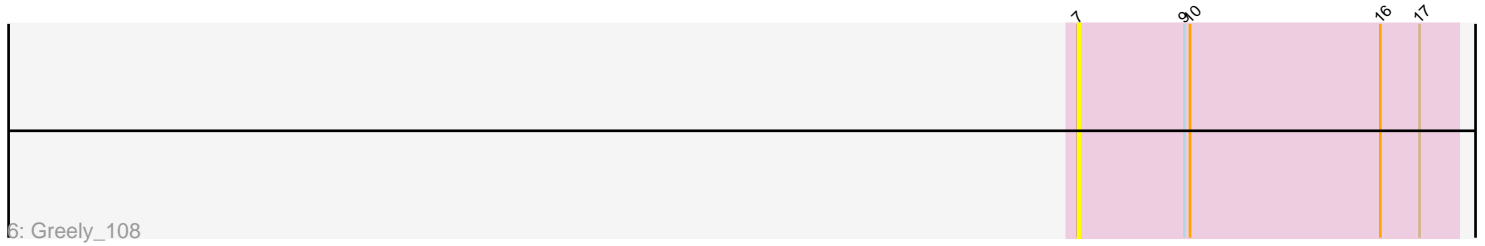
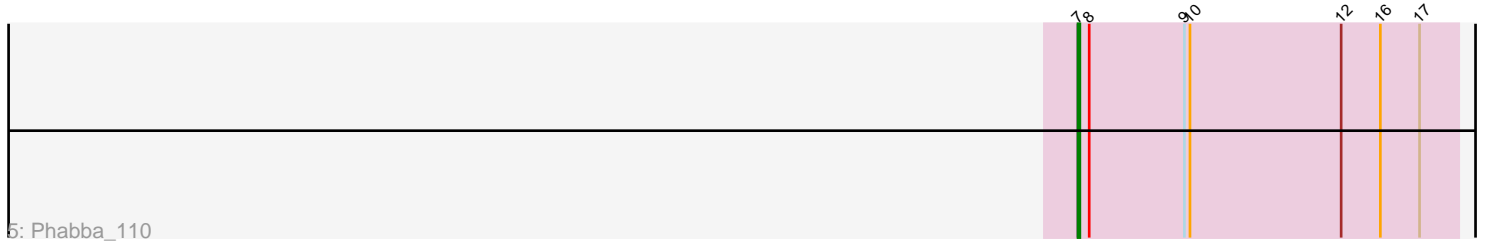
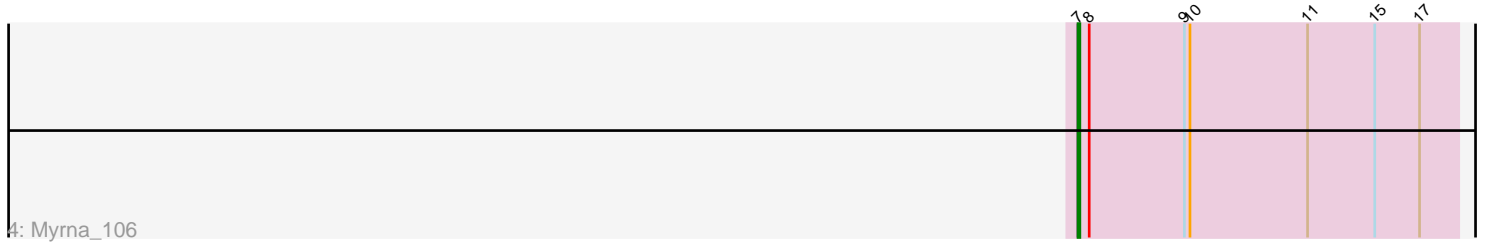
