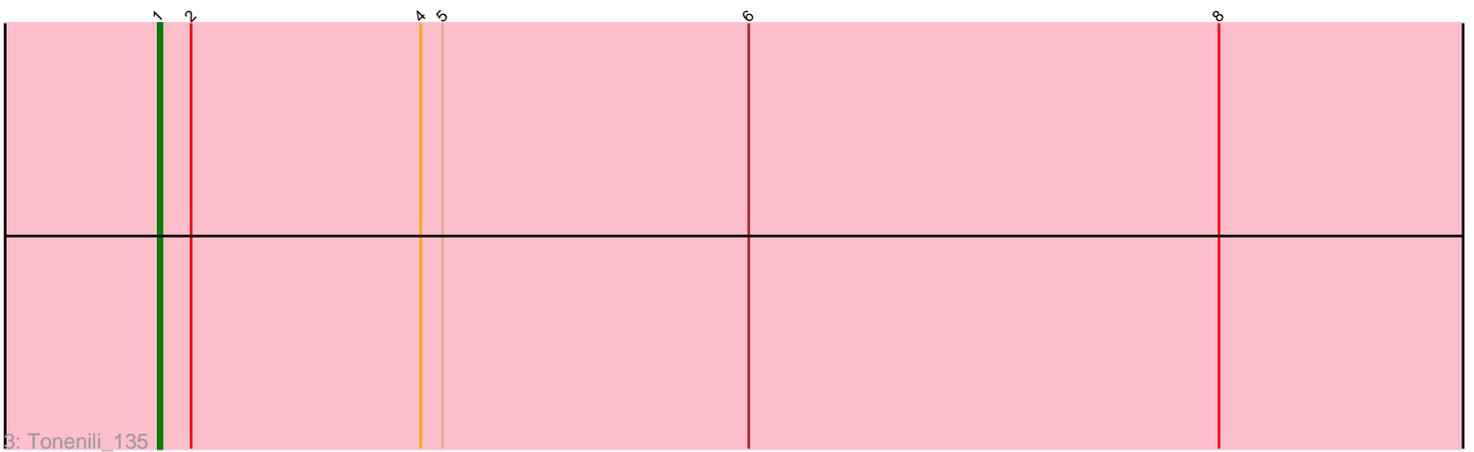
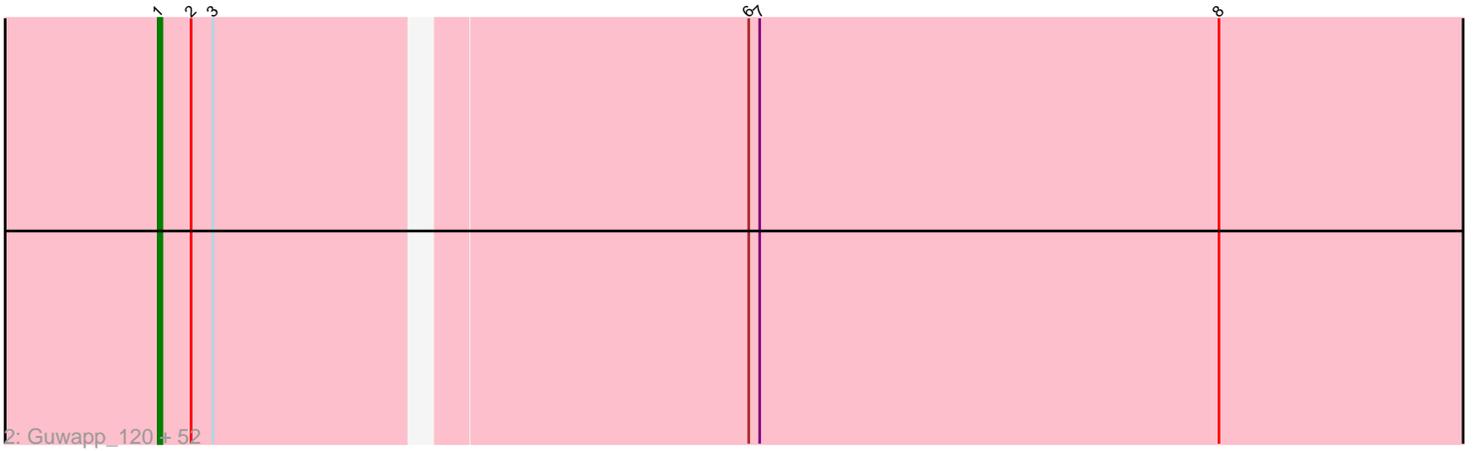
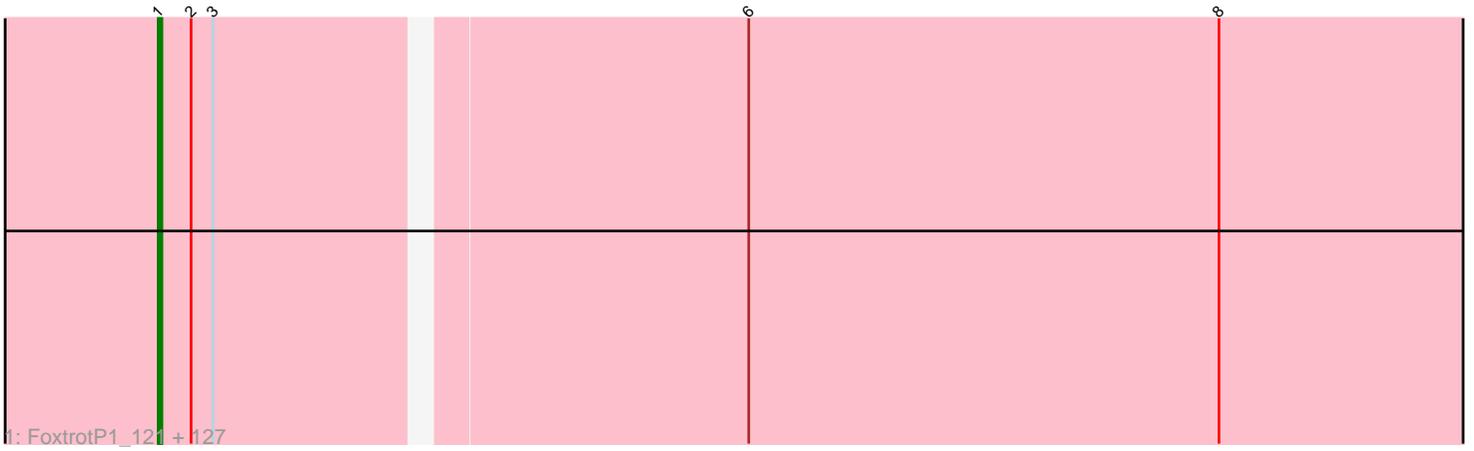


# Zoomed Pham 515



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 515 Report

This analysis was run 04/05/24 on database version 557.

Pham number 515 has 182 members, 15 are drafts.

Phages represented in each track:

