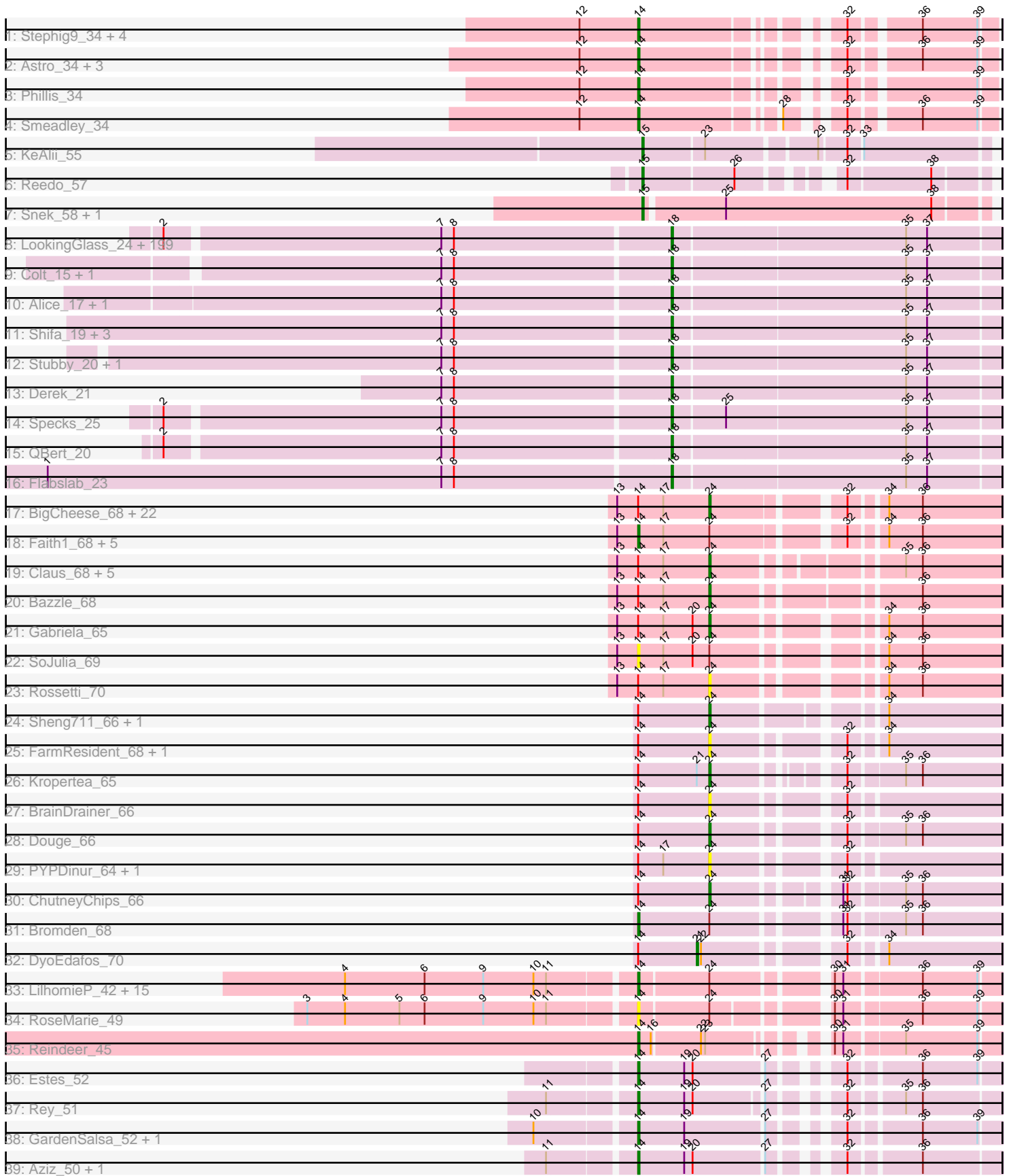


Pham 300999



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 300999 Report

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

Pham number 300999 has 304 members, 57 are drafts.

Phages represented in each track:

- Track 1 : Stephig9\_34, Dixon\_34, Danforth\_33, Expelliarmus\_33, Roary\_34
- Track 2 : Astro\_34, NearlyHeadless\_34, Groundhog\_33, Caitlin\_33
- Track 3 : Phillis\_34
- Track 4 : Smeadley\_34
- Track 5 : KeAlij\_55
- Track 6 : Reedo\_57
- Track 7 : Snek\_58, Tweety19\_59
- Track 8 : LookingGlass\_24, McGee\_21, OrediggerDelux\_21, Kboogie\_21, Asterius\_23, Labradorite\_19, Babyland\_20, BeanWater\_17, Ghost\_21, ZygoTaiga\_22, ChaylaJr\_20, GlutenPhree\_21, Chomp\_20, Ava3\_22, Janiyra\_20, Bigswole\_26, Koguma\_18, RoMag\_16, Amataga\_20, SoilZilla\_20, EmToTheThree\_24, BackyardAgain\_19, Izajani\_22, Matsumoto\_20, Turret\_20, Shnickers\_20, Jessibeth14\_21, MoMoMixon\_23, Astraea\_22, Rizal\_20, IkeLoa\_17, Primadonna\_17, Blackbrain\_20, NedWong\_22, BigCity\_25, Patter\_20, I3\_23, LifeSavor\_21, FoxtrotP1\_22, CharlieB\_22, ArcherS7\_20, Drazdys\_22, Zalkecks\_23, LordLeafolot\_27, Phlegm\_22, PurduePete\_21, SrishMeg2525\_21, Phox\_21, Domi\_16, Rabinovish\_21, TinyTim\_21, Montpel\_21, Bangla1971\_20, Teardrop\_20, Bread\_22, SmallFry\_20, Pleione\_23, ET08\_18, Capablanca\_22, EggyFarm\_25, InigoMontoya\_22, Concombre\_21, ChickenPhender\_20, Ading\_20, Atlantean\_20, Bonray\_21, Spud\_24, NuevoMundo\_25, Jaygup\_20, Norm\_21, Yucca\_21, Belieber\_19, Sprinklers\_22, InterFolia\_27, Lunareta\_21, FrayBell\_27, Bowman\_21, Darko\_20, Ewok\_21, Burrough\_22, Ronan\_17, Cali\_23, PharkleMinkus\_27, Fongie\_21, Latch\_20, Pier\_23, Megamind\_21, Fixie\_19, Tyke\_23, Gamgam\_20, Trinitium\_20, Bxz1\_23, Basquiat\_20, Yassified\_19, ScottMcG\_23, Maby2021\_22, Nidhogg\_23, ParkTD\_21, Daffodil\_23, Breeniome\_21, Adlitam\_20, JustHall\_20, Salacia\_23, Gabriel\_21, Jedediah\_21, YemiJoy2021\_22, Zeenon\_24, Tainan\_27, Delilah\_21, Blackdragon\_18, JigglyPuff\_22, Kamryn\_20, Dandelion\_25, StubbySaigey\_21, FudgeTart\_22, Sauce\_23, CindyLou\_20, Rahel\_20, ErnieJ\_24, Dietrick\_18, BobaPhatt\_19, Spec\_19, Sebata\_23, Willis\_22, Loanshark\_21, Delylah\_24, Bipolarisk\_21, Halldule\_18, Jezreel\_20, Littleton\_21, Jemmno\_20, Ablatia\_20, Cleatunium\_18, ShiaLabeouf\_20, Maturis\_22, Duckfeet\_20, Naval22\_23, Grasshills\_25, Nappy\_23, BadAgartude\_23, Khaleesi\_21, JulietS\_17, Shelob\_24, Ngannou\_20, Quasimodo\_20, YoungMoneyMata\_21, Wally\_20, Mikro\_20, Iota\_19, Tortoise16\_19, DeejaClivia\_18, Essence\_20, Phusco\_20, Melpomini\_20, NoodleTree\_20, Erdmann\_22, Pupusa\_27, BananaFence\_23, Lee7\_21, EasyJones\_21, Momo\_20, EmmaElysia\_20, LolaVinca\_24, Chargie21\_20, DrPhinkDaddy\_21, LinStu\_23, DirtMonster\_19, Roots515\_21, Gizmo\_23,

SilverDipper\_21, LRRHood\_20, Audrick\_22, Dessert\_19, StephanieG\_22, McWolfish\_21, Caravan\_21, Rocha\_20, Issimir\_21, JayJay\_24, Lukilu\_16, Substance289\_19, Guwapp\_20, Pivoine\_20, Pio\_24, Morizzled23\_20, Demodog\_20, Catera\_20, Fludd\_20, JPickles\_20, SVoro\_21, MikeLiesIn\_22, Mangeria\_24, Grungle\_16, Shrimp\_21, Cactojaque\_19, Lethe\_22, Naija\_20, DTDevon\_22, Napoleon13\_20, Shaqnato\_18

- Track 9 : Colt\_15, Cane17\_15
- Track 10 : Alice\_17, Bezza\_15
- Track 11 : Shifa\_19, HyRo\_20, Moby\_16, Moiqah\_16
- Track 12 : Stubby\_20, Pinkcreek\_14
- Track 13 : Derek\_21
- Track 14 : Specks\_25
- Track 15 : QBert\_20
- Track 16 : Flabslab\_23
- Track 17 : BigCheese\_68, Nicholasp3\_68, Lynnae\_70, Zakai\_69, Finemlucis\_68, Lewan\_69, OverPar\_70, BobsGarage\_68, Gardann\_69, MkaliMitinis3\_69, Rumpelstiltskin\_67, Crossroads\_68, Underpass\_59, Sarshaun\_69, Soap141\_68, Itos\_67, LilDestine\_68, Vetrix\_68, Wigglewiggles\_68, Wilder\_69, Hafay\_70, Loadrie\_67, Kahlid\_68
- Track 18 : Faith1\_68, DrSeegs\_68, Breezona\_68, Miley16\_68, Netyap\_69, Winky\_68
- Track 19 : Claus\_68, ZhongYanYuan\_67, Tourach\_67, DanBing\_69, DHan\_70, Baoshan\_67
- Track 20 : Bazzle\_68
- Track 21 : Gabriela\_65
- Track 22 : SoJulia\_69
- Track 23 : Rossetti\_70
- Track 24 : Sheng711\_66, Chaser\_64
- Track 25 : FarmResident\_68, Quby\_66
- Track 26 : Kropertea\_65
- Track 27 : BrainDrainer\_66
- Track 28 : Douge\_66
- Track 29 : PYPDinur\_64, Douzhi\_66
- Track 30 : ChutneyChips\_66
- Track 31 : Bromden\_68
- Track 32 : DyoEdafos\_70
- Track 33 : LilhomieP\_42, PegLeg\_43, Diminimus\_44, SlimJimmy\_42, Bongo\_43, FreakyGoo\_44, Auspice\_43, TpudiCK\_45, Bricole\_43, IPhane7\_43, KleverKiS\_44, Izel\_44, TyDawg\_43, Glaske16\_44, Dulcita\_44, Skinny\_44
- Track 34 : RoseMarie\_49
- Track 35 : Reindeer\_45
- Track 36 : Estes\_52
- Track 37 : Rey\_51
- Track 38 : GardenSalsa\_52, MrMagoo\_52
- Track 39 : Aziz\_50, GenevaB15\_50