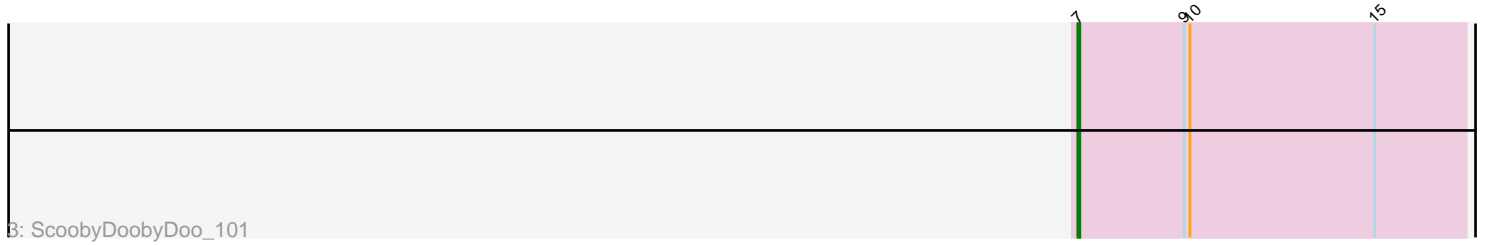
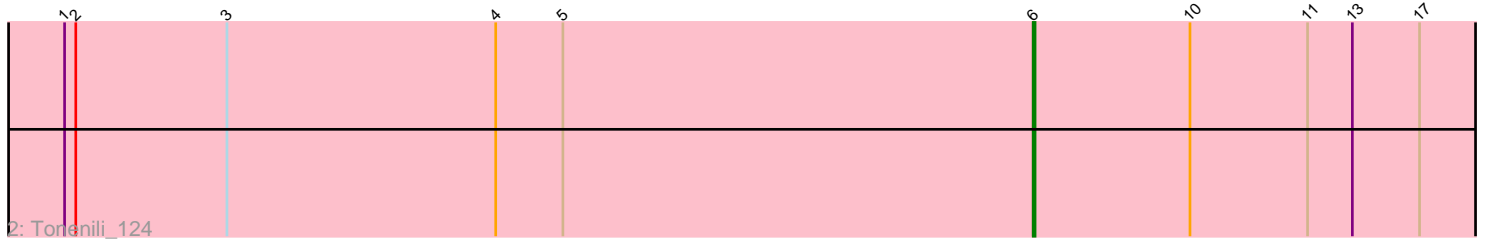
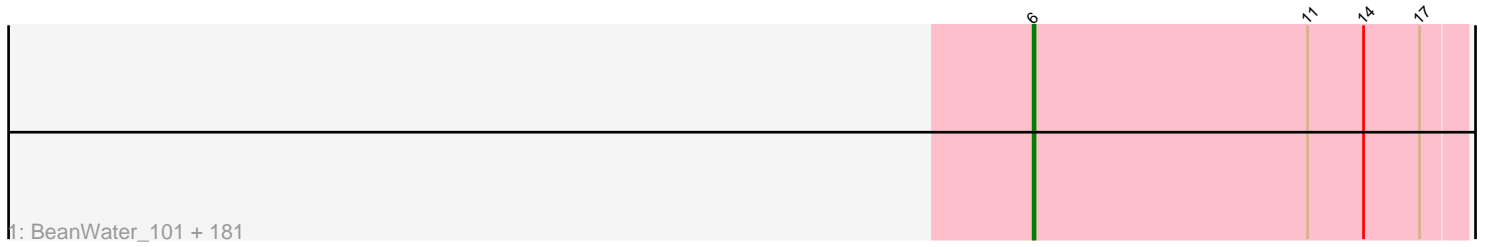