- Track 1 : FoxtrotP1\_121, Spud\_120, NedWong\_122, Pivoine\_120, Melpomini\_115, Ewok\_122, CharlieB\_117, Salacia\_125, Jessibeth14\_120, SrishMeg2525\_120, Audrick\_123, ChaylaJr\_116, ScottMcG\_117, Gabriel\_121, Ghost\_119, ValleyTerrace\_121, JayJay\_121, Roots515\_119, Dietrick\_113, Naija\_120, Quasimodo\_122, Phlegm\_123, Matsumoto\_117, YemiJoy2021\_122, CindyLou\_122, ShiaLabeouf\_120, Issimir\_119, Specks\_126, Mikro\_118, Delilah\_121, Rahel\_120, ParkTD\_122, Colt\_112, Napoleon13\_117, Dandelion\_126, Caravan\_115, Loanshark\_120, QBert\_115, Breeniome\_120, Shelob\_123, Kamryn\_121, Burrough\_121, Erdmann\_121, Atlantean\_120, DirtMonster\_115, MikeLiesIn\_122, Astraea\_117, Capablanca\_123, Megamind\_120, Cane17\_111, BigCity\_128, SilverDipper\_122, DrPhinkDaddy\_120, Latch\_121, Bread\_120, Ngannou\_117, Gamgam\_121, Cactojaque\_116, Blubba\_112, BackyardAgain\_118, Shrimp\_121, Trinitium\_118, Ava3\_122, Cali\_116, Nappy\_123, Iota\_116, Norm\_122, Janiyra\_123, Turret\_116, Sprinklers\_117, ZygoTaiga\_119, MoMoMixon\_121, Daffodil\_126, Catera\_117, ChickenPhender\_117, I3\_126, Adlitam\_121, Zalkecks\_122, Bigswole\_124, BananaFence\_120, Pio\_125, EmToTheThree\_123, Zeenon\_122, FudgeTart\_119, Nidhogg\_122, Grasshills\_127, Izajani\_121, YoungMoneyMata\_122, Asterius\_117, Rabinovish\_118, Willis\_122, BeanWater\_113, StubbySaigey\_124, McWolfish\_119, Amataga\_121, Morizzled23\_121, Tortoise16\_118, Momo\_120, InigoMontoya\_122, Drazdys\_119, Pleione\_124, NoodleTree\_128, JustHall\_118, EmmaElysia\_121, Maby2021\_121, Concombre\_126, Bonray\_121, Blackbrain\_116, Phox\_118, Delylah\_124, EggyFarm\_128, Lee7\_118, Gizmo\_125, Patter\_121, TinyTim\_121, Bipolarisk\_120, Naval22\_125, Littleton\_121, Flabslab\_115, PurduePete\_121, Yucca\_120, Bxz1\_118, Wally\_120, Khaleesi\_120, Teardrop\_120, Chomp\_118, Babyland\_122, Rizal\_116
- Track 2 : Guwapp\_120, DTDevon\_121, JPickles\_118, Darko\_121, Koguma\_118, FrayBell\_126, LinStu\_119, Sebata\_121, Chergie21\_117, LordLeafolot\_124, ET08\_109, Mangeria\_121, Grungle\_108, StephanieG\_119, Essence\_118, RoMag\_116, EasyJones\_123, Shaqnato\_114, Pier\_125, ErnieJ\_115, Alice\_113, Basquiat\_117, Derek\_120, Yassified\_118, Jemmno\_121, Spec\_116, Shnickers\_121, LolaVinca\_121, SmallFry\_121, Jaygup\_121, Sauce\_121, Lukilu\_111, Pinkcreek\_112, Ading\_121, JulietS\_115, Kboogie\_125, Phusco\_121, Ronan\_115, NuevoMundo\_126, ArcherS7\_120, Shifa\_109, McGee\_123, InterFolia\_127, Stubby\_113, Jediah\_124, IkeLoa\_114, Fludd\_121, BadAgartude\_117, Tyke\_121, LifeSavor\_119, Bangla1971\_122, LRRHood\_114, HyRo\_111
- Track 3 : Tonenili\_135

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

The start number called the most often in the published annotations is 1, it was called in 167 of the 167 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ading\_121, Adlitam\_121, Alice\_113, Amataga\_121, ArcherS7\_120, Asterius\_117, Astraea\_117, Atlantean\_120, Audrick\_123, Ava3\_122, Babyland\_122, BackyardAgain\_118, BadAgartude\_117, BananaFence\_120, Bangla1971\_122, Basquiat\_117, BeanWater\_113, BigCity\_128, Bigswole\_124, Bipolarisk\_120, Blackbrain\_116, Blubba\_112, Bonray\_121, Bread\_120, Breeniome\_120, Burrough\_121, Bxz1\_118, Cactojaque\_116, Cali\_116, Cane17\_111, Capablanca\_123, Caravan\_115, Catera\_117, Chargie21\_117, CharlieB\_117, ChaylaJr\_116, ChickenPhender\_117, Chomp\_118, CindyLou\_122, Colt\_112, Concombre\_126, DTDevon\_121, Daffodil\_126, Dandelion\_126, Darko\_121, Delilah\_121, Delylah\_124, Derek\_120, Dietrick\_113, DirtMonster\_115, DrPhinkDaddy\_120, Drazdys\_119, ET08\_109, EasyJones\_123, EggyFarm\_128, EmToTheThree\_123, EmmaElysia\_121, Erdmann\_121, ErnieJ\_115, Essence\_118, Ewok\_122, Flabslab\_115, Fludd\_121, FoxtrotP1\_121, FrayBell\_126, FudgeTart\_119, Gabriel\_121, Gangam\_121, Ghost\_119, Gizmo\_125, Grasshills\_127, Grungle\_108, Guwapp\_120, HyRo\_111, I3\_126, IkeLoa\_114, InigoMontoya\_122, InterFolia\_127, Iota\_116, Issimir\_119, Izajani\_121, JPickles\_118, Janiyra\_123, JayJay\_121, Jaygup\_121, Jedediah\_124, Jemmno\_121, Jessibeth14\_120, JulietS\_115, JustHall\_118, Kamryn\_121, Kboogie\_125, Khaleesi\_120, Koguma\_118, LRRHood\_114, Latch\_121, Lee7\_118, LifeSavor\_119, LinStu\_119, Littleton\_121, Loanshark\_120, LolaVinca\_121, LordLeafolot\_124, Lukilu\_111, Maby2021\_121, Mangeria\_121, Matsumoto\_117, McGee\_123, McWolfish\_119, Megamind\_120, Melpomini\_115, MikeLiesIn\_122, Mikro\_118, MoMoMixon\_121, Momo\_120, Morizzled23\_121, Naija\_120, Napoleon13\_117, Nappy\_123, Naval22\_125, NedWong\_122, Ngannou\_117, Nidhogg\_122, NoodleTree\_128, Norm\_122, NuevoMundo\_126, ParkTD\_122, Patter\_121, Phlegm\_123, Phox\_118, Phusco\_121, Pier\_125, Pinkcreek\_112, Pio\_125, Pivoine\_120, Pleione\_124, PurduePete\_121, QBert\_115, Quasimodo\_122, Rabinovish\_118, Rahel\_120, Rizal\_116, RoMag\_116, Ronan\_115, Roots515\_119, Salacia\_125, Sauce\_121, ScottMcG\_117, Sebata\_121, Shaqnato\_114, Shelob\_123, ShiaLabeouf\_120, Shifa\_109, Shnickers\_121, Shrimp\_121, SilverDipper\_122, SmallFry\_121, Spec\_116, Specks\_126, Sprinklers\_117, Spud\_120, SrishMeg2525\_120, StephanieG\_119, StubbySaigey\_124, Stubby\_113, Teardrop\_120, TinyTim\_121, Tonenili\_135, Tortoise16\_118, Trinitium\_118, Turret\_116, Tyke\_121, ValleyTerrace\_121, Wally\_120, Willis\_122, Yassified\_118, YemiJoy2021\_122, YoungMoneyMata\_122, Yucca\_120, Zalkecks\_122, Zeenon\_122, ZygoTaiga\_119,

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

- 

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

- 

**Summary by start number:**

Start 1:

- Found in 182 of 182 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 167 of 167
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ading\_121 (C1), Adlitam\_121 (C1), Alice\_113 (C1), Amataga\_121 (C1), ArcherS7\_120 (C1), Asterius\_117 (C1), Astraea\_117 (C1), Atlantean\_120 (C1), Audrick\_123 (C1), Ava3\_122 (C1), Babyland\_122 (C1), BackyardAgain\_118 (C1), BadAgartude\_117 (C1), BananaFence\_120 (C1), Bangla1971\_122 (C1), Basquiat\_117 (C1), BeanWater\_113 (C1), BigCity\_128 (C1), Bigswole\_124 (C1), Bipolarisk\_120 (C1), Blackbrain\_116 (C1), Blubba\_112 (C1), Bonray\_121 (C1), Bread\_120 (C1), Breeniome\_120 (C1), Burrough\_121 (C1), Bxz1\_118 (C1), Cactojaque\_116 (C1), Cali\_116 (C1), Cane17\_111 (C1), Capablanca\_123 (C1), Caravan\_115 (C1), Catera\_117 (C1), Chargie21\_117 (C1), CharlieB\_117 (C1), ChaylaJr\_116 (C1), ChickenPhender\_117 (C1), Chomp\_118 (C1), CindyLou\_122 (C1), Colt\_112 (C1), Concombre\_126 (C1), DTDevon\_121 (C1), Daffodil\_126 (C1), Dandelion\_126 (C1), Darko\_121 (C1), Delilah\_121 (C1), Delylah\_124 (C1), Derek\_120 (C1), Dietrick\_113 (C1), DirtMonster\_115 (C1), DrPhinkDaddy\_120 (C1), Drazdys\_119 (C1), ET08\_109 (C1), EasyJones\_123 (C1), EggyFarm\_128 (C1), EmToTheThree\_123 (C1), EmmaElysia\_121 (C1), Erdmann\_121 (C1), ErnieJ\_115 (C1), Essence\_118 (C1), Ewok\_122 (C1), Flabslab\_115 (C1), Fludd\_121 (C1), FoxtrotP1\_121 (C1), FrayBell\_126 (C1), FudgeTart\_119 (C1), Gabriel\_121 (C1), Gamgam\_121 (C1), Ghost\_119 (C1), Gizmo\_125 (C1), Grasshills\_127 (C1), Grungle\_108 (C1), Guwapp\_120 (C1), HyRo\_111 (C1), I3\_126 (C1), IkeLoa\_114 (C1), InigoMontoya\_122 (C1), InterFolia\_127 (C1), Iota\_116 (C1), Issimir\_119 (C1), Izajani\_121 (C1), JPickles\_118 (C1), Janiyr\_123 (C1), JayJay\_121 (C1), Jaygup\_121 (C1), Jedediah\_124 (C1), Jemmno\_121 (C1), Jessibeth14\_120 (C1), JulietS\_115 (C1), JustHall\_118 (C1), Kamryn\_121 (C1), Kboogie\_125 (C1), Khaleesi\_120 (C1), Koguma\_118 (C1), LRRHood\_114 (C1), Latch\_121 (C1), Lee7\_118 (C1), LifeSavor\_119 (C1), LinStu\_119 (C1), Littleton\_121 (C1), Loanshark\_120 (C1), LolaVinca\_121 (C1), LordLeafolot\_124 (C1), Lukilu\_111 (C1), Maby2021\_121 (C1), Mangeria\_121 (C1), Matsumoto\_117 (C1), McGee\_123 (C1), McWolfish\_119 (C1), Megamind\_120 (C1), Melpomini\_115 (C1), MikeLiesIn\_122 (C1), Mikro\_118 (C1), MoMoMixon\_121 (C1), Momo\_120 (C1), Morizzled23\_121 (C1), Naija\_120 (C1), Napoleon13\_117 (C1), Nappy\_123 (C1), Naval22\_125 (C1), NedWong\_122 (C1), Ngannou\_117 (C1), Nidhogg\_122 (C1), NoodleTree\_128 (C1), Norm\_122 (C1), NuevoMundo\_126 (C1), ParkTD\_122 (C1), Patter\_121 (C1), Phlegm\_123 (C1), Phox\_118 (C1), Phusco\_121 (C1), Pier\_125 (C1), Pinkcreek\_112 (C1), Pio\_125 (C1), Pivoine\_120 (C1), Pleione\_124 (C1), PurduePete\_121 (C1), QBert\_115 (C1), Quasimodo\_122 (C1), Rabinovish\_118 (C1), Rahel\_120 (C1), Rizal\_116 (C1), RoMag\_116 (C1), Ronan\_115 (C1), Roots515\_119 (C1), Salacia\_125 (C1), Sauce\_121 (C1), ScottMcG\_117 (C1), Sebata\_121 (C1), Shaqato\_114 (C1), Shelob\_123 (C1), ShiaLabeouf\_120 (C1), Shifa\_109 (C1), Shnickers\_121 (C1), Shrimp\_121 (C1), SilverDipper\_122 (C1), SmallFry\_121 (C1), Spec\_116 (C1), Specks\_126 (C1), Sprinklers\_117 (C1), Spud\_120 (C1), SrishMeg2525\_120 (C1), StephanieG\_119 (C1), StubbySaigey\_124 (C1), Stubby\_113 (C1), Teardrop\_120 (C1), TinyTim\_121 (C1), Tonenili\_135 (C1), Tortoise16\_118 (C1), Trinitium\_118 (C1), Turret\_116 (C1), Tyke\_121 (C1), ValleyTerrace\_121 (C1), Wally\_120 (C1), Willis\_122 (C1), Yassified\_118 (C1), YemiJoy2021\_122 (C1), YoungMoneyMata\_122 (C1), Yucca\_120 (C1), Zalkecks\_122 (C1), Zeenon\_122 (C1), ZygoTaiga\_119 (C1),

**Summary by clusters:**

There is one cluster represented in this pham: C1

Info for manual annotations of cluster C1:

•Start number 1 was manually annotated 167 times for cluster C1.

**Gene Information:**

Gene: Ading\_121 Start: 63450, Stop: 63953, Start Num: 1

Candidate Starts for Ading\_121:

(Start: 1 @63450 has 167 MA's), (2, 63459), (3, 63465), (6, 63603), (7, 63606), (8, 63732), (9, 63834),

Gene: Adlitam\_121 Start: 63467, Stop: 63970, Start Num: 1

Candidate Starts for Adlitam\_121:

(Start: 1 @63467 has 167 MA's), (2, 63476), (3, 63482), (6, 63620), (8, 63749), (9, 63851),

Gene: Alice\_113 Start: 62756, Stop: 63259, Start Num: 1

Candidate Starts for Alice\_113:

(Start: 1 @62756 has 167 MA's), (2, 62765), (3, 62771), (6, 62909), (7, 62912), (8, 63038), (9, 63140),

Gene: Amataga\_121 Start: 62712, Stop: 63215, Start Num: 1

Candidate Starts for Amataga\_121:

(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: ArcherS7\_120 Start: 63030, Stop: 63533, Start Num: 1

Candidate Starts for ArcherS7\_120:

(Start: 1 @63030 has 167 MA's), (2, 63039), (3, 63045), (6, 63183), (7, 63186), (8, 63312), (9, 63414),

Gene: Asterius\_117 Start: 63706, Stop: 64209, Start Num: 1

Candidate Starts for Asterius\_117:

(Start: 1 @63706 has 167 MA's), (2, 63715), (3, 63721), (6, 63859), (8, 63988), (9, 64090),

Gene: Astraea\_117 Start: 62481, Stop: 62984, Start Num: 1

Candidate Starts for Astraea\_117:

(Start: 1 @62481 has 167 MA's), (2, 62490), (3, 62496), (6, 62634), (8, 62763), (9, 62865),

Gene: Atlantean\_120 Start: 62712, Stop: 63215, Start Num: 1

Candidate Starts for Atlantean\_120:

(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: Audrick\_123 Start: 62691, Stop: 63194, Start Num: 1

Candidate Starts for Audrick\_123:

(Start: 1 @62691 has 167 MA's), (2, 62700), (3, 62706), (6, 62844), (8, 62973), (9, 63075),

Gene: Ava3\_122 Start: 63625, Stop: 64128, Start Num: 1

Candidate Starts for Ava3\_122:

(Start: 1 @63625 has 167 MA's), (2, 63634), (3, 63640), (6, 63778), (8, 63907), (9, 64009),

Gene: Babyland\_122 Start: 62800, Stop: 63303, Start Num: 1

Candidate Starts for Babyland\_122:

(Start: 1 @62800 has 167 MA's), (2, 62809), (3, 62815), (6, 62953), (8, 63082), (9, 63184),

Gene: BackyardAgain\_118 Start: 62628, Stop: 63131, Start Num: 1

Candidate Starts for BackyardAgain\_118:

(Start: 1 @62628 has 167 MA's), (2, 62637), (3, 62643), (6, 62781), (8, 62910), (9, 63012),

Gene: BadAgartude\_117 Start: 63917, Stop: 64420, Start Num: 1

Candidate Starts for BadAgartude\_117:

(Start: 1 @63917 has 167 MA's), (2, 63926), (3, 63932), (6, 64070), (7, 64073), (8, 64199), (9, 64301),

Gene: BananaFence\_120 Start: 63881, Stop: 64384, Start Num: 1

Candidate Starts for BananaFence\_120:

(Start: 1 @63881 has 167 MA's), (2, 63890), (3, 63896), (6, 64034), (8, 64163), (9, 64265),

Gene: Bangla1971\_122 Start: 63160, Stop: 63663, Start Num: 1

Candidate Starts for Bangla1971\_122:

(Start: 1 @63160 has 167 MA's), (2, 63169), (3, 63175), (6, 63313), (7, 63316), (8, 63442), (9, 63544),

Gene: Basquiat\_117 Start: 62354, Stop: 62857, Start Num: 1

Candidate Starts for Basquiat\_117:

(Start: 1 @62354 has 167 MA's), (2, 62363), (3, 62369), (6, 62507), (7, 62510), (8, 62636), (9, 62738),

Gene: BeanWater\_113 Start: 63479, Stop: 63982, Start Num: 1

Candidate Starts for BeanWater\_113:

(Start: 1 @63479 has 167 MA's), (2, 63488), (3, 63494), (6, 63632), (8, 63761), (9, 63863),

Gene: BigCity\_128 Start: 66141, Stop: 66644, Start Num: 1

Candidate Starts for BigCity\_128:

(Start: 1 @66141 has 167 MA's), (2, 66150), (3, 66156), (6, 66294), (8, 66423), (9, 66525),

Gene: Bigswole\_124 Start: 65426, Stop: 65929, Start Num: 1

Candidate Starts for Bigswole\_124:

(Start: 1 @65426 has 167 MA's), (2, 65435), (3, 65441), (6, 65579), (8, 65708), (9, 65810),

Gene: Bipolarisk\_120 Start: 63883, Stop: 64386, Start Num: 1

Candidate Starts for Bipolarisk\_120:

(Start: 1 @63883 has 167 MA's), (2, 63892), (3, 63898), (6, 64036), (8, 64165), (9, 64267),

Gene: Blackbrain\_116 Start: 62175, Stop: 62678, Start Num: 1

Candidate Starts for Blackbrain\_116:

(Start: 1 @62175 has 167 MA's), (2, 62184), (3, 62190), (6, 62328), (8, 62457), (9, 62559),

Gene: Blubba\_112 Start: 63917, Stop: 64420, Start Num: 1

Candidate Starts for Blubba\_112:

(Start: 1 @63917 has 167 MA's), (2, 63926), (3, 63932), (6, 64070), (8, 64199), (9, 64301),

Gene: Bonray\_121 Start: 64056, Stop: 64559, Start Num: 1

Candidate Starts for Bonray\_121:

(Start: 1 @64056 has 167 MA's), (2, 64065), (3, 64071), (6, 64209), (8, 64338), (9, 64440),

Gene: Bread\_120 Start: 63711, Stop: 64214, Start Num: 1

Candidate Starts for Bread\_120:

(Start: 1 @63711 has 167 MA's), (2, 63720), (3, 63726), (6, 63864), (8, 63993), (9, 64095),

Gene: Breeniome\_120 Start: 62059, Stop: 62562, Start Num: 1

Candidate Starts for Breeniome\_120:

(Start: 1 @62059 has 167 MA's), (2, 62068), (3, 62074), (6, 62212), (8, 62341), (9, 62443),

Gene: Burrough\_121 Start: 64210, Stop: 64713, Start Num: 1

Candidate Starts for Burrough\_121:

(Start: 1 @64210 has 167 MA's), (2, 64219), (3, 64225), (6, 64363), (8, 64492), (9, 64594),

Gene: Bxz1\_118 Start: 65413, Stop: 65916, Start Num: 1

Candidate Starts for Bxz1\_118:

(Start: 1 @65413 has 167 MA's), (2, 65422), (3, 65428), (6, 65566), (8, 65695), (9, 65797),

Gene: Cactojaque\_116 Start: 62282, Stop: 62785, Start Num: 1

Candidate Starts for Cactojaque\_116:

(Start: 1 @62282 has 167 MA's), (2, 62291), (3, 62297), (6, 62435), (8, 62564), (9, 62666),

Gene: Cali\_116 Start: 64212, Stop: 64715, Start Num: 1

Candidate Starts for Cali\_116:

(Start: 1 @64212 has 167 MA's), (2, 64221), (3, 64227), (6, 64365), (8, 64494), (9, 64596),

Gene: Cane17\_111 Start: 63975, Stop: 64478, Start Num: 1

Candidate Starts for Cane17\_111:

(Start: 1 @63975 has 167 MA's), (2, 63984), (3, 63990), (6, 64128), (8, 64257), (9, 64359),

Gene: Capablanca\_123 Start: 64462, Stop: 64965, Start Num: 1

Candidate Starts for Capablanca\_123:

(Start: 1 @64462 has 167 MA's), (2, 64471), (3, 64477), (6, 64615), (8, 64744), (9, 64846),

Gene: Caravan\_115 Start: 63569, Stop: 64072, Start Num: 1

Candidate Starts for Caravan\_115:

(Start: 1 @63569 has 167 MA's), (2, 63578), (3, 63584), (6, 63722), (8, 63851), (9, 63953),

Gene: Catera\_117 Start: 62486, Stop: 62989, Start Num: 1

Candidate Starts for Catera\_117:

(Start: 1 @62486 has 167 MA's), (2, 62495), (3, 62501), (6, 62639), (8, 62768), (9, 62870),

Gene: Chargie21\_117 Start: 62354, Stop: 62857, Start Num: 1

Candidate Starts for Chargie21\_117:

(Start: 1 @62354 has 167 MA's), (2, 62363), (3, 62369), (6, 62507), (7, 62510), (8, 62636), (9, 62738),

Gene: CharlieB\_117 Start: 62616, Stop: 63119, Start Num: 1

Candidate Starts for CharlieB\_117:

(Start: 1 @62616 has 167 MA's), (2, 62625), (3, 62631), (6, 62769), (8, 62898), (9, 63000),

Gene: ChaylaJr\_116 Start: 62108, Stop: 62611, Start Num: 1

Candidate Starts for ChaylaJr\_116:

(Start: 1 @62108 has 167 MA's), (2, 62117), (3, 62123), (6, 62261), (8, 62390), (9, 62492),

Gene: ChickenPhender\_117 Start: 62411, Stop: 62914, Start Num: 1

Candidate Starts for ChickenPhender\_117:

(Start: 1 @62411 has 167 MA's), (2, 62420), (3, 62426), (6, 62564), (8, 62693), (9, 62795),

Gene: Chomp\_118 Start: 64001, Stop: 64504, Start Num: 1

Candidate Starts for Chomp\_118:

(Start: 1 @64001 has 167 MA's), (2, 64010), (3, 64016), (6, 64154), (8, 64283), (9, 64385),

Gene: CindyLou\_122 Start: 64041, Stop: 64544, Start Num: 1

Candidate Starts for CindyLou\_122:

(Start: 1 @64041 has 167 MA's), (2, 64050), (3, 64056), (6, 64194), (8, 64323), (9, 64425),

Gene: Colt\_112 Start: 64571, Stop: 65074, Start Num: 1

Candidate Starts for Colt\_112:

(Start: 1 @64571 has 167 MA's), (2, 64580), (3, 64586), (6, 64724), (8, 64853), (9, 64955),

Gene: Concombre\_126 Start: 66374, Stop: 66877, Start Num: 1

Candidate Starts for Concombre\_126:

(Start: 1 @66374 has 167 MA's), (2, 66383), (3, 66389), (6, 66527), (8, 66656), (9, 66758),

Gene: DTDevon\_121 Start: 64252, Stop: 64755, Start Num: 1

Candidate Starts for DTDevon\_121:

(Start: 1 @64252 has 167 MA's), (2, 64261), (3, 64267), (6, 64405), (7, 64408), (8, 64534), (9, 64636),

Gene: Daffodil\_126 Start: 64183, Stop: 64686, Start Num: 1

Candidate Starts for Daffodil\_126:

(Start: 1 @64183 has 167 MA's), (2, 64192), (3, 64198), (6, 64336), (8, 64465), (9, 64567),

Gene: Dandelion\_126 Start: 66375, Stop: 66878, Start Num: 1

Candidate Starts for Dandelion\_126:

(Start: 1 @66375 has 167 MA's), (2, 66384), (3, 66390), (6, 66528), (8, 66657), (9, 66759),

Gene: Darko\_121 Start: 63885, Stop: 64388, Start Num: 1

Candidate Starts for Darko\_121:

(Start: 1 @63885 has 167 MA's), (2, 63894), (3, 63900), (6, 64038), (7, 64041), (8, 64167), (9, 64269),

Gene: Delilah\_121 Start: 64337, Stop: 64840, Start Num: 1

Candidate Starts for Delilah\_121:

(Start: 1 @64337 has 167 MA's), (2, 64346), (3, 64352), (6, 64490), (8, 64619), (9, 64721),

Gene: Delylah\_124 Start: 63876, Stop: 64379, Start Num: 1

Candidate Starts for Delylah\_124:

(Start: 1 @63876 has 167 MA's), (2, 63885), (3, 63891), (6, 64029), (8, 64158), (9, 64260),

Gene: Derek\_120 Start: 63802, Stop: 64305, Start Num: 1

Candidate Starts for Derek\_120:

(Start: 1 @63802 has 167 MA's), (2, 63811), (3, 63817), (6, 63955), (7, 63958), (8, 64084), (9, 64186),

Gene: Dietrick\_113 Start: 61878, Stop: 62381, Start Num: 1

Candidate Starts for Dietrick\_113:

(Start: 1 @61878 has 167 MA's), (2, 61887), (3, 61893), (6, 62031), (8, 62160), (9, 62262),

Gene: DirtMonster\_115 Start: 63136, Stop: 63639, Start Num: 1

Candidate Starts for DirtMonster\_115:

(Start: 1 @63136 has 167 MA's), (2, 63145), (3, 63151), (6, 63289), (8, 63418), (9, 63520),

Gene: DrPhinkDaddy\_120 Start: 64405, Stop: 64908, Start Num: 1

Candidate Starts for DrPhinkDaddy\_120:

(Start: 1 @64405 has 167 MA's), (2, 64414), (3, 64420), (6, 64558), (8, 64687), (9, 64789),

Gene: Drazdys\_119 Start: 62866, Stop: 63369, Start Num: 1

Candidate Starts for Drazdys\_119:

(Start: 1 @62866 has 167 MA's), (2, 62875), (3, 62881), (6, 63019), (8, 63148), (9, 63250),