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

The start number called the most often in the published annotations is 18, it was called in 177 of the 247 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ablatia\_20, Ading\_20, Adlitam\_20, Alice\_17, Amataga\_20, ArcherS7\_20, Asterius\_23, Astraea\_22, Atlantean\_20, Audrick\_22, Ava3\_22, Babyland\_20, BackyardAgain\_19, BadAgartude\_23, BananaFence\_23, Bangla1971\_20, Basquiat\_20, BeanWater\_17, Belieber\_19, Bezza\_15, BigCity\_25, Bigswole\_26, Bipolarisk\_21, Blackbrain\_20, Blackdragon\_18, BobaPhatt\_19, Bonray\_21, Bowman\_21, Bread\_22, Breeniome\_21, Burrough\_22, Bxz1\_23, Cactojaque\_19, Cali\_23, Cane17\_15, Capablanca\_22, Caravan\_21, Catera\_20, Chargie21\_20, CharlieB\_22, ChaylaJr\_20, ChickenPhender\_20, Chomp\_20, CindyLou\_20, Cleatunium\_18, Colt\_15, Concombre\_21, DTDevon\_22, Daffodil\_23, Dandelion\_25, Darko\_20, DeejaClivia\_18, Delilah\_21, Delylah\_24, Demodog\_20, Derek\_21, Dessert\_19, Dietrick\_18, DirtMonster\_19, Domi\_16, DrPhinkDaddy\_21, Drazdys\_22, Duckfeet\_20, ET08\_18, EasyJones\_21, EggyFarm\_25, EmToTheThree\_24, EmmaElysia\_20, Erdmann\_22, ErnieJ\_24, Essence\_20, Ewok\_21, Fixie\_19, Flabslab\_23, Fludd\_20, Fongie\_21, FoxtrotP1\_22, FrayBell\_27, FudgeTart\_22, Gabriel\_21, Gamgam\_20, Ghost\_21, Gizmo\_23, GlutenPhree\_21, Grasshills\_25, Grungle\_16, Guwapp\_20, Halldule\_18, HyRo\_20, I3\_23, IkeLoa\_17, InigoMontoya\_22, InterFolia\_27, Iota\_19, Issimir\_21, Izajani\_22, JPickles\_20, Janiyra\_20, JayJay\_24, Jaygup\_20, Jedediah\_21, Jemmno\_20, Jessibeth14\_21, Jezreel\_20, JigglyPuff\_22, JulietS\_17, JustHall\_20, Kamryn\_20, Kboogie\_21, Khaleesi\_21, Koguma\_18, LRRHood\_20, Labradorite\_19, Latch\_20, Lee7\_21, Lethe\_22, LifeSavor\_21, LinStu\_23, Littleton\_21, Loanshark\_21, LolaVinca\_24, LookingGlass\_24, LordLeafolot\_27, Lukilu\_16, Lunareta\_21, Maby2021\_22, Mangeria\_24, Matsumoto\_20, Maturis\_22, McGee\_21, McWolfish\_21, Megamind\_21, Melpomini\_20, MikeLiesIn\_22, Mikro\_20, MoMoMixon\_23, Moby\_16, Moiqah\_16, Momo\_20, Montpel\_21, Morizzled23\_20, Naija\_20, Napoleon13\_20, Nappy\_23, Naval22\_23, NedWong\_22, Ngannou\_20, Nidhogg\_23, NoodleTree\_20, Norm\_21, NuevoMundo\_25, OrediggerDelux\_21, ParkTD\_21, Patter\_20, PharkleMinkus\_27, Phlegm\_22, Phox\_21, Phusco\_20, Pier\_23, Pinkcreek\_14, Pio\_24, Pivoine\_20, Pleione\_23, Primadonna\_17, Pupusa\_27, PurduePete\_21, QBert\_20, Quasimodo\_20, Rabinovish\_21, Rahel\_20, Rizal\_20, RoMag\_16, Rocha\_20, Ronan\_17, Roots515\_21, SVoro\_21, Salacia\_23, Sauce\_23, ScottMcG\_23, Sebata\_23, Shaqnato\_18, Shelob\_24, ShiaLabeouf\_20, Shifa\_19, Shnickers\_20, Shrimp\_21, SilverDipper\_21, SmallFry\_20, SoilZilla\_20, Spec\_19, Specks\_25, Sprinklers\_22, Spud\_24, SrishMeg2525\_21, StephanieG\_22, StubbySaigey\_21, Stubby\_20, Substance289\_19, Tainan\_27, Teardrop\_20, TinyTim\_21, Tortoise16\_19, Trinitium\_20, Turret\_20, Tyke\_23, Wally\_20, Willis\_22, Yassified\_19, YemiJoy2021\_22, YoungMoneyMata\_21, Yucca\_21, Zalkecks\_23, Zeenon\_24, ZygoTaiga\_22,

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

- 

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

- Astro\_34, Auspice\_43, Aziz\_50, Baoshan\_67, Bazzle\_68, BigCheese\_68, BobsGarage\_68, Bongo\_43, BrainDrainer\_66, Breezona\_68, Bricole\_43, Bromden\_68, Caitlin\_33, Chaser\_64, ChutneyChips\_66, Claus\_68, Crossroads\_68, DHan\_70, DanBing\_69, Danforth\_33, Diminimus\_44, Dixon\_34, Douge\_66, Douzhi\_66, DrSeegs\_68, Dulcita\_44, DyoEdafos\_70, Estes\_52, Expelliarmus\_33, Faith1\_68, FarmResident\_68, Finemlucis\_68, FreakyGoo\_44, Gabriela\_65, Gardann\_69, GardenSalsa\_52, GenevaB15\_50, Glaske16\_44, Groundhog\_33, Hafay\_70, IPhane7\_43, Itos\_67, Izel\_44, Kahlid\_68, KeAlii\_55, KleverKiS\_44,

Kropertea\_65, Lewan\_69, LilDestine\_68, LilhomieP\_42, Loadrie\_67, Lynnae\_70, Miley16\_68, MkaliMitinis3\_69, MrMagoo\_52, NearlyHeadless\_34, Netyap\_69, Nicholasp3\_68, OverPar\_70, PYPDinur\_64, PegLeg\_43, Phillis\_34, Quby\_66, Reedo\_57, Reindeer\_45, Rey\_51, Roary\_34, RoseMarie\_49, Rossetti\_70, Rumpelstiltskin\_67, Sarshaun\_69, Sheng711\_66, Skinny\_44, SlimJimmy\_42, Smeadley\_34, Snek\_58, SoJulia\_69, Soap141\_68, Stephig9\_34, Tourach\_67, TpudiCK\_45, Tweety19\_59, TyDawg\_43, Underpass\_59, Vetrix\_68, Wigglewiggles\_68, Wilder\_69, Winky\_68, Zakai\_69, ZhongYanYuan\_67,

### Summary by start number:

#### Start 14:

- Found in 86 of 304 ( 28.3% ) of genes in pham
- Manual Annotations of this start: 38 of 247
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Astro\_34 (A8), Auspice\_43 (M1), Aziz\_50 (M2), Bongo\_43 (M1), Breezona\_68 (L2), Bricole\_43 (M1), Bromden\_68 (L4), Caitlin\_33 (A8), Danforth\_33 (A8), Diminimus\_44 (M1), Dixon\_34 (A8), DrSeegs\_68 (L2), Dulcita\_44 (M1), Estes\_52 (M2), Expelliarmus\_33 (A8), Faith1\_68 (L2), FreakyGoo\_44 (M1), GardenSalsa\_52 (M2), GenevaB15\_50 (M2), Glaske16\_44 (M1), Groundhog\_33 (A8), IPhane7\_43 (M1), Izel\_44 (M1), KleverKiS\_44 (M1), LilhomieP\_42 (M1), Miley16\_68 (L2), MrMagoo\_52 (M2), NearlyHeadless\_34 (A8), Netyap\_69 (L2), PegLeg\_43 (M1), Phillis\_34 (A8), Reindeer\_45 (M1), Rey\_51 (M2), Roary\_34 (A8), RoseMarie\_49 (M1), Skinny\_44 (M1), SlimJimmy\_42 (M1), Smeadley\_34 (A8), SoJulia\_69 (L2), Stephig9\_34 (A8), TpudiCK\_45 (M1), TyDawg\_43 (M1), Winky\_68 (L2),

#### Start 15:

- Found in 4 of 304 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 4 of 247
- Called 100.0% of time when present
- Phage (with cluster) where this start called: KeAlii\_55 (AZ1), Reedo\_57 (AZ1), Snek\_58 (AZ3), Tweety19\_59 (AZ3),

#### Start 18:

- Found in 214 of 304 ( 70.4% ) of genes in pham
- Manual Annotations of this start: 177 of 247
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ablatia\_20 (C1), Ading\_20 (C1), Adlitam\_20 (C1), Alice\_17 (C1), Amataga\_20 (C1), ArcherS7\_20 (C1), Asterius\_23 (C1), Astraea\_22 (C1), Atlantean\_20 (C1), Audrick\_22 (C1), Ava3\_22 (C1), Babyland\_20 (C1), BackyardAgain\_19 (C1), BadAgartude\_23 (C1), BananaFence\_23 (C1), Bangla1971\_20 (C1), Basquiat\_20 (C1), BeanWater\_17 (C1), Belieber\_19 (C1), Bezza\_15 (C1), BigCity\_25 (C1), Bigswole\_26 (C1), Bipolarisk\_21 (C1), Blackbrain\_20 (C1), Blackdragon\_18 (C1), BobaPhatt\_19 (C1), Bonray\_21 (C1), Bowman\_21 (C1), Bread\_22 (C1), Breeniome\_21 (C1), Burrough\_22 (C1), Bxz1\_23 (C1), Cactojaque\_19 (C1), Cali\_23 (C1), Cane17\_15 (C1), Capablanca\_22 (C1), Caravan\_21 (C1), Catera\_20 (C1), Chargie21\_20 (C1), CharlieB\_22 (C1), ChaylaJr\_20 (C1), ChickenPhender\_20 (C1), Chomp\_20 (C1), CindyLou\_20 (C1), Cleatunium\_18 (C1), Colt\_15 (C1), Concombre\_21 (C1), DTDevon\_22 (C1), Daffodil\_23 (C1), Dandelion\_25 (C1), Darko\_20 (C1), DeejaClivia\_18 (C1), Delilah\_21 (C1), Delylah\_24 (C1), Demodog\_20 (C1), Derek\_21 (C1), Dessert\_19 (C1), Dietrick\_18 (C1), DirtMonster\_19 (C1), Domi\_16 (C1), DrPhinkDaddy\_21 (C1),

Drazdys\_22 (C1), Duckfeet\_20 (C1), ET08\_18 (C1), EasyJones\_21 (C1), EggyFarm\_25 (C1), EmToTheThree\_24 (C1), EmmaElysia\_20 (C1), Erdmann\_22 (C1), ErnieJ\_24 (C1), Essence\_20 (C1), Ewok\_21 (C1), Fixie\_19 (C1), Flabslab\_23 (C1), Fludd\_20 (C1), Fongie\_21 (C1), FoxtrotP1\_22 (C1), FrayBell\_27 (C1), FudgeTart\_22 (C1), Gabriel\_21 (C1), Gamgam\_20 (C1), Ghost\_21 (C1), Gizmo\_23 (C1), GlutenPhree\_21 (C1), Grasshills\_25 (C1), Grungle\_16 (C1), Guwapp\_20 (C1), Haldule\_18 (C1), HyRo\_20 (C1), I3\_23 (C1), IkeLoa\_17 (C1), InigoMontoya\_22 (C1), InterFolia\_27 (C1), Iota\_19 (C1), Issimir\_21 (C1), Izajani\_22 (C1), JPickles\_20 (C1), Janiyra\_20 (C1), JayJay\_24 (C1), Jaygup\_20 (C1), Jedediah\_21 (C1), Jemmno\_20 (C1), Jessibeth14\_21 (C1), Jezreel\_20 (C1), JigglyPuff\_22 (C1), JulietS\_17 (C1), JustHall\_20 (C1), Kamryn\_20 (C1), Kboogie\_21 (C1), Khaleesi\_21 (C1), Koguma\_18 (C1), LRRHood\_20 (C1), Labradorite\_19 (C1), Latch\_20 (C1), Lee7\_21 (C1), Lethe\_22 (C1), LifeSavor\_21 (C1), LinStu\_23 (C1), Littleton\_21 (C1), Loanshark\_21 (C1), LolaVinca\_24 (C1), LookingGlass\_24 (C1), LordLeafolot\_27 (C1), Lukilu\_16 (C1), Lunareta\_21 (C1), Maby2021\_22 (C1), Mangeria\_24 (C1), Matsumoto\_20 (C1), Maturis\_22 (C1), McGee\_21 (C1), McWolfish\_21 (C1), Megamind\_21 (C1), Melpomini\_20 (C1), MikeLiesIn\_22 (C1), Mikro\_20 (C1), MoMoMixon\_23 (C1), Moby\_16 (C1), Moiqah\_16 (C1), Momo\_20 (C1), Montpel\_21 (C1), Morizzled23\_20 (C1), Naija\_20 (C1), Napoleon13\_20 (C1), Nappy\_23 (C1), Naval22\_23 (C1), NedWong\_22 (C1), Ngannou\_20 (C1), Nidhogg\_23 (C1), NoodleTree\_20 (C1), Norm\_21 (C1), NuevoMundo\_25 (C1), OrediggerDelux\_21 (C1), ParkTD\_21 (C1), Patter\_20 (C1), PharkleMinkus\_27 (C1), Phlegm\_22 (C1), Phox\_21 (C1), Phusco\_20 (C1), Pier\_23 (C1), Pinkcreek\_14 (C1), Pio\_24 (C1), Pivoine\_20 (C1), Pleione\_23 (C1), Primadonna\_17 (C1), Pupusa\_27 (C1), PurduePete\_21 (C1), QBert\_20 (C1), Quasimodo\_20 (C1), Rabinovish\_21 (C1), Rahel\_20 (C1), Rizal\_20 (C1), RoMag\_16 (C1), Rocha\_20 (C1), Ronan\_17 (C1), Roots515\_21 (C1), SVoro\_21 (C1), Salacia\_23 (C1), Sauce\_23 (C1), ScottMcG\_23 (C1), Sebata\_23 (C1), Shaqnato\_18 (C1), Shelob\_24 (C1), ShiaLabeouf\_20 (C1), Shifa\_19 (C1), Shnickers\_20 (C1), Shrimp\_21 (C1), SilverDipper\_21 (C1), SmallFry\_20 (C1), SoilZilla\_20 (C1), Spec\_19 (C1), Specks\_25 (C1), Sprinklers\_22 (C1), Spud\_24 (C1), SrishMeg2525\_21 (C1), StephanieG\_22 (C1), StubbySaigey\_21 (C1), Stubby\_20 (C1), Substance289\_19 (C1), Tainan\_27 (C1), Teardrop\_20 (C1), TinyTim\_21 (C1), Tortoise16\_19 (C1), Trinitium\_20 (C1), Turret\_20 (C1), Tyke\_23 (C1), Wally\_20 (C1), Willis\_22 (C1), Yassified\_19 (C1), YemiJoy2021\_22 (C1), YoungMoneyMata\_21 (C1), Yucca\_21 (C1), Zalkecks\_23 (C1), Zeenon\_24 (C1), ZygoTaiga\_22 (C1),