Pham 171226



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 171226 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171226 has 187 members, 18 are drafts.

Phages represented in each track:

- Track 1 : BeanWater\_101, Caravan\_104, Essence\_106, Ghost\_108, ValleyTerrace\_109, Bipolarisk\_108, Colt\_100, Patter\_109, ET08\_98, Naval22\_114, Halldule\_103, Gangam\_109, Naija\_108, Matsumoto\_106, Delylah\_112, Cactojaque\_104, ShiaLabeouf\_108, Rizal\_105, Khaleesi\_108, CindyLou\_110, ArcherS7\_108, NedWong\_110, EasyJones\_111, Delilah\_109, I3\_114, IkeLoa\_102, Ewok\_110, DTDevon\_110, Blackdragon\_105, Grasshills\_116, Koguma\_106, CharlieB\_105, ErnieJ\_104, YemiJoy2021\_110, SrishMeg2525\_108, Loanshark\_108, Jessibeth14\_108, ChaylaJr\_104, Sebata\_110, Shelob\_111, Erdmann\_110, Yassified\_106, Derek\_109, Willis\_110, Astraea\_106, EggyFarm\_117, Roots515\_108, Melpomini\_103, Spec\_105, Quasimodo\_110, LolaVinca\_110, Kboogie\_113, SilverDipper\_110, Mikro\_107, Bigswole\_113, Issimir\_108, Mangeria\_109, BackyardAgain\_106, Blubba\_101, Rahel\_108, StephanieG\_108, Ading\_109, Jaygup\_109, Atlantean\_108, Shrimp\_109, Trinitium\_106, Cali\_105, Pier\_114, Maby2021\_109, Dietrick\_101, Napoleon13\_105, Momo\_108, Sprinklers\_105, Ronan\_103, TinyTim\_109, ZygoTaiga\_108, LRRHood\_103, Drazdys\_108, MoMoMixon\_110, BadAgartude\_105, Breeniome\_108, ScottMcG\_106, Gizmo\_113, Burrough\_109, Stubby\_101, Basquiat\_105, Bonray\_109, MikeLiesIn\_110, Cane17\_99, Jemmno\_109, Zeenon\_111, Megamind\_108, JustHall\_106, Sauce\_109, Capablanca\_111, NuevoMundo\_115, YoungMoneyMata\_110, DrPhinkDaddy\_108, Rabinovish\_107, SmallFry\_109, Shifa\_97, Guwapp\_108, McGee\_111, Phlegm\_111, Latch\_109, Shnickers\_109, Bread\_109, Ngannou\_105, Pinkcreek\_100, Chomp\_107, Tortoise16\_106, Nidhogg\_110, Morizzled23\_109, BananaFence\_108, Specks\_114, InigoMontoya\_110, Shaqnato\_102, Ava3\_110, JayJay\_110, Nappy\_112, JulietS\_104, Norm\_110, Janiyra\_111, Chargie21\_105, Turret\_104, QBert\_103, NoodleTree\_116, EmmaElysia\_109, Phusco\_109, ParkTD\_110, FrayBell\_114, Fludd\_109, Blackbrain\_104, HyRo\_100, Catera\_106, Jedediah\_112, Phox\_106, Littleton\_109, Zalkecks\_110, Lee7\_107, Grungle\_97, Amataga\_109, McWolfish\_107, Lukilu\_100, Tyke\_110, Dandelion\_115, Spud\_109, BigCity\_117, FudgeTart\_108, Iota\_104, EmToTheThree\_111, Yucca\_109, LifeSavor\_108, Gabriel\_110, Bxz1\_107, Izajani\_109, Babyland\_110, Teardrop\_108, Bangla1971\_110, Salacia\_113, Wally\_108, DirtMonster\_103, PurduePete\_109, Daffodil\_114, FoxtrotP1\_109, LordLeafolot\_113, Pio\_113, StubbySaigey\_112, Asterius\_106, Pivoine\_108, JPickles\_107, Flabslab\_103, Darko\_109, RoMag\_104, LinStu\_108, ChickenPhender\_105, Kamryn\_109, Audrick\_111, Pleione\_112, Adlitam\_109, Concombre\_115, Alice\_102
- Track 2 : Tonenili\_124
- Track 3 : ScoobyDoobyDoo\_101

