32050, Stop: 31877, Start Num: 28  
Candidate Starts for Wilbur\_47:  
(Start: 28 @32050 has 282 MA's), (36, 32029), (45, 31966), (53, 31912), (56, 31900),

Gene: Wile\_46 Start: 32060, Stop: 31884, Start Num: 28  
Candidate Starts for Wile\_46:  
(Start: 28 @32060 has 282 MA's), (45, 31973), (53, 31919), (56, 31907),

Gene: Wizard007\_47 Start: 32058, Stop: 31885, Start Num: 28  
Candidate Starts for Wizard007\_47:  
(Start: 28 @32058 has 282 MA's), (36, 32037), (45, 31974), (53, 31920), (56, 31908),

Gene: Wooldri\_53 Start: 32401, Stop: 32213, Start Num: 28  
Candidate Starts for Wooldri\_53:  
(Start: 28 @32401 has 282 MA's), (39, 32365), (49, 32287),

Gene: WorldCup\_46 Start: 31619, Stop: 31398, Start Num: 28  
Candidate Starts for WorldCup\_46:  
(14, 31754), (18, 31730), (Start: 28 @31619 has 282 MA's), (43, 31559), (44, 31556), (57, 31466),

Gene: Xena\_45 Start: 32026, Stop: 31850, Start Num: 28  
Candidate Starts for Xena\_45:  
(Start: 28 @32026 has 282 MA's), (45, 31939), (53, 31885), (56, 31873),

Gene: YoSam321\_47 Start: 32047, Stop: 31874, Start Num: 28  
Candidate Starts for YoSam321\_47:  
(Start: 28 @32047 has 282 MA's), (36, 32026), (45, 31963), (53, 31909), (56, 31897),

Gene: Zarafa\_47 Start: 31918, Stop: 31721, Start Num: 29

Candidate Starts for Zarafa\_47:

(Start: 29 @31918 has 32 MA's), (38, 31879), (47, 31822), (54, 31765),

Gene: Zetzy\_50 Start: 32052, Stop: 31864, Start Num: 28

Candidate Starts for Zetzy\_50:

(Start: 28 @32052 has 282 MA's), (39, 32016), (49, 31938),