#### Start 21:

- Found in 2 of 304 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 247
- Called 50.0% of time when present
- Phage (with cluster) where this start called: DyoEdafos\_70 (L4),

#### Start 24:

- Found in 67 of 304 ( 22.0% ) of genes in pham
- Manual Annotations of this start: 27 of 247
- Called 62.7% of time when present
- Phage (with cluster) where this start called: Baoshan\_67 (L2), Bazzle\_68 (L2), BigCheese\_68 (L2), BobsGarage\_68 (L2), BrainDrainer\_66 (L4), Chaser\_64 (L4), ChutneyChips\_66 (L4), Claus\_68 (L2), Crossroads\_68 (L2), DHan\_70 (L2), DanBing\_69 (L2), Douge\_66 (L4), Douzhi\_66 (L4), FarmResident\_68 (L4), Finemlucis\_68 (L2), Gabriela\_65 (L2), Gardann\_69 (L2), Hafay\_70 (L2), Itos\_67 (L2), Kahlid\_68 (L2), Kropertea\_65 (L4), Lewan\_69 (L2), LilDestine\_68 (L2), Loadrie\_67 (L2), Lynnae\_70 (L2), MkaliMitinis3\_69 (L2), Nicholasp3\_68 (L2), OverPar\_70 (L2),

PYPDinur\_64 (L4), Quby\_66 (L4), Rossetti\_70 (L2), Rumpelstiltskin\_67 (L2), Sarshaun\_69 (L2), Sheng711\_66 (L4), Soap141\_68 (L2), Tourach\_67 (L2), Underpass\_59 (L2), Vetrix\_68 (L2), Wigglewiggles\_68 (L2), Wilder\_69 (L2), Zakai\_69 (L2), ZhongYanYuan\_67 (L2),

### **Summary by clusters:**

There are 8 clusters represented in this pham: M2, L4, AZ1, M1, A8, L2, C1, AZ3,

Info for manual annotations of cluster A8:

- Start number 14 was manually annotated 10 times for cluster A8.

Info for manual annotations of cluster AZ1:

- Start number 15 was manually annotated 2 times for cluster AZ1.

Info for manual annotations of cluster AZ3:

- Start number 15 was manually annotated 2 times for cluster AZ3.

Info for manual annotations of cluster C1:

- Start number 18 was manually annotated 177 times for cluster C1.

Info for manual annotations of cluster L2:

- Start number 14 was manually annotated 6 times for cluster L2.
- Start number 24 was manually annotated 23 times for cluster L2.

Info for manual annotations of cluster L4:

- Start number 14 was manually annotated 1 time for cluster L4.
- Start number 21 was manually annotated 1 time for cluster L4.
- Start number 24 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster M1:

- Start number 14 was manually annotated 15 times for cluster M1.

Info for manual annotations of cluster M2:

- Start number 14 was manually annotated 6 times for cluster M2.

### **Gene Information:**

Gene: Ablatia\_20 Start: 6310, Stop: 6537, Start Num: 18

Candidate Starts for Ablatia\_20:

(2, 5962), (7, 6151), (8, 6160), (Start: 18 @6310 has 177 MA's), (35, 6472), (37, 6487),

Gene: Ading\_20 Start: 6287, Stop: 6514, Start Num: 18

Candidate Starts for Ading\_20:

(2, 5939), (7, 6128), (8, 6137), (Start: 18 @6287 has 177 MA's), (35, 6449), (37, 6464),

Gene: Adlitam\_20 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Adlitam\_20:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Alice\_17 Start: 6179, Stop: 6406, Start Num: 18

Candidate Starts for Alice\_17:

(7, 6020), (8, 6029), (Start: 18 @6179 has 177 MA's), (35, 6341), (37, 6356),

Gene: Amataga\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Amataga\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: ArcherS7\_20 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for ArcherS7\_20:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Asterius\_23 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Asterius\_23:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Astraea\_22 Start: 7025, Stop: 7252, Start Num: 18

Candidate Starts for Astraea\_22:

(2, 6677), (7, 6866), (8, 6875), (Start: 18 @7025 has 177 MA's), (35, 7187), (37, 7202),

Gene: Astro\_34 Start: 26685, Stop: 26479, Start Num: 14

Candidate Starts for Astro\_34:

(12, 26727), (Start: 14 @26685 has 38 MA's), (32, 26571), (36, 26529), (39, 26490),

Gene: Atlantean\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Atlantean\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Audrick\_22 Start: 6287, Stop: 6514, Start Num: 18

Candidate Starts for Audrick\_22:

(2, 5939), (7, 6128), (8, 6137), (Start: 18 @6287 has 177 MA's), (35, 6449), (37, 6464),

Gene: Auspice\_43 Start: 34226, Stop: 33996, Start Num: 14

Candidate Starts for Auspice\_43:

(4, 34427), (6, 34370), (9, 34328), (10, 34292), (11, 34283), (Start: 14 @34226 has 38 MA's), (Start: 24 @34178 has 27 MA's), (30, 34106), (31, 34100), (36, 34049), (39, 34010),

Gene: Ava3\_22 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Ava3\_22:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Aziz\_50 Start: 36169, Stop: 35948, Start Num: 14

Candidate Starts for Aziz\_50:

(11, 36226), (Start: 14 @36169 has 38 MA's), (19, 36136), (20, 36130), (27, 36082), (32, 36046), (36, 36001),

Gene: Babyland\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Babyland\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: BackyardAgain\_19 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for BackyardAgain\_19:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: BadAgartude\_23 Start: 7746, Stop: 7973, Start Num: 18  
Candidate Starts for BadAgartude\_23:  
(2, 7398), (7, 7587), (8, 7596), (Start: 18 @7746 has 177 MA's), (35, 7908), (37, 7923),

Gene: BananaFence\_23 Start: 7311, Stop: 7538, Start Num: 18  
Candidate Starts for BananaFence\_23:  
(2, 6963), (7, 7152), (8, 7161), (Start: 18 @7311 has 177 MA's), (35, 7473), (37, 7488),

Gene: Bangla1971\_20 Start: 6304, Stop: 6531, Start Num: 18  
Candidate Starts for Bangla1971\_20:  
(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Baoshan\_67 Start: 46667, Stop: 46849, Start Num: 24  
Candidate Starts for Baoshan\_67:  
(13, 46601), (Start: 14 @46616 has 38 MA's), (17, 46634), (Start: 24 @46667 has 27 MA's), (35, 46781), (36, 46793),

Gene: Basquiat\_20 Start: 6289, Stop: 6516, Start Num: 18  
Candidate Starts for Basquiat\_20:  
(2, 5941), (7, 6130), (8, 6139), (Start: 18 @6289 has 177 MA's), (35, 6451), (37, 6466),

Gene: Bazzle\_68 Start: 47062, Stop: 47247, Start Num: 24  
Candidate Starts for Bazzle\_68:  
(13, 46996), (Start: 14 @47011 has 38 MA's), (17, 47029), (Start: 24 @47062 has 27 MA's), (36, 47191),

Gene: BeanWater\_17 Start: 6728, Stop: 6955, Start Num: 18  
Candidate Starts for BeanWater\_17:  
(2, 6380), (7, 6569), (8, 6578), (Start: 18 @6728 has 177 MA's), (35, 6890), (37, 6905),

Gene: Belieber\_19 Start: 6308, Stop: 6535, Start Num: 18  
Candidate Starts for Belieber\_19:  
(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Bezza\_15 Start: 6179, Stop: 6406, Start Num: 18  
Candidate Starts for Bezza\_15:  
(7, 6020), (8, 6029), (Start: 18 @6179 has 177 MA's), (35, 6341), (37, 6356),

Gene: BigCheese\_68 Start: 46724, Stop: 46906, Start Num: 24  
Candidate Starts for BigCheese\_68:  
(13, 46658), (Start: 14 @46673 has 38 MA's), (17, 46691), (Start: 24 @46724 has 27 MA's), (32, 46805), (34, 46826), (36, 46850),

Gene: BigCity\_25 Start: 8678, Stop: 8905, Start Num: 18  
Candidate Starts for BigCity\_25:  
(2, 8330), (7, 8519), (8, 8528), (Start: 18 @8678 has 177 MA's), (35, 8840), (37, 8855),

Gene: Bigswole\_26 Start: 8741, Stop: 8968, Start Num: 18  
Candidate Starts for Bigswole\_26:  
(2, 8393), (7, 8582), (8, 8591), (Start: 18 @8741 has 177 MA's), (35, 8903), (37, 8918),

Gene: Bipolarisk\_21 Start: 7418, Stop: 7645, Start Num: 18  
Candidate Starts for Bipolarisk\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Blackbrain\_20 Start: 6349, Stop: 6576, Start Num: 18

Candidate Starts for Blackbrain\_20:

(2, 6001), (7, 6190), (8, 6199), (Start: 18 @6349 has 177 MA's), (35, 6511), (37, 6526),

Gene: Blackdragon\_18 Start: 6155, Stop: 6382, Start Num: 18

Candidate Starts for Blackdragon\_18:

(2, 5807), (7, 5996), (8, 6005), (Start: 18 @6155 has 177 MA's), (35, 6317), (37, 6332),

Gene: BobaPhatt\_19 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for BobaPhatt\_19:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: BobsGarage\_68 Start: 46724, Stop: 46906, Start Num: 24

Candidate Starts for BobsGarage\_68:

(13, 46658), (Start: 14 @46673 has 38 MA's), (17, 46691), (Start: 24 @46724 has 27 MA's), (32, 46805), (34, 46826), (36, 46850),

Gene: Bongo\_43 Start: 34226, Stop: 33996, Start Num: 14

Candidate Starts for Bongo\_43:

(4, 34427), (6, 34370), (9, 34328), (10, 34292), (11, 34283), (Start: 14 @34226 has 38 MA's), (Start: 24 @34178 has 27 MA's), (30, 34106), (31, 34100), (36, 34049), (39, 34010),

Gene: Bonray\_21 Start: 7412, Stop: 7639, Start Num: 18

Candidate Starts for Bonray\_21:

(2, 7064), (7, 7253), (8, 7262), (Start: 18 @7412 has 177 MA's), (35, 7574), (37, 7589),

Gene: Bowman\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Bowman\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: BrainDrainer\_66 Start: 45629, Stop: 45808, Start Num: 24

Candidate Starts for BrainDrainer\_66:

(Start: 14 @45578 has 38 MA's), (Start: 24 @45629 has 27 MA's), (32, 45707),

Gene: Bread\_22 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Bread\_22:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Breeniome\_21 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Breeniome\_21:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Breezona\_68 Start: 46673, Stop: 46906, Start Num: 14

Candidate Starts for Breezona\_68:

(13, 46658), (Start: 14 @46673 has 38 MA's), (17, 46691), (Start: 24 @46724 has 27 MA's), (32, 46805), (34, 46826), (36, 46850),

Gene: Bricole\_43 Start: 34212, Stop: 33982, Start Num: 14

Candidate Starts for Bricole\_43:

(4, 34413), (6, 34356), (9, 34314), (10, 34278), (11, 34269), (Start: 14 @34212 has 38 MA's), (Start: 24 @34164 has 27 MA's), (30, 34092), (31, 34086), (36, 34035), (39, 33996),

Gene: Bromden\_68 Start: 46608, Stop: 46841, Start Num: 14

Candidate Starts for Bromden\_68:

(Start: 14 @46608 has 38 MA's), (Start: 24 @46659 has 27 MA's), (31, 46734), (32, 46737), (35, 46773), (36, 46785),

Gene: Burrough\_22 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Burrough\_22:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Bxz1\_23 Start: 7851, Stop: 8078, Start Num: 18

Candidate Starts for Bxz1\_23:

(2, 7503), (7, 7692), (8, 7701), (Start: 18 @7851 has 177 MA's), (35, 8013), (37, 8028),

Gene: Cactojaque\_19 Start: 6238, Stop: 6465, Start Num: 18

Candidate Starts for Cactojaque\_19:

(2, 5890), (7, 6079), (8, 6088), (Start: 18 @6238 has 177 MA's), (35, 6400), (37, 6415),

Gene: Caitlin\_33 Start: 26678, Stop: 26472, Start Num: 14

Candidate Starts for Caitlin\_33:

(12, 26720), (Start: 14 @26678 has 38 MA's), (32, 26564), (36, 26522), (39, 26483),

Gene: Cali\_23 Start: 8722, Stop: 8949, Start Num: 18

Candidate Starts for Cali\_23:

(2, 8374), (7, 8563), (8, 8572), (Start: 18 @8722 has 177 MA's), (35, 8884), (37, 8899),

Gene: Cane17\_15 Start: 5760, Stop: 5987, Start Num: 18

Candidate Starts for Cane17\_15:

(7, 5601), (8, 5610), (Start: 18 @5760 has 177 MA's), (35, 5922), (37, 5937),

Gene: Capablanca\_22 Start: 7433, Stop: 7660, Start Num: 18

Candidate Starts for Capablanca\_22:

(2, 7085), (7, 7274), (8, 7283), (Start: 18 @7433 has 177 MA's), (35, 7595), (37, 7610),

Gene: Caravan\_21 Start: 6692, Stop: 6919, Start Num: 18

Candidate Starts for Caravan\_21:

(2, 6344), (7, 6533), (8, 6542), (Start: 18 @6692 has 177 MA's), (35, 6854), (37, 6869),

Gene: Catera\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Catera\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Chargie21\_20 Start: 6289, Stop: 6516, Start Num: 18

Candidate Starts for Chargie21\_20:

(2, 5941), (7, 6130), (8, 6139), (Start: 18 @6289 has 177 MA's), (35, 6451), (37, 6466),

Gene: CharlieB\_22 Start: 6687, Stop: 6914, Start Num: 18

Candidate Starts for CharlieB\_22:

(2, 6339), (7, 6528), (8, 6537), (Start: 18 @6687 has 177 MA's), (35, 6849), (37, 6864),

Gene: Chaser\_64 Start: 45401, Stop: 45577, Start Num: 24

Candidate Starts for Chaser\_64:

(Start: 14 @45350 has 38 MA's), (Start: 24 @45401 has 27 MA's), (34, 45497),

Gene: ChaylaJr\_20 Start: 6376, Stop: 6603, Start Num: 18

Candidate Starts for ChaylaJr\_20:

(2, 6028), (7, 6217), (8, 6226), (Start: 18 @6376 has 177 MA's), (35, 6538), (37, 6553),

Gene: ChickenPhender\_20 Start: 6334, Stop: 6561, Start Num: 18

Candidate Starts for ChickenPhender\_20:

(2, 5986), (7, 6175), (8, 6184), (Start: 18 @6334 has 177 MA's), (35, 6496), (37, 6511),

Gene: Chomp\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Chomp\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: ChutneyChips\_66 Start: 45657, Stop: 45836, Start Num: 24

Candidate Starts for ChutneyChips\_66:

(Start: 14 @45606 has 38 MA's), (Start: 24 @45657 has 27 MA's), (31, 45729), (32, 45732), (35, 45768), (36, 45780),

Gene: CindyLou\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for CindyLou\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Claus\_68 Start: 46805, Stop: 46987, Start Num: 24

Candidate Starts for Claus\_68:

(13, 46739), (Start: 14 @46754 has 38 MA's), (17, 46772), (Start: 24 @46805 has 27 MA's), (35, 46919), (36, 46931),

Gene: Cleatunium\_18 Start: 6580, Stop: 6807, Start Num: 18

Candidate Starts for Cleatunium\_18:

(2, 6232), (7, 6421), (8, 6430), (Start: 18 @6580 has 177 MA's), (35, 6742), (37, 6757),

Gene: Colt\_15 Start: 5766, Stop: 5993, Start Num: 18

Candidate Starts for Colt\_15:

(7, 5607), (8, 5616), (Start: 18 @5766 has 177 MA's), (35, 5928), (37, 5943),

Gene: Concombres\_21 Start: 7374, Stop: 7601, Start Num: 18

Candidate Starts for Concombres\_21:

(2, 7026), (7, 7215), (8, 7224), (Start: 18 @7374 has 177 MA's), (35, 7536), (37, 7551),

Gene: Crossroads\_68 Start: 46802, Stop: 46981, Start Num: 24

Candidate Starts for Crossroads\_68:

(13, 46736), (Start: 14 @46751 has 38 MA's), (17, 46769), (Start: 24 @46802 has 27 MA's), (32, 46880), (34, 46901), (36, 46925),

Gene: DHan\_70 Start: 46705, Stop: 46887, Start Num: 24

Candidate Starts for DHan\_70:

(13, 46639), (Start: 14 @46654 has 38 MA's), (17, 46672), (Start: 24 @46705 has 27 MA's), (35, 46819), (36, 46831),

Gene: DTDevon\_22 Start: 7472, Stop: 7699, Start Num: 18

Candidate Starts for DTDevon\_22:

(2, 7124), (7, 7313), (8, 7322), (Start: 18 @7472 has 177 MA's), (35, 7634), (37, 7649),

Gene: Daffodil\_23 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Daffodil\_23:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: DanBing\_69 Start: 46674, Stop: 46856, Start Num: 24

Candidate Starts for DanBing\_69:

(13, 46608), (Start: 14 @46623 has 38 MA's), (17, 46641), (Start: 24 @46674 has 27 MA's), (35, 46788), (36, 46800),

Gene: Dandelion\_25 Start: 8201, Stop: 8428, Start Num: 18

Candidate Starts for Dandelion\_25:

(2, 7853), (7, 8042), (8, 8051), (Start: 18 @8201 has 177 MA's), (35, 8363), (37, 8378),

Gene: Danforth\_33 Start: 26570, Stop: 26364, Start Num: 14

Candidate Starts for Danforth\_33:

(12, 26612), (Start: 14 @26570 has 38 MA's), (32, 26456), (36, 26414), (39, 26375),

Gene: Darko\_20 Start: 7280, Stop: 7507, Start Num: 18

Candidate Starts for Darko\_20:

(2, 6932), (7, 7121), (8, 7130), (Start: 18 @7280 has 177 MA's), (35, 7442), (37, 7457),

Gene: DeejaClivia\_18 Start: 6197, Stop: 6424, Start Num: 18

Candidate Starts for DeejaClivia\_18:

(2, 5849), (7, 6038), (8, 6047), (Start: 18 @6197 has 177 MA's), (35, 6359), (37, 6374),

Gene: Delilah\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Delilah\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Delylah\_24 Start: 7445, Stop: 7672, Start Num: 18

Candidate Starts for Delylah\_24:

(2, 7097), (7, 7286), (8, 7295), (Start: 18 @7445 has 177 MA's), (35, 7607), (37, 7622),

Gene: Demodog\_20 Start: 7374, Stop: 7601, Start Num: 18

Candidate Starts for Demodog\_20:

(2, 7026), (7, 7215), (8, 7224), (Start: 18 @7374 has 177 MA's), (35, 7536), (37, 7551),

Gene: Derek\_21 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Derek\_21:

(7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Dessert\_19 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Dessert\_19:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Dietrick\_18 Start: 6306, Stop: 6533, Start Num: 18

Candidate Starts for Dietrick\_18:

(2, 5958), (7, 6147), (8, 6156), (Start: 18 @6306 has 177 MA's), (35, 6468), (37, 6483),

Gene: Diminimus\_44 Start: 34225, Stop: 33995, Start Num: 14

Candidate Starts for Diminimus\_44:

(4, 34426), (6, 34369), (9, 34327), (10, 34291), (11, 34282), (Start: 14 @34225 has 38 MA's), (Start: 24 @34177 has 27 MA's), (30, 34105), (31, 34099), (36, 34048), (39, 34009),

Gene: DirtMonster\_19 Start: 7433, Stop: 7660, Start Num: 18

Candidate Starts for DirtMonster\_19:

(2, 7085), (7, 7274), (8, 7283), (Start: 18 @7433 has 177 MA's), (35, 7595), (37, 7610),

Gene: Dixon\_34 Start: 26679, Stop: 26473, Start Num: 14

Candidate Starts for Dixon\_34:

(12, 26721), (Start: 14 @26679 has 38 MA's), (32, 26565), (36, 26523), (39, 26484),

Gene: Domi\_16 Start: 6423, Stop: 6650, Start Num: 18

Candidate Starts for Domi\_16:

(2, 6075), (7, 6264), (8, 6273), (Start: 18 @6423 has 177 MA's), (35, 6585), (37, 6600),

Gene: Douge\_66 Start: 45395, Stop: 45577, Start Num: 24

Candidate Starts for Douge\_66:

(Start: 14 @45344 has 38 MA's), (Start: 24 @45395 has 27 MA's), (32, 45473), (35, 45509), (36, 45521),

Gene: Douzhi\_66 Start: 45448, Stop: 45627, Start Num: 24

Candidate Starts for Douzhi\_66:

(Start: 14 @45397 has 38 MA's), (17, 45415), (Start: 24 @45448 has 27 MA's), (32, 45526),

Gene: DrPhinkDaddy\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for DrPhinkDaddy\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: DrSeegs\_68 Start: 46673, Stop: 46906, Start Num: 14

Candidate Starts for DrSeegs\_68:

(13, 46658), (Start: 14 @46673 has 38 MA's), (17, 46691), (Start: 24 @46724 has 27 MA's), (32, 46805), (34, 46826), (36, 46850),

Gene: Drazdys\_22 Start: 7173, Stop: 7400, Start Num: 18

Candidate Starts for Drazdys\_22:

(2, 6825), (7, 7014), (8, 7023), (Start: 18 @7173 has 177 MA's), (35, 7335), (37, 7350),

Gene: Duckfeet\_20 Start: 6848, Stop: 7075, Start Num: 18

Candidate Starts for Duckfeet\_20:

(2, 6500), (7, 6689), (8, 6698), (Start: 18 @6848 has 177 MA's), (35, 7010), (37, 7025),

Gene: Dulcita\_44 Start: 34226, Stop: 33996, Start Num: 14

Candidate Starts for Dulcita\_44:

(4, 34427), (6, 34370), (9, 34328), (10, 34292), (11, 34283), (Start: 14 @34226 has 38 MA's), (Start: 24 @34178 has 27 MA's), (30, 34106), (31, 34100), (36, 34049), (39, 34010),