Gene: ET08\_109 Start: 62866, Stop: 63369, Start Num: 1

Candidate Starts for ET08\_109:

(Start: 1 @62866 has 167 MA's), (2, 62875), (3, 62881), (6, 63019), (7, 63022), (8, 63148), (9, 63250),

Gene: EasyJones\_123 Start: 63008, Stop: 63511, Start Num: 1

Candidate Starts for EasyJones\_123:

(Start: 1 @63008 has 167 MA's), (2, 63017), (3, 63023), (6, 63161), (7, 63164), (8, 63290), (9, 63392),

Gene: EggyFarm\_128 Start: 66141, Stop: 66644, Start Num: 1

Candidate Starts for EggyFarm\_128:

(Start: 1 @66141 has 167 MA's), (2, 66150), (3, 66156), (6, 66294), (8, 66423), (9, 66525),

Gene: EmToTheThree\_123 Start: 65145, Stop: 65648, Start Num: 1

Candidate Starts for EmToTheThree\_123:

(Start: 1 @65145 has 167 MA's), (2, 65154), (3, 65160), (6, 65298), (8, 65427), (9, 65529),

Gene: EmmaElysia\_121 Start: 62931, Stop: 63434, Start Num: 1

Candidate Starts for EmmaElysia\_121:

(Start: 1 @62931 has 167 MA's), (2, 62940), (3, 62946), (6, 63084), (8, 63213), (9, 63315),

Gene: Erdmann\_121 Start: 64184, Stop: 64687, Start Num: 1

Candidate Starts for Erdmann\_121:

(Start: 1 @64184 has 167 MA's), (2, 64193), (3, 64199), (6, 64337), (8, 64466), (9, 64568),

Gene: ErnieJ\_115 Start: 62163, Stop: 62666, Start Num: 1

Candidate Starts for ErnieJ\_115:

(Start: 1 @62163 has 167 MA's), (2, 62172), (3, 62178), (6, 62316), (7, 62319), (8, 62445), (9, 62547),

Gene: Essence\_118 Start: 63032, Stop: 63535, Start Num: 1

Candidate Starts for Essence\_118:

(Start: 1 @63032 has 167 MA's), (2, 63041), (3, 63047), (6, 63185), (7, 63188), (8, 63314), (9, 63416),

Gene: Ewok\_122 Start: 63571, Stop: 64074, Start Num: 1

Candidate Starts for Ewok\_122:

(Start: 1 @63571 has 167 MA's), (2, 63580), (3, 63586), (6, 63724), (8, 63853), (9, 63955),

Gene: Flabslab\_115 Start: 61264, Stop: 61767, Start Num: 1

Candidate Starts for Flabslab\_115:

(Start: 1 @61264 has 167 MA's), (2, 61273), (3, 61279), (6, 61417), (8, 61546), (9, 61648),

Gene: Fludd\_121 Start: 62794, Stop: 63297, Start Num: 1

Candidate Starts for Fludd\_121:

(Start: 1 @62794 has 167 MA's), (2, 62803), (3, 62809), (6, 62947), (7, 62950), (8, 63076), (9, 63178),

Gene: FoxtrotP1\_121 Start: 65354, Stop: 65857, Start Num: 1

Candidate Starts for FoxtrotP1\_121:

(Start: 1 @65354 has 167 MA's), (2, 65363), (3, 65369), (6, 65507), (8, 65636), (9, 65738),

Gene: FrayBell\_126 Start: 64518, Stop: 65021, Start Num: 1  
Candidate Starts for FrayBell\_126:  
(Start: 1 @64518 has 167 MA's), (2, 64527), (3, 64533), (6, 64671), (7, 64674), (8, 64800), (9, 64902),

Gene: FudgeTart\_119 Start: 63214, Stop: 63717, Start Num: 1  
Candidate Starts for FudgeTart\_119:  
(Start: 1 @63214 has 167 MA's), (2, 63223), (3, 63229), (6, 63367), (8, 63496), (9, 63598),

Gene: Gabriel\_121 Start: 62438, Stop: 62941, Start Num: 1  
Candidate Starts for Gabriel\_121:  
(Start: 1 @62438 has 167 MA's), (2, 62447), (3, 62453), (6, 62591), (8, 62720), (9, 62822),

Gene: Gamgam\_121 Start: 62712, Stop: 63215, Start Num: 1  
Candidate Starts for Gamgam\_121:  
(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: Ghost\_119 Start: 62712, Stop: 63215, Start Num: 1  
Candidate Starts for Ghost\_119:  
(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: Gizmo\_125 Start: 65334, Stop: 65837, Start Num: 1  
Candidate Starts for Gizmo\_125:  
(Start: 1 @65334 has 167 MA's), (2, 65343), (3, 65349), (6, 65487), (8, 65616), (9, 65718),

Gene: Grasshills\_127 Start: 66141, Stop: 66644, Start Num: 1  
Candidate Starts for Grasshills\_127:  
(Start: 1 @66141 has 167 MA's), (2, 66150), (3, 66156), (6, 66294), (8, 66423), (9, 66525),

Gene: Grungle\_108 Start: 60456, Stop: 60959, Start Num: 1  
Candidate Starts for Grungle\_108:  
(Start: 1 @60456 has 167 MA's), (2, 60465), (3, 60471), (6, 60609), (7, 60612), (8, 60738), (9, 60840),

Gene: Guwapp\_120 Start: 62603, Stop: 63106, Start Num: 1  
Candidate Starts for Guwapp\_120:  
(Start: 1 @62603 has 167 MA's), (2, 62612), (3, 62618), (6, 62756), (7, 62759), (8, 62885), (9, 62987),

Gene: HyRo\_111 Start: 62719, Stop: 63222, Start Num: 1  
Candidate Starts for HyRo\_111:  
(Start: 1 @62719 has 167 MA's), (2, 62728), (3, 62734), (6, 62872), (7, 62875), (8, 63001), (9, 63103),

Gene: I3\_126 Start: 64669, Stop: 65172, Start Num: 1  
Candidate Starts for I3\_126:  
(Start: 1 @64669 has 167 MA's), (2, 64678), (3, 64684), (6, 64822), (8, 64951), (9, 65053),

Gene: IkeLoa\_114 Start: 62539, Stop: 63042, Start Num: 1  
Candidate Starts for IkeLoa\_114:  
(Start: 1 @62539 has 167 MA's), (2, 62548), (3, 62554), (6, 62692), (7, 62695), (8, 62821), (9, 62923),

Gene: InigoMontoya\_122 Start: 62673, Stop: 63176, Start Num: 1  
Candidate Starts for InigoMontoya\_122:  
(Start: 1 @62673 has 167 MA's), (2, 62682), (3, 62688), (6, 62826), (8, 62955), (9, 63057),

Gene: InterFolia\_127 Start: 65453, Stop: 65956, Start Num: 1  
Candidate Starts for InterFolia\_127:  
(Start: 1 @65453 has 167 MA's), (2, 65462), (3, 65468), (6, 65606), (7, 65609), (8, 65735), (9, 65837),

Gene: Iota\_116 Start: 63150, Stop: 63653, Start Num: 1  
Candidate Starts for Iota\_116:  
(Start: 1 @63150 has 167 MA's), (2, 63159), (3, 63165), (6, 63303), (8, 63432), (9, 63534),

Gene: Issimir\_119 Start: 64158, Stop: 64661, Start Num: 1  
Candidate Starts for Issimir\_119:  
(Start: 1 @64158 has 167 MA's), (2, 64167), (3, 64173), (6, 64311), (8, 64440), (9, 64542),

Gene: Izajani\_121 Start: 64364, Stop: 64867, Start Num: 1  
Candidate Starts for Izajani\_121:  
(Start: 1 @64364 has 167 MA's), (2, 64373), (3, 64379), (6, 64517), (8, 64646), (9, 64748),

Gene: JPickles\_118 Start: 61943, Stop: 62446, Start Num: 1  
Candidate Starts for JPickles\_118:  
(Start: 1 @61943 has 167 MA's), (2, 61952), (3, 61958), (6, 62096), (7, 62099), (8, 62225), (9, 62327),

Gene: Janiyra\_123 Start: 63639, Stop: 64142, Start Num: 1  
Candidate Starts for Janiyra\_123:  
(Start: 1 @63639 has 167 MA's), (2, 63648), (3, 63654), (6, 63792), (8, 63921), (9, 64023),

Gene: JayJay\_121 Start: 65149, Stop: 65652, Start Num: 1  
Candidate Starts for JayJay\_121:  
(Start: 1 @65149 has 167 MA's), (2, 65158), (3, 65164), (6, 65302), (8, 65431), (9, 65533),