Gene: DyoEdafos\_70 Start: 45881, Stop: 46069, Start Num: 21

Candidate Starts for DyoEdafos\_70:

(Start: 14 @45839 has 38 MA's), (Start: 21 @45881 has 1 MA's), (22, 45884), (32, 45968), (34, 45989),

Gene: ET08\_18 Start: 7115, Stop: 7342, Start Num: 18

Candidate Starts for ET08\_18:

(2, 6767), (7, 6956), (8, 6965), (Start: 18 @7115 has 177 MA's), (35, 7277), (37, 7292),

Gene: EasyJones\_21 Start: 6289, Stop: 6516, Start Num: 18

Candidate Starts for EasyJones\_21:

(2, 5941), (7, 6130), (8, 6139), (Start: 18 @6289 has 177 MA's), (35, 6451), (37, 6466),

Gene: EggyFarm\_25 Start: 8678, Stop: 8905, Start Num: 18

Candidate Starts for EggyFarm\_25:

(2, 8330), (7, 8519), (8, 8528), (Start: 18 @8678 has 177 MA's), (35, 8840), (37, 8855),

Gene: EmToTheThree\_24 Start: 8832, Stop: 9059, Start Num: 18

Candidate Starts for EmToTheThree\_24:

(2, 8484), (7, 8673), (8, 8682), (Start: 18 @8832 has 177 MA's), (35, 8994), (37, 9009),

Gene: EmmaElysia\_20 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for EmmaElysia\_20:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Erdmann\_22 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Erdmann\_22:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: ErnieJ\_24 Start: 7479, Stop: 7706, Start Num: 18

Candidate Starts for ErnieJ\_24:

(2, 7131), (7, 7320), (8, 7329), (Start: 18 @7479 has 177 MA's), (35, 7641), (37, 7656),

Gene: Essence\_20 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Essence\_20:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Estes\_52 Start: 36435, Stop: 36214, Start Num: 14

Candidate Starts for Estes\_52:

(Start: 14 @36435 has 38 MA's), (19, 36402), (20, 36396), (27, 36348), (32, 36312), (36, 36267), (39, 36228),

Gene: Ewok\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Ewok\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Expelliarmus\_33 Start: 26556, Stop: 26350, Start Num: 14

Candidate Starts for Expelliarmus\_33:

(12, 26598), (Start: 14 @26556 has 38 MA's), (32, 26442), (36, 26400), (39, 26361),

Gene: Faith1\_68 Start: 46673, Stop: 46906, Start Num: 14

Candidate Starts for Faith1\_68:

(13, 46658), (Start: 14 @46673 has 38 MA's), (17, 46691), (Start: 24 @46724 has 27 MA's), (32, 46805), (34, 46826), (36, 46850),

Gene: FarmResident\_68 Start: 45404, Stop: 45583, Start Num: 24

Candidate Starts for FarmResident\_68:

(Start: 14 @45353 has 38 MA's), (Start: 24 @45404 has 27 MA's), (32, 45482), (34, 45503),

Gene: Finemlucis\_68 Start: 47045, Stop: 47227, Start Num: 24

Candidate Starts for Finemlucis\_68:

(13, 46979), (Start: 14 @46994 has 38 MA's), (17, 47012), (Start: 24 @47045 has 27 MA's), (32, 47126), (34, 47147), (36, 47171),

Gene: Fixie\_19 Start: 6289, Stop: 6516, Start Num: 18

Candidate Starts for Fixie\_19:

(2, 5941), (7, 6130), (8, 6139), (Start: 18 @6289 has 177 MA's), (35, 6451), (37, 6466),

Gene: Flabslab\_23 Start: 7578, Stop: 7805, Start Num: 18

Candidate Starts for Flabslab\_23:

(1, 7137), (7, 7419), (8, 7428), (Start: 18 @7578 has 177 MA's), (35, 7740), (37, 7755),

Gene: Fludd\_20 Start: 6290, Stop: 6517, Start Num: 18

Candidate Starts for Fludd\_20:

(2, 5942), (7, 6131), (8, 6140), (Start: 18 @6290 has 177 MA's), (35, 6452), (37, 6467),

Gene: Fongie\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Fongie\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: FoxtrotP1\_22 Start: 7977, Stop: 8204, Start Num: 18

Candidate Starts for FoxtrotP1\_22:

(2, 7629), (7, 7818), (8, 7827), (Start: 18 @7977 has 177 MA's), (35, 8139), (37, 8154),

Gene: FrayBell\_27 Start: 8998, Stop: 9225, Start Num: 18

Candidate Starts for FrayBell\_27:

(2, 8650), (7, 8839), (8, 8848), (Start: 18 @8998 has 177 MA's), (35, 9160), (37, 9175),

Gene: FreakyGoo\_44 Start: 34226, Stop: 33996, Start Num: 14

Candidate Starts for FreakyGoo\_44:

(4, 34427), (6, 34370), (9, 34328), (10, 34292), (11, 34283), (Start: 14 @34226 has 38 MA's), (Start: 24 @34178 has 27 MA's), (30, 34106), (31, 34100), (36, 34049), (39, 34010),

Gene: FudgeTart\_22 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for FudgeTart\_22:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Gabriel\_21 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Gabriel\_21:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Gabriela\_65 Start: 45174, Stop: 45353, Start Num: 24

Candidate Starts for Gabriela\_65:

(13, 45108), (Start: 14 @45123 has 38 MA's), (17, 45141), (20, 45162), (Start: 24 @45174 has 27 MA's), (34, 45273), (36, 45297),

Gene: Gamgam\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Gamgam\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Gardann\_69 Start: 46760, Stop: 46939, Start Num: 24

Candidate Starts for Gardann\_69:

(13, 46694), (Start: 14 @46709 has 38 MA's), (17, 46727), (Start: 24 @46760 has 27 MA's), (32, 46838), (34, 46859), (36, 46883),

Gene: GardenSalsa\_52 Start: 36533, Stop: 36312, Start Num: 14

Candidate Starts for GardenSalsa\_52:

(10, 36599), (Start: 14 @36533 has 38 MA's), (19, 36500), (27, 36446), (32, 36410), (36, 36365), (39, 36326),

Gene: GenevaB15\_50 Start: 36169, Stop: 35948, Start Num: 14

Candidate Starts for GenevaB15\_50:

(11, 36226), (Start: 14 @36169 has 38 MA's), (19, 36136), (20, 36130), (27, 36082), (32, 36046), (36, 36001),

Gene: Ghost\_21 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Ghost\_21:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Gizmo\_23 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Gizmo\_23:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Glaske16\_44 Start: 34225, Stop: 33995, Start Num: 14

Candidate Starts for Glaske16\_44:

(4, 34426), (6, 34369), (9, 34327), (10, 34291), (11, 34282), (Start: 14 @34225 has 38 MA's), (Start: 24 @34177 has 27 MA's), (30, 34105), (31, 34099), (36, 34048), (39, 34009),

Gene: GlutenPhree\_21 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for GlutenPhree\_21:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Grasshills\_25 Start: 8678, Stop: 8905, Start Num: 18

Candidate Starts for Grasshills\_25:

(2, 8330), (7, 8519), (8, 8528), (Start: 18 @8678 has 177 MA's), (35, 8840), (37, 8855),

Gene: Groundhog\_33 Start: 26650, Stop: 26444, Start Num: 14

Candidate Starts for Groundhog\_33:

(12, 26692), (Start: 14 @26650 has 38 MA's), (32, 26536), (36, 26494), (39, 26455),

Gene: Grungle\_16 Start: 5257, Stop: 5484, Start Num: 18

Candidate Starts for Grungle\_16:

(2, 4909), (7, 5098), (8, 5107), (Start: 18 @5257 has 177 MA's), (35, 5419), (37, 5434),

Gene: Guwapp\_20 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Guwapp\_20:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Hafay\_70 Start: 46828, Stop: 47010, Start Num: 24

Candidate Starts for Hafay\_70:

(13, 46762), (Start: 14 @46777 has 38 MA's), (17, 46795), (Start: 24 @46828 has 27 MA's), (32, 46909), (34, 46930), (36, 46954),

Gene: Halldule\_18 Start: 5900, Stop: 6127, Start Num: 18

Candidate Starts for Halldule\_18:

(2, 5552), (7, 5741), (8, 5750), (Start: 18 @5900 has 177 MA's), (35, 6062), (37, 6077),

Gene: HyRo\_20 Start: 7314, Stop: 7541, Start Num: 18

Candidate Starts for HyRo\_20:

(7, 7155), (8, 7164), (Start: 18 @7314 has 177 MA's), (35, 7476), (37, 7491),

Gene: I3\_23 Start: 7967, Stop: 8194, Start Num: 18

Candidate Starts for I3\_23:

(2, 7619), (7, 7808), (8, 7817), (Start: 18 @7967 has 177 MA's), (35, 8129), (37, 8144),

Gene: IPhone7\_43 Start: 34226, Stop: 33996, Start Num: 14

Candidate Starts for IPhone7\_43:

(4, 34427), (6, 34370), (9, 34328), (10, 34292), (11, 34283), (Start: 14 @34226 has 38 MA's), (Start: 24 @34178 has 27 MA's), (30, 34106), (31, 34100), (36, 34049), (39, 34010),

Gene: IkeLoa\_17 Start: 6434, Stop: 6661, Start Num: 18

Candidate Starts for IkeLoa\_17:

(2, 6086), (7, 6275), (8, 6284), (Start: 18 @6434 has 177 MA's), (35, 6596), (37, 6611),

Gene: InigoMontoya\_22 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for InigoMontoya\_22:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: InterFolia\_27 Start: 8995, Stop: 9222, Start Num: 18

Candidate Starts for InterFolia\_27:

(2, 8647), (7, 8836), (8, 8845), (Start: 18 @8995 has 177 MA's), (35, 9157), (37, 9172),

Gene: Iota\_19 Start: 7197, Stop: 7424, Start Num: 18

Candidate Starts for Iota\_19:

(2, 6849), (7, 7038), (8, 7047), (Start: 18 @7197 has 177 MA's), (35, 7359), (37, 7374),

Gene: Issimir\_21 Start: 7412, Stop: 7639, Start Num: 18

Candidate Starts for Issimir\_21:

(2, 7064), (7, 7253), (8, 7262), (Start: 18 @7412 has 177 MA's), (35, 7574), (37, 7589),

Gene: Itos\_67 Start: 45630, Stop: 45812, Start Num: 24

Candidate Starts for Itos\_67:

(13, 45564), (Start: 14 @45579 has 38 MA's), (17, 45597), (Start: 24 @45630 has 27 MA's), (32, 45711), (34, 45732), (36, 45756),

Gene: Izajani\_22 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Izajani\_22:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Izel\_44 Start: 34225, Stop: 33995, Start Num: 14

Candidate Starts for Izel\_44:

(4, 34426), (6, 34369), (9, 34327), (10, 34291), (11, 34282), (Start: 14 @34225 has 38 MA's), (Start: 24 @34177 has 27 MA's), (30, 34105), (31, 34099), (36, 34048), (39, 34009),

Gene: JPickles\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for JPickles\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Janiyra\_20 Start: 6287, Stop: 6514, Start Num: 18

Candidate Starts for Janiyra\_20:

(2, 5939), (7, 6128), (8, 6137), (Start: 18 @6287 has 177 MA's), (35, 6449), (37, 6464),

Gene: JayJay\_24 Start: 7395, Stop: 7622, Start Num: 18  
Candidate Starts for JayJay\_24:  
(2, 7047), (7, 7236), (8, 7245), (Start: 18 @7395 has 177 MA's), (35, 7557), (37, 7572),

Gene: Jaygup\_20 Start: 6304, Stop: 6531, Start Num: 18  
Candidate Starts for Jaygup\_20:  
(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Jedediah\_21 Start: 6308, Stop: 6535, Start Num: 18  
Candidate Starts for Jedediah\_21:  
(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Jemmno\_20 Start: 6308, Stop: 6535, Start Num: 18  
Candidate Starts for Jemmno\_20:  
(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Jessibeth14\_21 Start: 7418, Stop: 7645, Start Num: 18  
Candidate Starts for Jessibeth14\_21:  
(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Jezreel\_20 Start: 6635, Stop: 6862, Start Num: 18  
Candidate Starts for Jezreel\_20:  
(2, 6287), (7, 6476), (8, 6485), (Start: 18 @6635 has 177 MA's), (35, 6797), (37, 6812),

Gene: JigglyPuff\_22 Start: 7423, Stop: 7650, Start Num: 18  
Candidate Starts for JigglyPuff\_22:  
(2, 7075), (7, 7264), (8, 7273), (Start: 18 @7423 has 177 MA's), (35, 7585), (37, 7600),

Gene: JulietS\_17 Start: 5533, Stop: 5760, Start Num: 18  
Candidate Starts for JulietS\_17:  
(2, 5185), (7, 5374), (8, 5383), (Start: 18 @5533 has 177 MA's), (35, 5695), (37, 5710),

Gene: JustHall\_20 Start: 7303, Stop: 7530, Start Num: 18  
Candidate Starts for JustHall\_20:  
(2, 6955), (7, 7144), (8, 7153), (Start: 18 @7303 has 177 MA's), (35, 7465), (37, 7480),

Gene: Kahlid\_68 Start: 46730, Stop: 46912, Start Num: 24  
Candidate Starts for Kahlid\_68:  
(13, 46664), (Start: 14 @46679 has 38 MA's), (17, 46697), (Start: 24 @46730 has 27 MA's), (32, 46811), (34, 46832), (36, 46856),

Gene: Kamryn\_20 Start: 6638, Stop: 6865, Start Num: 18  
Candidate Starts for Kamryn\_20:  
(2, 6290), (7, 6479), (8, 6488), (Start: 18 @6638 has 177 MA's), (35, 6800), (37, 6815),

Gene: Kboogie\_21 Start: 6306, Stop: 6533, Start Num: 18  
Candidate Starts for Kboogie\_21:  
(2, 5958), (7, 6147), (8, 6156), (Start: 18 @6306 has 177 MA's), (35, 6468), (37, 6483),

Gene: KeAlii\_55 Start: 38215, Stop: 38442, Start Num: 15  
Candidate Starts for KeAlii\_55:  
(Start: 15 @38215 has 4 MA's), (23, 38257), (29, 38329), (32, 38347), (33, 38356),

Gene: Khaleesi\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Khaleesi\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: KleverKiS\_44 Start: 34206, Stop: 33976, Start Num: 14

Candidate Starts for KleverKiS\_44:

(4, 34407), (6, 34350), (9, 34308), (10, 34272), (11, 34263), (Start: 14 @34206 has 38 MA's), (Start: 24 @34158 has 27 MA's), (30, 34086), (31, 34080), (36, 34029), (39, 33990),

Gene: Koguma\_18 Start: 5900, Stop: 6127, Start Num: 18

Candidate Starts for Koguma\_18:

(2, 5552), (7, 5741), (8, 5750), (Start: 18 @5900 has 177 MA's), (35, 6062), (37, 6077),

Gene: Kropertea\_65 Start: 45555, Stop: 45731, Start Num: 24

Candidate Starts for Kropertea\_65:

(Start: 14 @45504 has 38 MA's), (Start: 21 @45546 has 1 MA's), (Start: 24 @45555 has 27 MA's), (32, 45627), (35, 45663), (36, 45675),

Gene: LRRHood\_20 Start: 7826, Stop: 8053, Start Num: 18

Candidate Starts for LRRHood\_20:

(2, 7478), (7, 7667), (8, 7676), (Start: 18 @7826 has 177 MA's), (35, 7988), (37, 8003),

Gene: Labradorite\_19 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Labradorite\_19:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Latch\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Latch\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Lee7\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Lee7\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Lethe\_22 Start: 7358, Stop: 7585, Start Num: 18

Candidate Starts for Lethe\_22:

(2, 7010), (7, 7199), (8, 7208), (Start: 18 @7358 has 177 MA's), (35, 7520), (37, 7535),

Gene: Lewan\_69 Start: 46784, Stop: 46963, Start Num: 24

Candidate Starts for Lewan\_69:

(13, 46718), (Start: 14 @46733 has 38 MA's), (17, 46751), (Start: 24 @46784 has 27 MA's), (32, 46862), (34, 46883), (36, 46907),

Gene: LifeSavor\_21 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for LifeSavor\_21:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: LilDestine\_68 Start: 46757, Stop: 46939, Start Num: 24

Candidate Starts for LilDestine\_68:

(13, 46691), (Start: 14 @46706 has 38 MA's), (17, 46724), (Start: 24 @46757 has 27 MA's), (32, 46838), (34, 46859), (36, 46883),

Gene: LilhomieP\_42 Start: 34226, Stop: 33996, Start Num: 14

Candidate Starts for LilhomieP\_42:

(4, 34427), (6, 34370), (9, 34328), (10, 34292), (11, 34283), (Start: 14 @34226 has 38 MA's), (Start: 24 @34178 has 27 MA's), (30, 34106), (31, 34100), (36, 34049), (39, 34010),

Gene: LinStu\_23 Start: 8009, Stop: 8236, Start Num: 18

Candidate Starts for LinStu\_23:

(2, 7661), (7, 7850), (8, 7859), (Start: 18 @8009 has 177 MA's), (35, 8171), (37, 8186),

Gene: Littleton\_21 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Littleton\_21:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Loadrie\_67 Start: 46812, Stop: 46991, Start Num: 24

Candidate Starts for Loadrie\_67:

(13, 46746), (Start: 14 @46761 has 38 MA's), (17, 46779), (Start: 24 @46812 has 27 MA's), (32, 46890), (34, 46911), (36, 46935),

Gene: Loanshark\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Loanshark\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: LolaVinca\_24 Start: 8101, Stop: 8328, Start Num: 18

Candidate Starts for LolaVinca\_24:

(2, 7753), (7, 7942), (8, 7951), (Start: 18 @8101 has 177 MA's), (35, 8263), (37, 8278),

Gene: LookingGlass\_24 Start: 7937, Stop: 8164, Start Num: 18

Candidate Starts for LookingGlass\_24:

(2, 7589), (7, 7778), (8, 7787), (Start: 18 @7937 has 177 MA's), (35, 8099), (37, 8114),

Gene: LordLeafolot\_27 Start: 8997, Stop: 9224, Start Num: 18

Candidate Starts for LordLeafolot\_27:

(2, 8649), (7, 8838), (8, 8847), (Start: 18 @8997 has 177 MA's), (35, 9159), (37, 9174),

Gene: Lukilu\_16 Start: 6250, Stop: 6477, Start Num: 18

Candidate Starts for Lukilu\_16:

(2, 5902), (7, 6091), (8, 6100), (Start: 18 @6250 has 177 MA's), (35, 6412), (37, 6427),

Gene: Lunareta\_21 Start: 7100, Stop: 7327, Start Num: 18

Candidate Starts for Lunareta\_21:

(2, 6752), (7, 6941), (8, 6950), (Start: 18 @7100 has 177 MA's), (35, 7262), (37, 7277),

Gene: Lynnae\_70 Start: 46755, Stop: 46937, Start Num: 24

Candidate Starts for Lynnae\_70:

(13, 46689), (Start: 14 @46704 has 38 MA's), (17, 46722), (Start: 24 @46755 has 27 MA's), (32, 46836), (34, 46857), (36, 46881),

Gene: Maby2021\_22 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Maby2021\_22:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Mangeria\_24 Start: 7917, Stop: 8144, Start Num: 18

Candidate Starts for Mangeria\_24:

(2, 7569), (7, 7758), (8, 7767), (Start: 18 @7917 has 177 MA's), (35, 8079), (37, 8094),

Gene: Matsumoto\_20 Start: 6308, Stop: 6535, Start Num: 18  
Candidate Starts for Matsumoto\_20:  
(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Maturis\_22 Start: 7163, Stop: 7390, Start Num: 18  
Candidate Starts for Maturis\_22:  
(2, 6815), (7, 7004), (8, 7013), (Start: 18 @7163 has 177 MA's), (35, 7325), (37, 7340),

Gene: McGee\_21 Start: 6306, Stop: 6533, Start Num: 18  
Candidate Starts for McGee\_21:  
(2, 5958), (7, 6147), (8, 6156), (Start: 18 @6306 has 177 MA's), (35, 6468), (37, 6483),

Gene: McWolfish\_21 Start: 7418, Stop: 7645, Start Num: 18  
Candidate Starts for McWolfish\_21:  
(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Megamind\_21 Start: 7418, Stop: 7645, Start Num: 18  
Candidate Starts for Megamind\_21:  
(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Melpomini\_20 Start: 6287, Stop: 6514, Start Num: 18  
Candidate Starts for Melpomini\_20:  
(2, 5939), (7, 6128), (8, 6137), (Start: 18 @6287 has 177 MA's), (35, 6449), (37, 6464),

Gene: MikeLiesIn\_22 Start: 7418, Stop: 7645, Start Num: 18  
Candidate Starts for MikeLiesIn\_22:  
(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Mikro\_20 Start: 7634, Stop: 7861, Start Num: 18  
Candidate Starts for Mikro\_20:  
(2, 7286), (7, 7475), (8, 7484), (Start: 18 @7634 has 177 MA's), (35, 7796), (37, 7811),

Gene: Miley16\_68 Start: 46673, Stop: 46906, Start Num: 14  
Candidate Starts for Miley16\_68:  
(13, 46658), (Start: 14 @46673 has 38 MA's), (17, 46691), (Start: 24 @46724 has 27 MA's), (32, 46805), (34, 46826), (36, 46850),

Gene: MkaliMitinis3\_69 Start: 46796, Stop: 46975, Start Num: 24  
Candidate Starts for MkaliMitinis3\_69:  
(13, 46730), (Start: 14 @46745 has 38 MA's), (17, 46763), (Start: 24 @46796 has 27 MA's), (32, 46874), (34, 46895), (36, 46919),

Gene: MoMoMixon\_23 Start: 7741, Stop: 7968, Start Num: 18  
Candidate Starts for MoMoMixon\_23:  
(2, 7393), (7, 7582), (8, 7591), (Start: 18 @7741 has 177 MA's), (35, 7903), (37, 7918),

Gene: Moby\_16 Start: 4666, Stop: 4893, Start Num: 18  
Candidate Starts for Moby\_16:  
(7, 4507), (8, 4516), (Start: 18 @4666 has 177 MA's), (35, 4828), (37, 4843),

Gene: Moiqah\_16 Start: 4666, Stop: 4893, Start Num: 18  
Candidate Starts for Moiqah\_16:

(7, 4507), (8, 4516), (Start: 18 @4666 has 177 MA's), (35, 4828), (37, 4843),

Gene: Momo\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Momo\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Montpel\_21 Start: 7100, Stop: 7327, Start Num: 18

Candidate Starts for Montpel\_21:

(2, 6752), (7, 6941), (8, 6950), (Start: 18 @7100 has 177 MA's), (35, 7262), (37, 7277),

Gene: Morizzled23\_20 Start: 6287, Stop: 6514, Start Num: 18

Candidate Starts for Morizzled23\_20:

(2, 5939), (7, 6128), (8, 6137), (Start: 18 @6287 has 177 MA's), (35, 6449), (37, 6464),

Gene: MrMagoo\_52 Start: 36533, Stop: 36312, Start Num: 14

Candidate Starts for MrMagoo\_52:

(10, 36599), (Start: 14 @36533 has 38 MA's), (19, 36500), (27, 36446), (32, 36410), (36, 36365), (39, 36326),

Gene: Naija\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Naija\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Napoleon13\_20 Start: 6306, Stop: 6533, Start Num: 18

Candidate Starts for Napoleon13\_20:

(2, 5958), (7, 6147), (8, 6156), (Start: 18 @6306 has 177 MA's), (35, 6468), (37, 6483),

Gene: Nappy\_23 Start: 7591, Stop: 7818, Start Num: 18

Candidate Starts for Nappy\_23:

(2, 7243), (7, 7432), (8, 7441), (Start: 18 @7591 has 177 MA's), (35, 7753), (37, 7768),

Gene: Naval22\_23 Start: 7741, Stop: 7968, Start Num: 18

Candidate Starts for Naval22\_23:

(2, 7393), (7, 7582), (8, 7591), (Start: 18 @7741 has 177 MA's), (35, 7903), (37, 7918),