Gene: Jaygup\_121 Start: 63468, Stop: 63971, Start Num: 1  
Candidate Starts for Jaygup\_121:  
(Start: 1 @63468 has 167 MA's), (2, 63477), (3, 63483), (6, 63621), (7, 63624), (8, 63750), (9, 63852),

Gene: Jedediah\_124 Start: 64001, Stop: 64504, Start Num: 1  
Candidate Starts for Jedediah\_124:  
(Start: 1 @64001 has 167 MA's), (2, 64010), (3, 64016), (6, 64154), (7, 64157), (8, 64283), (9, 64385),

Gene: Jemmno\_121 Start: 63448, Stop: 63951, Start Num: 1  
Candidate Starts for Jemmno\_121:  
(Start: 1 @63448 has 167 MA's), (2, 63457), (3, 63463), (6, 63601), (7, 63604), (8, 63730), (9, 63832),

Gene: Jessibeth14\_120 Start: 63980, Stop: 64483, Start Num: 1  
Candidate Starts for Jessibeth14\_120:  
(Start: 1 @63980 has 167 MA's), (2, 63989), (3, 63995), (6, 64133), (8, 64262), (9, 64364),

Gene: JulietS\_115 Start: 61335, Stop: 61838, Start Num: 1  
Candidate Starts for JulietS\_115:  
(Start: 1 @61335 has 167 MA's), (2, 61344), (3, 61350), (6, 61488), (7, 61491), (8, 61617), (9, 61719),

Gene: JustHall\_118 Start: 63507, Stop: 64010, Start Num: 1  
Candidate Starts for JustHall\_118:  
(Start: 1 @63507 has 167 MA's), (2, 63516), (3, 63522), (6, 63660), (8, 63789), (9, 63891),

Gene: Kamryn\_121 Start: 64786, Stop: 65289, Start Num: 1

Candidate Starts for Kamryn\_121:

(Start: 1 @64786 has 167 MA's), (2, 64795), (3, 64801), (6, 64939), (8, 65068), (9, 65170),

Gene: Kboogie\_125 Start: 63151, Stop: 63654, Start Num: 1

Candidate Starts for Kboogie\_125:

(Start: 1 @63151 has 167 MA's), (2, 63160), (3, 63166), (6, 63304), (7, 63307), (8, 63433), (9, 63535),

Gene: Khaleesi\_120 Start: 64083, Stop: 64586, Start Num: 1

Candidate Starts for Khaleesi\_120:

(Start: 1 @64083 has 167 MA's), (2, 64092), (3, 64098), (6, 64236), (8, 64365), (9, 64467),

Gene: Koguma\_118 Start: 61628, Stop: 62131, Start Num: 1

Candidate Starts for Koguma\_118:

(Start: 1 @61628 has 167 MA's), (2, 61637), (3, 61643), (6, 61781), (7, 61784), (8, 61910), (9, 62012),

Gene: LRRHood\_114 Start: 63426, Stop: 63929, Start Num: 1

Candidate Starts for LRRHood\_114:

(Start: 1 @63426 has 167 MA's), (2, 63435), (3, 63441), (6, 63579), (7, 63582), (8, 63708), (9, 63810),

Gene: Latch\_121 Start: 62712, Stop: 63215, Start Num: 1

Candidate Starts for Latch\_121:

(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: Lee7\_118 Start: 64717, Stop: 65220, Start Num: 1

Candidate Starts for Lee7\_118:

(Start: 1 @64717 has 167 MA's), (2, 64726), (3, 64732), (6, 64870), (8, 64999), (9, 65101),

Gene: LifeSavor\_119 Start: 63400, Stop: 63903, Start Num: 1

Candidate Starts for LifeSavor\_119:

(Start: 1 @63400 has 167 MA's), (2, 63409), (3, 63415), (6, 63553), (7, 63556), (8, 63682), (9, 63784),

Gene: LinStu\_119 Start: 64045, Stop: 64548, Start Num: 1

Candidate Starts for LinStu\_119:

(Start: 1 @64045 has 167 MA's), (2, 64054), (3, 64060), (6, 64198), (7, 64201), (8, 64327), (9, 64429),

Gene: Littleton\_121 Start: 63530, Stop: 64033, Start Num: 1

Candidate Starts for Littleton\_121:

(Start: 1 @63530 has 167 MA's), (2, 63539), (3, 63545), (6, 63683), (8, 63812), (9, 63914),

Gene: Loanshark\_120 Start: 64051, Stop: 64554, Start Num: 1

Candidate Starts for Loanshark\_120:

(Start: 1 @64051 has 167 MA's), (2, 64060), (3, 64066), (6, 64204), (8, 64333), (9, 64435),

Gene: LolaVinca\_121 Start: 64404, Stop: 64907, Start Num: 1

Candidate Starts for LolaVinca\_121:

(Start: 1 @64404 has 167 MA's), (2, 64413), (3, 64419), (6, 64557), (7, 64560), (8, 64686), (9, 64788),

Gene: LordLeafolot\_124 Start: 65370, Stop: 65873, Start Num: 1

Candidate Starts for LordLeafolot\_124:

(Start: 1 @65370 has 167 MA's), (2, 65379), (3, 65385), (6, 65523), (7, 65526), (8, 65652), (9, 65754),

Gene: Lukilu\_111 Start: 64436, Stop: 64939, Start Num: 1

Candidate Starts for Lukilu\_111:

(Start: 1 @64436 has 167 MA's), (2, 64445), (3, 64451), (6, 64589), (7, 64592), (8, 64718), (9, 64820),

Gene: Maby2021\_121 Start: 64177, Stop: 64680, Start Num: 1

Candidate Starts for Maby2021\_121:

(Start: 1 @64177 has 167 MA's), (2, 64186), (3, 64192), (6, 64330), (8, 64459), (9, 64561),

Gene: Mangeria\_121 Start: 64247, Stop: 64750, Start Num: 1

Candidate Starts for Mangeria\_121:

(Start: 1 @64247 has 167 MA's), (2, 64256), (3, 64262), (6, 64400), (7, 64403), (8, 64529), (9, 64631),

Gene: Matsumoto\_117 Start: 63028, Stop: 63531, Start Num: 1

Candidate Starts for Matsumoto\_117:

(Start: 1 @63028 has 167 MA's), (2, 63037), (3, 63043), (6, 63181), (8, 63310), (9, 63412),

Gene: McGee\_123 Start: 62792, Stop: 63295, Start Num: 1

Candidate Starts for McGee\_123:

(Start: 1 @62792 has 167 MA's), (2, 62801), (3, 62807), (6, 62945), (7, 62948), (8, 63074), (9, 63176),

Gene: McWolfish\_119 Start: 63966, Stop: 64469, Start Num: 1

Candidate Starts for McWolfish\_119:

(Start: 1 @63966 has 167 MA's), (2, 63975), (3, 63981), (6, 64119), (8, 64248), (9, 64350),

Gene: Megamind\_120 Start: 63850, Stop: 64353, Start Num: 1

Candidate Starts for Megamind\_120:

(Start: 1 @63850 has 167 MA's), (2, 63859), (3, 63865), (6, 64003), (8, 64132), (9, 64234),

Gene: Melpomini\_115 Start: 61316, Stop: 61819, Start Num: 1

Candidate Starts for Melpomini\_115:

(Start: 1 @61316 has 167 MA's), (2, 61325), (3, 61331), (6, 61469), (8, 61598), (9, 61700),

Gene: MikeLiesIn\_122 Start: 64197, Stop: 64700, Start Num: 1

Candidate Starts for MikeLiesIn\_122:

(Start: 1 @64197 has 167 MA's), (2, 64206), (3, 64212), (6, 64350), (8, 64479), (9, 64581),

Gene: Mikro\_118 Start: 65420, Stop: 65923, Start Num: 1

Candidate Starts for Mikro\_118:

(Start: 1 @65420 has 167 MA's), (2, 65429), (3, 65435), (6, 65573), (8, 65702), (9, 65804),

Gene: MoMoMixon\_121 Start: 63673, Stop: 64176, Start Num: 1

Candidate Starts for MoMoMixon\_121:

(Start: 1 @63673 has 167 MA's), (2, 63682), (3, 63688), (6, 63826), (8, 63955), (9, 64057),

Gene: Momo\_120 Start: 62712, Stop: 63215, Start Num: 1

Candidate Starts for Momo\_120:

(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: Morizzled23\_121 Start: 63077, Stop: 63580, Start Num: 1

Candidate Starts for Morizzled23\_121:

(Start: 1 @63077 has 167 MA's), (2, 63086), (3, 63092), (6, 63230), (8, 63359), (9, 63461),

Gene: Naija\_120 Start: 62712, Stop: 63215, Start Num: 1

Candidate Starts for Naija\_120:

(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: Napoleon13\_117 Start: 61754, Stop: 62257, Start Num: 1

Candidate Starts for Napoleon13\_117:

(Start: 1 @61754 has 167 MA's), (2, 61763), (3, 61769), (6, 61907), (8, 62036), (9, 62138),

Gene: Nappy\_123 Start: 65107, Stop: 65610, Start Num: 1

Candidate Starts for Nappy\_123:

(Start: 1 @65107 has 167 MA's), (2, 65116), (3, 65122), (6, 65260), (8, 65389), (9, 65491),

Gene: Naval22\_125 Start: 65640, Stop: 66143, Start Num: 1

Candidate Starts for Naval22\_125:

(Start: 1 @65640 has 167 MA's), (2, 65649), (3, 65655), (6, 65793), (8, 65922), (9, 66024),

Gene: NedWong\_122 Start: 64184, Stop: 64687, Start Num: 1

Candidate Starts for NedWong\_122:

(Start: 1 @64184 has 167 MA's), (2, 64193), (3, 64199), (6, 64337), (8, 64466), (9, 64568),

Gene: Ngannou\_117 Start: 61694, Stop: 62197, Start Num: 1

Candidate Starts for Ngannou\_117:

(Start: 1 @61694 has 167 MA's), (2, 61703), (3, 61709), (6, 61847), (8, 61976), (9, 62078),

Gene: Nidhogg\_122 Start: 63918, Stop: 64421, Start Num: 1

Candidate Starts for Nidhogg\_122:

(Start: 1 @63918 has 167 MA's), (2, 63927), (3, 63933), (6, 64071), (8, 64200), (9, 64302),

Gene: NoodleTree\_128 Start: 64277, Stop: 64780, Start Num: 1

Candidate Starts for NoodleTree\_128:

(Start: 1 @64277 has 167 MA's), (2, 64286), (3, 64292), (6, 64430), (8, 64559), (9, 64661),

Gene: Norm\_122 Start: 64879, Stop: 65382, Start Num: 1

Candidate Starts for Norm\_122:

(Start: 1 @64879 has 167 MA's), (2, 64888), (3, 64894), (6, 65032), (8, 65161), (9, 65263),

Gene: NuevoMundo\_126 Start: 66459, Stop: 66962, Start Num: 1

Candidate Starts for NuevoMundo\_126:

(Start: 1 @66459 has 167 MA's), (2, 66468), (3, 66474), (6, 66612), (7, 66615), (8, 66741), (9, 66843),

Gene: ParkTD\_122 Start: 64180, Stop: 64683, Start Num: 1

Candidate Starts for ParkTD\_122:

(Start: 1 @64180 has 167 MA's), (2, 64189), (3, 64195), (6, 64333), (8, 64462), (9, 64564),

Gene: Patter\_121 Start: 62729, Stop: 63232, Start Num: 1

Candidate Starts for Patter\_121:

(Start: 1 @62729 has 167 MA's), (2, 62738), (3, 62744), (6, 62882), (8, 63011), (9, 63113),

Gene: Phlegm\_123 Start: 62712, Stop: 63215, Start Num: 1

Candidate Starts for Phlegm\_123:

(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: Phox\_118 Start: 64460, Stop: 64963, Start Num: 1

Candidate Starts for Phox\_118:

(Start: 1 @64460 has 167 MA's), (2, 64469), (3, 64475), (6, 64613), (8, 64742), (9, 64844),

Gene: Phusco\_121 Start: 63477, Stop: 63980, Start Num: 1  
Candidate Starts for Phusco\_121:  
(Start: 1 @63477 has 167 MA's), (2, 63486), (3, 63492), (6, 63630), (7, 63633), (8, 63759), (9, 63861),

Gene: Pier\_125 Start: 66467, Stop: 66970, Start Num: 1  
Candidate Starts for Pier\_125:  
(Start: 1 @66467 has 167 MA's), (2, 66476), (3, 66482), (6, 66620), (7, 66623), (8, 66749), (9, 66851),

Gene: Pinkcreek\_112 Start: 61811, Stop: 62314, Start Num: 1  
Candidate Starts for Pinkcreek\_112:  
(Start: 1 @61811 has 167 MA's), (2, 61820), (3, 61826), (6, 61964), (7, 61967), (8, 62093), (9, 62195),

Gene: Pio\_125 Start: 66069, Stop: 66572, Start Num: 1  
Candidate Starts for Pio\_125:  
(Start: 1 @66069 has 167 MA's), (2, 66078), (3, 66084), (6, 66222), (8, 66351), (9, 66453),

Gene: Pivoine\_120 Start: 62712, Stop: 63215, Start Num: 1  
Candidate Starts for Pivoine\_120:  
(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: Pleione\_124 Start: 64347, Stop: 64850, Start Num: 1  
Candidate Starts for Pleione\_124:  
(Start: 1 @64347 has 167 MA's), (2, 64356), (3, 64362), (6, 64500), (8, 64629), (9, 64731),

Gene: PurduePete\_121 Start: 64604, Stop: 65107, Start Num: 1  
Candidate Starts for PurduePete\_121:  
(Start: 1 @64604 has 167 MA's), (2, 64613), (3, 64619), (6, 64757), (8, 64886), (9, 64988),

Gene: QBert\_115 Start: 63184, Stop: 63687, Start Num: 1  
Candidate Starts for QBert\_115:  
(Start: 1 @63184 has 167 MA's), (2, 63193), (3, 63199), (6, 63337), (8, 63466), (9, 63568),

Gene: Quasimodo\_122 Start: 64139, Stop: 64642, Start Num: 1  
Candidate Starts for Quasimodo\_122:  
(Start: 1 @64139 has 167 MA's), (2, 64148), (3, 64154), (6, 64292), (8, 64421), (9, 64523),

Gene: Rabinovish\_118 Start: 64377, Stop: 64880, Start Num: 1  
Candidate Starts for Rabinovish\_118:  
(Start: 1 @64377 has 167 MA's), (2, 64386), (3, 64392), (6, 64530), (8, 64659), (9, 64761),

Gene: Rahel\_120 Start: 63069, Stop: 63572, Start Num: 1  
Candidate Starts for Rahel\_120:  
(Start: 1 @63069 has 167 MA's), (2, 63078), (3, 63084), (6, 63222), (8, 63351), (9, 63453),

Gene: Rizal\_116 Start: 62217, Stop: 62720, Start Num: 1  
Candidate Starts for Rizal\_116:  
(Start: 1 @62217 has 167 MA's), (2, 62226), (3, 62232), (6, 62370), (8, 62499), (9, 62601),

Gene: RoMag\_116 Start: 63391, Stop: 63894, Start Num: 1  
Candidate Starts for RoMag\_116:  
(Start: 1 @63391 has 167 MA's), (2, 63400), (3, 63406), (6, 63544), (7, 63547), (8, 63673), (9, 63775),

Gene: Ronan\_115 Start: 61340, Stop: 61843, Start Num: 1

Candidate Starts for Ronan\_115:

(Start: 1 @61340 has 167 MA's), (2, 61349), (3, 61355), (6, 61493), (7, 61496), (8, 61622), (9, 61724),

Gene: Roots515\_119 Start: 64377, Stop: 64880, Start Num: 1

Candidate Starts for Roots515\_119:

(Start: 1 @64377 has 167 MA's), (2, 64386), (3, 64392), (6, 64530), (8, 64659), (9, 64761),

Gene: Salacia\_125 Start: 64518, Stop: 65021, Start Num: 1

Candidate Starts for Salacia\_125:

(Start: 1 @64518 has 167 MA's), (2, 64527), (3, 64533), (6, 64671), (8, 64800), (9, 64902),

Gene: Sauce\_121 Start: 63124, Stop: 63627, Start Num: 1

Candidate Starts for Sauce\_121:

(Start: 1 @63124 has 167 MA's), (2, 63133), (3, 63139), (6, 63277), (7, 63280), (8, 63406), (9, 63508),

Gene: ScottMcG\_117 Start: 63140, Stop: 63643, Start Num: 1

Candidate Starts for ScottMcG\_117:

(Start: 1 @63140 has 167 MA's), (2, 63149), (3, 63155), (6, 63293), (8, 63422), (9, 63524),

Gene: Sebata\_121 Start: 64603, Stop: 65106, Start Num: 1

Candidate Starts for Sebata\_121:

(Start: 1 @64603 has 167 MA's), (2, 64612), (3, 64618), (6, 64756), (7, 64759), (8, 64885), (9, 64987),

Gene: Shaqnato\_114 Start: 62184, Stop: 62687, Start Num: 1

Candidate Starts for Shaqnato\_114:

(Start: 1 @62184 has 167 MA's), (2, 62193), (3, 62199), (6, 62337), (7, 62340), (8, 62466), (9, 62568),

Gene: Shelob\_123 Start: 64976, Stop: 65479, Start Num: 1

Candidate Starts for Shelob\_123:

(Start: 1 @64976 has 167 MA's), (2, 64985), (3, 64991), (6, 65129), (8, 65258), (9, 65360),

Gene: ShiaLabeouf\_120 Start: 63504, Stop: 64007, Start Num: 1

Candidate Starts for ShiaLabeouf\_120:

(Start: 1 @63504 has 167 MA's), (2, 63513), (3, 63519), (6, 63657), (8, 63786), (9, 63888),

Gene: Shifa\_109 Start: 61985, Stop: 62488, Start Num: 1

Candidate Starts for Shifa\_109:

(Start: 1 @61985 has 167 MA's), (2, 61994), (3, 62000), (6, 62138), (7, 62141), (8, 62267), (9, 62369),

Gene: Shnickers\_121 Start: 63468, Stop: 63971, Start Num: 1

Candidate Starts for Shnickers\_121:

(Start: 1 @63468 has 167 MA's), (2, 63477), (3, 63483), (6, 63621), (7, 63624), (8, 63750), (9, 63852),

Gene: Shrimp\_121 Start: 64188, Stop: 64691, Start Num: 1

Candidate Starts for Shrimp\_121:

(Start: 1 @64188 has 167 MA's), (2, 64197), (3, 64203), (6, 64341), (8, 64470), (9, 64572),

Gene: SilverDipper\_122 Start: 62712, Stop: 63215, Start Num: 1

Candidate Starts for SilverDipper\_122:

(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: SmallFry\_121 Start: 62693, Stop: 63196, Start Num: 1

Candidate Starts for SmallFry\_121:

(Start: 1 @62693 has 167 MA's), (2, 62702), (3, 62708), (6, 62846), (7, 62849), (8, 62975), (9, 63077),

Gene: Spec\_116 Start: 63233, Stop: 63736, Start Num: 1

Candidate Starts for Spec\_116:

(Start: 1 @63233 has 167 MA's), (2, 63242), (3, 63248), (6, 63386), (7, 63389), (8, 63515), (9, 63617),

Gene: Specks\_126 Start: 65368, Stop: 65871, Start Num: 1

Candidate Starts for Specks\_126:

(Start: 1 @65368 has 167 MA's), (2, 65377), (3, 65383), (6, 65521), (8, 65650), (9, 65752),

Gene: Sprinklers\_117 Start: 62749, Stop: 63252, Start Num: 1

Candidate Starts for Sprinklers\_117:

(Start: 1 @62749 has 167 MA's), (2, 62758), (3, 62764), (6, 62902), (8, 63031), (9, 63133),

Gene: Spud\_120 Start: 64264, Stop: 64767, Start Num: 1

Candidate Starts for Spud\_120:

(Start: 1 @64264 has 167 MA's), (2, 64273), (3, 64279), (6, 64417), (8, 64546), (9, 64648),

Gene: SrishMeg2525\_120 Start: 64286, Stop: 64789, Start Num: 1

Candidate Starts for SrishMeg2525\_120:

(Start: 1 @64286 has 167 MA's), (2, 64295), (3, 64301), (6, 64439), (8, 64568), (9, 64670),

Gene: StephanieG\_119 Start: 65096, Stop: 65599, Start Num: 1

Candidate Starts for StephanieG\_119:

(Start: 1 @65096 has 167 MA's), (2, 65105), (3, 65111), (6, 65249), (7, 65252), (8, 65378), (9, 65480),

Gene: Stubby\_113 Start: 62301, Stop: 62804, Start Num: 1

Candidate Starts for Stubby\_113:

(Start: 1 @62301 has 167 MA's), (2, 62310), (3, 62316), (6, 62454), (7, 62457), (8, 62583), (9, 62685),

Gene: StubbySaigey\_124 Start: 62882, Stop: 63385, Start Num: 1

Candidate Starts for StubbySaigey\_124:

(Start: 1 @62882 has 167 MA's), (2, 62891), (3, 62897), (6, 63035), (8, 63164), (9, 63266),

Gene: Teardrop\_120 Start: 62692, Stop: 63195, Start Num: 1

Candidate Starts for Teardrop\_120:

(Start: 1 @62692 has 167 MA's), (2, 62701), (3, 62707), (6, 62845), (8, 62974), (9, 63076),

Gene: TinyTim\_121 Start: 63944, Stop: 64447, Start Num: 1

Candidate Starts for TinyTim\_121:

(Start: 1 @63944 has 167 MA's), (2, 63953), (3, 63959), (6, 64097), (8, 64226), (9, 64328),

Gene: Tonenili\_135 Start: 67441, Stop: 67953, Start Num: 1

Candidate Starts for Tonenili\_135:

(Start: 1 @67441 has 167 MA's), (2, 67450), (4, 67513), (5, 67519), (6, 67603), (8, 67732),

Gene: Tortoise16\_118 Start: 63293, Stop: 63796, Start Num: 1

Candidate Starts for Tortoise16\_118:

(Start: 1 @63293 has 167 MA's), (2, 63302), (3, 63308), (6, 63446), (8, 63575), (9, 63677),

Gene: Trinitium\_118 Start: 62648, Stop: 63151, Start Num: 1

Candidate Starts for Trinitium\_118:

(Start: 1 @62648 has 167 MA's), (2, 62657), (3, 62663), (6, 62801), (8, 62930), (9, 63032),

Gene: Turret\_116 Start: 62093, Stop: 62596, Start Num: 1

Candidate Starts for Turret\_116:

(Start: 1 @62093 has 167 MA's), (2, 62102), (3, 62108), (6, 62246), (8, 62375), (9, 62477),

Gene: Tyke\_121 Start: 64599, Stop: 65102, Start Num: 1

Candidate Starts for Tyke\_121:

(Start: 1 @64599 has 167 MA's), (2, 64608), (3, 64614), (6, 64752), (7, 64755), (8, 64881), (9, 64983),

Gene: ValleyTerrace\_121 Start: 62712, Stop: 63215, Start Num: 1

Candidate Starts for ValleyTerrace\_121:

(Start: 1 @62712 has 167 MA's), (2, 62721), (3, 62727), (6, 62865), (8, 62994), (9, 63096),

Gene: Wally\_120 Start: 62722, Stop: 63225, Start Num: 1

Candidate Starts for Wally\_120:

(Start: 1 @62722 has 167 MA's), (2, 62731), (3, 62737), (6, 62875), (8, 63004), (9, 63106),

Gene: Willis\_122 Start: 64079, Stop: 64582, Start Num: 1

Candidate Starts for Willis\_122:

(Start: 1 @64079 has 167 MA's), (2, 64088), (3, 64094), (6, 64232), (8, 64361), (9, 64463),

Gene: Yassified\_118 Start: 62799, Stop: 63302, Start Num: 1

Candidate Starts for Yassified\_118:

(Start: 1 @62799 has 167 MA's), (2, 62808), (3, 62814), (6, 62952), (7, 62955), (8, 63081), (9, 63183),

Gene: YemiJoy2021\_122 Start: 64181, Stop: 64684, Start Num: 1

Candidate Starts for YemiJoy2021\_122:

(Start: 1 @64181 has 167 MA's), (2, 64190), (3, 64196), (6, 64334), (8, 64463), (9, 64565),

Gene: YoungMoneyMata\_122 Start: 63348, Stop: 63851, Start Num: 1

Candidate Starts for YoungMoneyMata\_122:

(Start: 1 @63348 has 167 MA's), (2, 63357), (3, 63363), (6, 63501), (8, 63630), (9, 63732),

Gene: Yucca\_120 Start: 63863, Stop: 64366, Start Num: 1

Candidate Starts for Yucca\_120:

(Start: 1 @63863 has 167 MA's), (2, 63872), (3, 63878), (6, 64016), (8, 64145), (9, 64247),

Gene: Zalkecks\_122 Start: 63864, Stop: 64367, Start Num: 1

Candidate Starts for Zalkecks\_122:

(Start: 1 @63864 has 167 MA's), (2, 63873), (3, 63879), (6, 64017), (8, 64146), (9, 64248),

Gene: Zeenon\_122 Start: 63949, Stop: 64452, Start Num: 1

Candidate Starts for Zeenon\_122:

(Start: 1 @63949 has 167 MA's), (2, 63958), (3, 63964), (6, 64102), (8, 64231), (9, 64333),

Gene: ZygoTaiga\_119 Start: 65109, Stop: 65612, Start Num: 1

Candidate Starts for ZygoTaiga\_119:

(Start: 1 @65109 has 167 MA's), (2, 65118), (3, 65124), (6, 65262), (8, 65391), (9, 65493),