Gene: NearlyHeadless\_34 Start: 26609, Stop: 26403, Start Num: 14

Candidate Starts for NearlyHeadless\_34:

(12, 26651), (Start: 14 @26609 has 38 MA's), (32, 26495), (36, 26453), (39, 26414),

Gene: NedWong\_22 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for NedWong\_22:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Netyap\_69 Start: 46674, Stop: 46907, Start Num: 14

Candidate Starts for Netyap\_69:

(13, 46659), (Start: 14 @46674 has 38 MA's), (17, 46692), (Start: 24 @46725 has 27 MA's), (32, 46806), (34, 46827), (36, 46851),

Gene: Ngannou\_20 Start: 6287, Stop: 6514, Start Num: 18

Candidate Starts for Ngannou\_20:

(2, 5939), (7, 6128), (8, 6137), (Start: 18 @6287 has 177 MA's), (35, 6449), (37, 6464),

Gene: Nicholasp3\_68 Start: 46760, Stop: 46939, Start Num: 24

Candidate Starts for Nicholasp3\_68:

(13, 46694), (Start: 14 @46709 has 38 MA's), (17, 46727), (Start: 24 @46760 has 27 MA's), (32, 46838), (34, 46859), (36, 46883),

Gene: Nidhogg\_23 Start: 7741, Stop: 7968, Start Num: 18

Candidate Starts for Nidhogg\_23:

(2, 7393), (7, 7582), (8, 7591), (Start: 18 @7741 has 177 MA's), (35, 7903), (37, 7918),

Gene: NoodleTree\_20 Start: 6635, Stop: 6862, Start Num: 18

Candidate Starts for NoodleTree\_20:

(2, 6287), (7, 6476), (8, 6485), (Start: 18 @6635 has 177 MA's), (35, 6797), (37, 6812),

Gene: Norm\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Norm\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: NuevoMundo\_25 Start: 8743, Stop: 8970, Start Num: 18

Candidate Starts for NuevoMundo\_25:

(2, 8395), (7, 8584), (8, 8593), (Start: 18 @8743 has 177 MA's), (35, 8905), (37, 8920),

Gene: OrediggerDelux\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for OrediggerDelux\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: OverPar\_70 Start: 46812, Stop: 46991, Start Num: 24

Candidate Starts for OverPar\_70:

(13, 46746), (Start: 14 @46761 has 38 MA's), (17, 46779), (Start: 24 @46812 has 27 MA's), (32, 46890), (34, 46911), (36, 46935),

Gene: PYPDinur\_64 Start: 45478, Stop: 45657, Start Num: 24

Candidate Starts for PYPDinur\_64:

(Start: 14 @45427 has 38 MA's), (17, 45445), (Start: 24 @45478 has 27 MA's), (32, 45556),

Gene: ParkTD\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for ParkTD\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Patter\_20 Start: 6325, Stop: 6552, Start Num: 18

Candidate Starts for Patter\_20:

(2, 5977), (7, 6166), (8, 6175), (Start: 18 @6325 has 177 MA's), (35, 6487), (37, 6502),

Gene: PegLeg\_43 Start: 34225, Stop: 33995, Start Num: 14

Candidate Starts for PegLeg\_43:

(4, 34426), (6, 34369), (9, 34327), (10, 34291), (11, 34282), (Start: 14 @34225 has 38 MA's), (Start: 24 @34177 has 27 MA's), (30, 34105), (31, 34099), (36, 34048), (39, 34009),

Gene: PharkleMinkus\_27 Start: 8998, Stop: 9225, Start Num: 18

Candidate Starts for PharkleMinkus\_27:

(2, 8650), (7, 8839), (8, 8848), (Start: 18 @8998 has 177 MA's), (35, 9160), (37, 9175),

Gene: Phillis\_34 Start: 26635, Stop: 26429, Start Num: 14

Candidate Starts for Phillis\_34:

(12, 26677), (Start: 14 @26635 has 38 MA's), (32, 26521), (39, 26440),

Gene: Phlegm\_22 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Phlegm\_22:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Phox\_21 Start: 7823, Stop: 8050, Start Num: 18

Candidate Starts for Phox\_21:

(2, 7475), (7, 7664), (8, 7673), (Start: 18 @7823 has 177 MA's), (35, 7985), (37, 8000),

Gene: Phusco\_20 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Phusco\_20:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Pier\_23 Start: 7306, Stop: 7533, Start Num: 18

Candidate Starts for Pier\_23:

(2, 6958), (7, 7147), (8, 7156), (Start: 18 @7306 has 177 MA's), (35, 7468), (37, 7483),

Gene: Pinkcreek\_14 Start: 5502, Stop: 5729, Start Num: 18

Candidate Starts for Pinkcreek\_14:

(7, 5343), (8, 5352), (Start: 18 @5502 has 177 MA's), (35, 5664), (37, 5679),

Gene: Pio\_24 Start: 8240, Stop: 8467, Start Num: 18

Candidate Starts for Pio\_24:

(2, 7892), (7, 8081), (8, 8090), (Start: 18 @8240 has 177 MA's), (35, 8402), (37, 8417),

Gene: Pivoine\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Pivoine\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Pleione\_23 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Pleione\_23:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Primadonna\_17 Start: 6779, Stop: 7006, Start Num: 18

Candidate Starts for Primadonna\_17:

(2, 6431), (7, 6620), (8, 6629), (Start: 18 @6779 has 177 MA's), (35, 6941), (37, 6956),

Gene: Pupusa\_27 Start: 8997, Stop: 9224, Start Num: 18

Candidate Starts for Pupusa\_27:

(2, 8649), (7, 8838), (8, 8847), (Start: 18 @8997 has 177 MA's), (35, 9159), (37, 9174),

Gene: PurduePete\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for PurduePete\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: QBert\_20 Start: 7823, Stop: 8050, Start Num: 18

Candidate Starts for QBert\_20:

(2, 7475), (7, 7664), (8, 7673), (Start: 18 @7823 has 177 MA's), (35, 7985), (37, 8000),

Gene: Quasimodo\_20 Start: 7307, Stop: 7534, Start Num: 18

Candidate Starts for Quasimodo\_20:

(2, 6959), (7, 7148), (8, 7157), (Start: 18 @7307 has 177 MA's), (35, 7469), (37, 7484),

Gene: Quby\_66 Start: 45370, Stop: 45549, Start Num: 24  
Candidate Starts for Quby\_66:  
(Start: 14 @45319 has 38 MA's), (Start: 24 @45370 has 27 MA's), (32, 45448), (34, 45469),

Gene: Rabinovish\_21 Start: 8111, Stop: 8338, Start Num: 18  
Candidate Starts for Rabinovish\_21:  
(2, 7763), (7, 7952), (8, 7961), (Start: 18 @8111 has 177 MA's), (35, 8273), (37, 8288),

Gene: Rahel\_20 Start: 6304, Stop: 6531, Start Num: 18  
Candidate Starts for Rahel\_20:  
(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Reedo\_57 Start: 36918, Stop: 37124, Start Num: 15  
Candidate Starts for Reedo\_57:  
(Start: 15 @36918 has 4 MA's), (26, 36981), (32, 37032), (38, 37089),

Gene: Reindeer\_45 Start: 35434, Stop: 35216, Start Num: 14  
Candidate Starts for Reindeer\_45:  
(Start: 14 @35434 has 38 MA's), (16, 35425), (22, 35392), (23, 35389), (30, 35326), (31, 35320), (35, 35281), (39, 35230),

Gene: Rey\_51 Start: 36466, Stop: 36248, Start Num: 14  
Candidate Starts for Rey\_51:  
(11, 36523), (Start: 14 @36466 has 38 MA's), (19, 36433), (20, 36427), (27, 36382), (32, 36346), (35, 36313), (36, 36301),

Gene: Rizal\_20 Start: 6303, Stop: 6530, Start Num: 18  
Candidate Starts for Rizal\_20:  
(2, 5955), (7, 6144), (8, 6153), (Start: 18 @6303 has 177 MA's), (35, 6465), (37, 6480),

Gene: RoMag\_16 Start: 6385, Stop: 6612, Start Num: 18  
Candidate Starts for RoMag\_16:  
(2, 6037), (7, 6226), (8, 6235), (Start: 18 @6385 has 177 MA's), (35, 6547), (37, 6562),

Gene: Roary\_34 Start: 26555, Stop: 26349, Start Num: 14  
Candidate Starts for Roary\_34:  
(12, 26597), (Start: 14 @26555 has 38 MA's), (32, 26441), (36, 26399), (39, 26360),

Gene: Rocha\_20 Start: 6634, Stop: 6861, Start Num: 18  
Candidate Starts for Rocha\_20:  
(2, 6286), (7, 6475), (8, 6484), (Start: 18 @6634 has 177 MA's), (35, 6796), (37, 6811),

Gene: Ronan\_17 Start: 5234, Stop: 5461, Start Num: 18  
Candidate Starts for Ronan\_17:  
(2, 4886), (7, 5075), (8, 5084), (Start: 18 @5234 has 177 MA's), (35, 5396), (37, 5411),

Gene: Roots515\_21 Start: 7417, Stop: 7644, Start Num: 18  
Candidate Starts for Roots515\_21:  
(2, 7069), (7, 7258), (8, 7267), (Start: 18 @7417 has 177 MA's), (35, 7579), (37, 7594),

Gene: RoseMarie\_49 Start: 37891, Stop: 37664, Start Num: 14  
Candidate Starts for RoseMarie\_49:

(3, 38119), (4, 38092), (5, 38053), (6, 38035), (9, 37993), (10, 37957), (11, 37948), (Start: 14 @37891 has 38 MA's), (Start: 24 @37843 has 27 MA's), (30, 37774), (31, 37768), (36, 37717), (39, 37678),

Gene: Rossetti\_70 Start: 47306, Stop: 47485, Start Num: 24

Candidate Starts for Rossetti\_70:

(13, 47240), (Start: 14 @47255 has 38 MA's), (17, 47273), (Start: 24 @47306 has 27 MA's), (34, 47405), (36, 47429),

Gene: Rumpelstiltskin\_67 Start: 46153, Stop: 46332, Start Num: 24

Candidate Starts for Rumpelstiltskin\_67:

(13, 46087), (Start: 14 @46102 has 38 MA's), (17, 46120), (Start: 24 @46153 has 27 MA's), (32, 46231), (34, 46252), (36, 46276),

Gene: SVoro\_21 Start: 7412, Stop: 7639, Start Num: 18

Candidate Starts for SVoro\_21:

(2, 7064), (7, 7253), (8, 7262), (Start: 18 @7412 has 177 MA's), (35, 7574), (37, 7589),

Gene: Salacia\_23 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for Salacia\_23:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Sarshaun\_69 Start: 46820, Stop: 46999, Start Num: 24

Candidate Starts for Sarshaun\_69:

(13, 46754), (Start: 14 @46769 has 38 MA's), (17, 46787), (Start: 24 @46820 has 27 MA's), (32, 46898), (34, 46919), (36, 46943),

Gene: Sauce\_23 Start: 7786, Stop: 8013, Start Num: 18

Candidate Starts for Sauce\_23:

(2, 7438), (7, 7627), (8, 7636), (Start: 18 @7786 has 177 MA's), (35, 7948), (37, 7963),

Gene: ScottMcG\_23 Start: 7974, Stop: 8201, Start Num: 18

Candidate Starts for ScottMcG\_23:

(2, 7626), (7, 7815), (8, 7824), (Start: 18 @7974 has 177 MA's), (35, 8136), (37, 8151),

Gene: Sebata\_23 Start: 8009, Stop: 8236, Start Num: 18

Candidate Starts for Sebata\_23:

(2, 7661), (7, 7850), (8, 7859), (Start: 18 @8009 has 177 MA's), (35, 8171), (37, 8186),

Gene: Shaqnato\_18 Start: 6239, Stop: 6466, Start Num: 18

Candidate Starts for Shaqnato\_18:

(2, 5891), (7, 6080), (8, 6089), (Start: 18 @6239 has 177 MA's), (35, 6401), (37, 6416),

Gene: Shelob\_24 Start: 8547, Stop: 8774, Start Num: 18

Candidate Starts for Shelob\_24:

(2, 8199), (7, 8388), (8, 8397), (Start: 18 @8547 has 177 MA's), (35, 8709), (37, 8724),

Gene: Sheng711\_66 Start: 45459, Stop: 45641, Start Num: 24

Candidate Starts for Sheng711\_66:

(Start: 14 @45408 has 38 MA's), (Start: 24 @45459 has 27 MA's), (34, 45561),

Gene: ShiaLabeouf\_20 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for ShiaLabeouf\_20:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Shifa\_19 Start: 6745, Stop: 6972, Start Num: 18  
Candidate Starts for Shifa\_19:  
(7, 6586), (8, 6595), (Start: 18 @6745 has 177 MA's), (35, 6907), (37, 6922),

Gene: Shnickers\_20 Start: 6304, Stop: 6531, Start Num: 18  
Candidate Starts for Shnickers\_20:  
(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Shrimp\_21 Start: 7422, Stop: 7649, Start Num: 18  
Candidate Starts for Shrimp\_21:  
(2, 7074), (7, 7263), (8, 7272), (Start: 18 @7422 has 177 MA's), (35, 7584), (37, 7599),

Gene: SilverDipper\_21 Start: 6308, Stop: 6535, Start Num: 18  
Candidate Starts for SilverDipper\_21:  
(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Skinny\_44 Start: 34655, Stop: 34425, Start Num: 14  
Candidate Starts for Skinny\_44:  
(4, 34856), (6, 34799), (9, 34757), (10, 34721), (11, 34712), (Start: 14 @34655 has 38 MA's), (Start: 24 @34607 has 27 MA's), (30, 34535), (31, 34529), (36, 34478), (39, 34439),

Gene: SlimJimmy\_42 Start: 34209, Stop: 33979, Start Num: 14  
Candidate Starts for SlimJimmy\_42:  
(4, 34410), (6, 34353), (9, 34311), (10, 34275), (11, 34266), (Start: 14 @34209 has 38 MA's), (Start: 24 @34161 has 27 MA's), (30, 34089), (31, 34083), (36, 34032), (39, 33993),

Gene: SmallFry\_20 Start: 6304, Stop: 6531, Start Num: 18  
Candidate Starts for SmallFry\_20:  
(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Smeadley\_34 Start: 26678, Stop: 26472, Start Num: 14  
Candidate Starts for Smeadley\_34:  
(12, 26720), (Start: 14 @26678 has 38 MA's), (28, 26591), (32, 26564), (36, 26522), (39, 26483),

Gene: Snek\_58 Start: 37551, Stop: 37787, Start Num: 15  
Candidate Starts for Snek\_58:  
(Start: 15 @37551 has 4 MA's), (25, 37605), (38, 37752),

Gene: SoJulia\_69 Start: 46938, Stop: 47168, Start Num: 14  
Candidate Starts for SoJulia\_69:  
(13, 46923), (Start: 14 @46938 has 38 MA's), (17, 46956), (20, 46977), (Start: 24 @46989 has 27 MA's), (34, 47088), (36, 47112),

Gene: Soap141\_68 Start: 46820, Stop: 46999, Start Num: 24  
Candidate Starts for Soap141\_68:  
(13, 46754), (Start: 14 @46769 has 38 MA's), (17, 46787), (Start: 24 @46820 has 27 MA's), (32, 46898), (34, 46919), (36, 46943),

Gene: SoilZilla\_20 Start: 7373, Stop: 7600, Start Num: 18  
Candidate Starts for SoilZilla\_20:  
(2, 7025), (7, 7214), (8, 7223), (Start: 18 @7373 has 177 MA's), (35, 7535), (37, 7550),

Gene: Spec\_19 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Spec\_19:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Specks\_25 Start: 8178, Stop: 8405, Start Num: 18

Candidate Starts for Specks\_25:

(2, 7830), (7, 8019), (8, 8028), (Start: 18 @8178 has 177 MA's), (25, 8214), (35, 8340), (37, 8355),

Gene: Sprinklers\_22 Start: 7148, Stop: 7375, Start Num: 18

Candidate Starts for Sprinklers\_22:

(2, 6800), (7, 6989), (8, 6998), (Start: 18 @7148 has 177 MA's), (35, 7310), (37, 7325),

Gene: Spud\_24 Start: 8240, Stop: 8467, Start Num: 18

Candidate Starts for Spud\_24:

(2, 7892), (7, 8081), (8, 8090), (Start: 18 @8240 has 177 MA's), (35, 8402), (37, 8417),

Gene: SrishMeg2525\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for SrishMeg2525\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: StephanieG\_22 Start: 7331, Stop: 7558, Start Num: 18

Candidate Starts for StephanieG\_22:

(2, 6983), (7, 7172), (8, 7181), (Start: 18 @7331 has 177 MA's), (35, 7493), (37, 7508),

Gene: Stephig9\_34 Start: 26583, Stop: 26377, Start Num: 14

Candidate Starts for Stephig9\_34:

(12, 26625), (Start: 14 @26583 has 38 MA's), (32, 26469), (36, 26427), (39, 26388),

Gene: Stubby\_20 Start: 6925, Stop: 7152, Start Num: 18

Candidate Starts for Stubby\_20:

(7, 6766), (8, 6775), (Start: 18 @6925 has 177 MA's), (35, 7087), (37, 7102),

Gene: StubbySaigey\_21 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for StubbySaigey\_21:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Substance289\_19 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Substance289\_19:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Tainan\_27 Start: 8997, Stop: 9224, Start Num: 18

Candidate Starts for Tainan\_27:

(2, 8649), (7, 8838), (8, 8847), (Start: 18 @8997 has 177 MA's), (35, 9159), (37, 9174),

Gene: Teardrop\_20 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Teardrop\_20:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: TinyTim\_21 Start: 7418, Stop: 7645, Start Num: 18

Candidate Starts for TinyTim\_21:

(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Tortoise16\_19 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Tortoise16\_19:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Tourach\_67 Start: 46806, Stop: 46988, Start Num: 24

Candidate Starts for Tourach\_67:

(13, 46740), (Start: 14 @46755 has 38 MA's), (17, 46773), (Start: 24 @46806 has 27 MA's), (35, 46920), (36, 46932),

Gene: TpudiCK\_45 Start: 34225, Stop: 33995, Start Num: 14

Candidate Starts for TpudiCK\_45:

(4, 34426), (6, 34369), (9, 34327), (10, 34291), (11, 34282), (Start: 14 @34225 has 38 MA's), (Start: 24 @34177 has 27 MA's), (30, 34105), (31, 34099), (36, 34048), (39, 34009),

Gene: Trinitium\_20 Start: 6304, Stop: 6531, Start Num: 18

Candidate Starts for Trinitium\_20:

(2, 5956), (7, 6145), (8, 6154), (Start: 18 @6304 has 177 MA's), (35, 6466), (37, 6481),

Gene: Turret\_20 Start: 6287, Stop: 6514, Start Num: 18

Candidate Starts for Turret\_20:

(2, 5939), (7, 6128), (8, 6137), (Start: 18 @6287 has 177 MA's), (35, 6449), (37, 6464),

Gene: Tweety19\_59 Start: 37551, Stop: 37787, Start Num: 15

Candidate Starts for Tweety19\_59:

(Start: 15 @37551 has 4 MA's), (25, 37605), (38, 37752),

Gene: TyDawg\_43 Start: 34226, Stop: 33996, Start Num: 14

Candidate Starts for TyDawg\_43:

(4, 34427), (6, 34370), (9, 34328), (10, 34292), (11, 34283), (Start: 14 @34226 has 38 MA's), (Start: 24 @34178 has 27 MA's), (30, 34106), (31, 34100), (36, 34049), (39, 34010),

Gene: Tyke\_23 Start: 7716, Stop: 7943, Start Num: 18

Candidate Starts for Tyke\_23:

(2, 7368), (7, 7557), (8, 7566), (Start: 18 @7716 has 177 MA's), (35, 7878), (37, 7893),

Gene: Underpass\_59 Start: 41796, Stop: 41975, Start Num: 24

Candidate Starts for Underpass\_59:

(13, 41730), (Start: 14 @41745 has 38 MA's), (17, 41763), (Start: 24 @41796 has 27 MA's), (32, 41874), (34, 41895), (36, 41919),

Gene: Vetrix\_68 Start: 46764, Stop: 46946, Start Num: 24

Candidate Starts for Vetrix\_68:

(13, 46698), (Start: 14 @46713 has 38 MA's), (17, 46731), (Start: 24 @46764 has 27 MA's), (32, 46845), (34, 46866), (36, 46890),

Gene: Wally\_20 Start: 6308, Stop: 6535, Start Num: 18

Candidate Starts for Wally\_20:

(2, 5960), (7, 6149), (8, 6158), (Start: 18 @6308 has 177 MA's), (35, 6470), (37, 6485),

Gene: Wigglewiggles\_68 Start: 46784, Stop: 46963, Start Num: 24

Candidate Starts for Wigglewiggles\_68:

(13, 46718), (Start: 14 @46733 has 38 MA's), (17, 46751), (Start: 24 @46784 has 27 MA's), (32, 46862), (34, 46883), (36, 46907),

Gene: Wilder\_69 Start: 46730, Stop: 46912, Start Num: 24  
Candidate Starts for Wilder\_69:  
(13, 46664), (Start: 14 @46679 has 38 MA's), (17, 46697), (Start: 24 @46730 has 27 MA's), (32, 46811), (34, 46832), (36, 46856),

Gene: Willis\_22 Start: 7313, Stop: 7540, Start Num: 18  
Candidate Starts for Willis\_22:  
(2, 6965), (7, 7154), (8, 7163), (Start: 18 @7313 has 177 MA's), (35, 7475), (37, 7490),

Gene: Winky\_68 Start: 46673, Stop: 46906, Start Num: 14  
Candidate Starts for Winky\_68:  
(13, 46658), (Start: 14 @46673 has 38 MA's), (17, 46691), (Start: 24 @46724 has 27 MA's), (32, 46805), (34, 46826), (36, 46850),

Gene: Yassified\_19 Start: 6311, Stop: 6538, Start Num: 18  
Candidate Starts for Yassified\_19:  
(2, 5963), (7, 6152), (8, 6161), (Start: 18 @6311 has 177 MA's), (35, 6473), (37, 6488),

Gene: YemiJoy2021\_22 Start: 7418, Stop: 7645, Start Num: 18  
Candidate Starts for YemiJoy2021\_22:  
(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: YoungMoneyMata\_21 Start: 6351, Stop: 6578, Start Num: 18  
Candidate Starts for YoungMoneyMata\_21:  
(2, 6003), (7, 6192), (8, 6201), (Start: 18 @6351 has 177 MA's), (35, 6513), (37, 6528),

Gene: Yucca\_21 Start: 7340, Stop: 7567, Start Num: 18  
Candidate Starts for Yucca\_21:  
(2, 6992), (7, 7181), (8, 7190), (Start: 18 @7340 has 177 MA's), (35, 7502), (37, 7517),

Gene: Zakai\_69 Start: 47050, Stop: 47232, Start Num: 24  
Candidate Starts for Zakai\_69:  
(13, 46984), (Start: 14 @46999 has 38 MA's), (17, 47017), (Start: 24 @47050 has 27 MA's), (32, 47131), (34, 47152), (36, 47176),

Gene: Zalkecks\_23 Start: 7418, Stop: 7645, Start Num: 18  
Candidate Starts for Zalkecks\_23:  
(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),

Gene: Zeenon\_24 Start: 7419, Stop: 7646, Start Num: 18  
Candidate Starts for Zeenon\_24:  
(2, 7071), (7, 7260), (8, 7269), (Start: 18 @7419 has 177 MA's), (35, 7581), (37, 7596),

Gene: ZhongYanYuan\_67 Start: 46619, Stop: 46801, Start Num: 24  
Candidate Starts for ZhongYanYuan\_67:  
(13, 46553), (Start: 14 @46568 has 38 MA's), (17, 46586), (Start: 24 @46619 has 27 MA's), (35, 46733), (36, 46745),

Gene: ZygoTaiga\_22 Start: 7418, Stop: 7645, Start Num: 18  
Candidate Starts for ZygoTaiga\_22:  
(2, 7070), (7, 7259), (8, 7268), (Start: 18 @7418 has 177 MA's), (35, 7580), (37, 7595),