- Track 4 : Myrna\_106
- Track 5 : Phabba\_110
- Track 6 : Greely\_108

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

The start number called the most often in the published annotations is 6, it was called in 166 of the 169 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ading\_109, Adlitam\_109, Alice\_102, Amataga\_109, ArcherS7\_108, Asterius\_106, Astraea\_106, Atlantean\_108, Audrick\_111, Ava3\_110, Babyland\_110, BackyardAgain\_106, BadAgartude\_105, BananaFence\_108, Bangla1971\_110, Basquiat\_105, BeanWater\_101, BigCity\_117, Bigswole\_113, Bipolarisk\_108, Blackbrain\_104, Blackdragon\_105, Blubba\_101, Bonray\_109, Bread\_109, Breeniome\_108, Burrough\_109, Bxz1\_107, Cactojaque\_104, Cali\_105, Cane17\_99, Capablanca\_111, Caravan\_104, Catera\_106, Chargie21\_105, CharlieB\_105, ChaylaJr\_104, ChickenPhender\_105, Chomp\_107, CindyLou\_110, Colt\_100, Concombre\_115, DTDevon\_110, Daffodil\_114, Dandelion\_115, Darko\_109, Delilah\_109, Delylah\_112, Derek\_109, Dietrick\_101, DirtMonster\_103, DrPhinkDaddy\_108, Drazdys\_108, ET08\_98, EasyJones\_111, EggyFarm\_117, EmToTheThree\_111, EmmaElysia\_109, Erdmann\_110, ErnieJ\_104, Essence\_106, Ewok\_110, Flabslab\_103, Fludd\_109, FoxtrotP1\_109, FrayBell\_114, FudgeTart\_108, Gabriel\_110, Gangam\_109, Ghost\_108, Gizmo\_113, Grasshills\_116, Grungle\_97, Guwapp\_108, Halldule\_103, HyRo\_100, I3\_114, IkeLoa\_102, InigoMontoya\_110, Iota\_104, Issimir\_108, Izajani\_109, JPickles\_107, Janiyra\_111, JayJay\_110, Jaygup\_109, Jedediah\_112, Jemmno\_109, Jessibeth14\_108, JulietS\_104, JustHall\_106, Kamryn\_109, Kboogie\_113, Khaleesi\_108, Koguma\_106, LRRHood\_103, Latch\_109, Lee7\_107, LifeSavor\_108, LinStu\_108, Littleton\_109, Loanshark\_108, LolaVinca\_110, LordLeafolot\_113, Lukilu\_100, Maby2021\_109, Mangeria\_109, Matsumoto\_106, McGee\_111, McWolfish\_107, Megamind\_108, Melpomini\_103, MikeLiesIn\_110, Mikro\_107, MoMoMixon\_110, Momo\_108, Morizzled23\_109, Naija\_108, Napoleon13\_105, Nappy\_112, Naval22\_114, NedWong\_110, Ngannou\_105, Nidhogg\_110, NoodleTree\_116, Norm\_110, NuevoMundo\_115, ParkTD\_110, Patter\_109, Phlegm\_111, Phox\_106, Phusco\_109, Pier\_114, Pinkcreek\_100, Pio\_113, Pivoine\_108, Pleione\_112, PurduePete\_109, QBert\_103, Quasimodo\_110, Rabinovish\_107, Rahel\_108, Rizal\_105, RoMag\_104, Ronan\_103, Roots515\_108, Salacia\_113, Sauce\_109, ScottMcG\_106, Sebata\_110, Shaqnato\_102, Shelob\_111, ShiaLabeouf\_108, Shifa\_97, Shnickers\_109, Shrimp\_109, SilverDipper\_110, SmallFry\_109, Spec\_105, Specks\_114, Sprinklers\_105, Spud\_109, SrishMeg2525\_108, StephanieG\_108, StubbySaigey\_112, Stubby\_101, Teardrop\_108, TinyTim\_109, Tonenili\_124, Tortoise16\_106, Trinitium\_106, Turret\_104, Tyke\_110, ValleyTerrace\_109, Wally\_108, Willis\_110, Yassified\_106, YemiJoy2021\_110, YoungMoneyMata\_110, Yucca\_109, Zalkecks\_110, Zeenon\_111, ZygoTaiga\_108,

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

- 

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

- Greely\_108, Myrna\_106, Phabba\_110, ScoobyDoobyDoo\_101,

### Summary by start number:

Start 6:

- Found in 183 of 187 ( 97.9% ) of genes in pham
- Manual Annotations of this start: 166 of 169
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ading\_109 (C1), Adlitam\_109 (C1), Alice\_102 (C1), Amataga\_109 (C1), ArcherS7\_108 (C1), Asterius\_106 (C1), Astraea\_106 (C1), Atlantean\_108 (C1), Audrick\_111 (C1), Ava3\_110 (C1), Babyland\_110 (C1), BackyardAgain\_106 (C1), BadAgartude\_105 (C1), BananaFence\_108 (C1), Bangla1971\_110 (C1), Basquiat\_105 (C1), BeanWater\_101 (C1), BigCity\_117 (C1), Bigswole\_113 (C1), Bipolarisk\_108 (C1), Blackbrain\_104 (C1), Blackdragon\_105 (C1), Blubba\_101 (C1), Bonray\_109 (C1), Bread\_109 (C1), Breeniome\_108 (C1), Burrough\_109 (C1), Bxz1\_107 (C1), Cactojaque\_104 (C1), Cali\_105 (C1), Cane17\_99 (C1), Capablanca\_111 (C1), Caravan\_104 (C1), Catera\_106 (C1), Chargie21\_105 (C1), CharlieB\_105 (C1), ChaylaJr\_104 (C1), ChickenPhender\_105 (C1), Chomp\_107 (C1), CindyLou\_110 (C1), Colt\_100 (C1), Concombre\_115 (C1), DTDevon\_110 (C1), Daffodil\_114 (C1), Dandelion\_115 (C1), Darko\_109 (C1), Delilah\_109 (C1), Delylah\_112 (C1), Derek\_109 (C1), Dietrick\_101 (C1), DirtMonster\_103 (C1), DrPhinkDaddy\_108 (C1), Drazdys\_108 (C1), ET08\_98 (C1), EasyJones\_111 (C1), EggyFarm\_117 (C1), EmToTheThree\_111 (C1), EmmaElysia\_109 (C1), Erdmann\_110 (C1), ErnieJ\_104 (C1), Essence\_106 (C1), Ewok\_110 (C1), Flabslab\_103 (C1), Fludd\_109 (C1), FoxtrotP1\_109 (C1), FrayBell\_114 (C1), FudgeTart\_108 (C1), Gabriel\_110 (C1), Gamgam\_109 (C1), Ghost\_108 (C1), Gizmo\_113 (C1), Grasshills\_116 (C1), Grungle\_97 (C1), Guwapp\_108 (C1), Halldule\_103 (C1), HyRo\_100 (C1), I3\_114 (C1), IkeLoa\_102 (C1), InigoMontoya\_110 (C1), Iota\_104 (C1), Issimir\_108 (C1), Izajani\_109 (C1), JPickles\_107 (C1), Janiyra\_111 (C1), JayJay\_110 (C1), Jaygup\_109 (C1), Jedediah\_112 (C1), Jemmno\_109 (C1), Jessibeth14\_108 (C1), JulietS\_104 (C1), JustHall\_106 (C1), Kamryn\_109 (C1), Kboogie\_113 (C1), Khaleesi\_108 (C1), Koguma\_106 (C1), LRRHood\_103 (C1), Latch\_109 (C1), Lee7\_107 (C1), LifeSavor\_108 (C1), LinStu\_108 (C1), Littleton\_109 (C1), Loanshark\_108 (C1), LolaVince\_110 (C1), LordLeafolot\_113 (C1), Lukilu\_100 (C1), Maby2021\_109 (C1), Mangeria\_109 (C1), Matsumoto\_106 (C1), McGee\_111 (C1), McWolfish\_107 (C1), Megamind\_108 (C1), Melpomini\_103 (C1), MikeLiesIn\_110 (C1), Mikro\_107 (C1), MoMoMixon\_110 (C1), Momo\_108 (C1), Morizzled23\_109 (C1), Naija\_108 (C1), Napoleon13\_105 (C1), Nappy\_112 (C1), Naval22\_114 (C1), NedWong\_110 (C1), Ngannou\_105 (C1), Nidhogg\_110 (C1), NoodleTree\_116 (C1), Norm\_110 (C1), NuevoMundo\_115 (C1), ParkTD\_110 (C1), Patter\_109 (C1), Phlegm\_111 (C1), Phox\_106 (C1), Phusco\_109 (C1), Pier\_114 (C1), Pinkcreek\_100 (C1), Pio\_113 (C1), Pivoine\_108 (C1), Pleione\_112 (C1), PurduePete\_109 (C1), QBert\_103 (C1), Quasimodo\_110 (C1), Rabinovish\_107 (C1), Rahel\_108 (C1), Rizal\_105 (C1), RoMag\_104 (C1), Ronan\_103 (C1), Roots515\_108 (C1), Salacia\_113 (C1), Sauce\_109 (C1), ScottMcG\_106 (C1), Sebata\_110 (C1), Shaqnato\_102 (C1), Shelob\_111 (C1), ShiaLabeouf\_108 (C1), Shifa\_97 (C1), Shnickers\_109 (C1), Shrimp\_109 (C1), SilverDipper\_110 (C1), SmallFry\_109 (C1), Spec\_105 (C1), Specks\_114 (C1), Sprinklers\_105 (C1), Spud\_109 (C1), SrishMeg2525\_108 (C1), StephanieG\_108 (C1), StubbySaigey\_112 (C1), Stubby\_101 (C1), Teardrop\_108 (C1), TinyTim\_109 (C1), Tonenili\_124 (C1), Tortoise16\_106 (C1), Trinitium\_106 (C1), Turret\_104 (C1), Tyke\_110 (C1), ValleyTerrace\_109 (C1), Wally\_108 (C1), Willis\_110 (C1), Yassified\_106 (C1), YemiJoy2021\_110 (C1), YoungMoneyMata\_110

(C1), Yucca\_109 (C1), Zalkecks\_110 (C1), Zeenon\_111 (C1), ZygoTaiga\_108 (C1),

Start 7:

- Found in 4 of 187 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 3 of 169
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Greely\_108 (C2), Myrna\_106 (C2), Phabba\_110 (C2), ScoobyDoobyDoo\_101 (C2),

### **Summary by clusters:**

There are 2 clusters represented in this pham: C2, C1,

Info for manual annotations of cluster C1:

- Start number 6 was manually annotated 166 times for cluster C1.

Info for manual annotations of cluster C2:

- Start number 7 was manually annotated 3 times for cluster C2.

### **Gene Information:**

Gene: Ading\_109 Start: 56610, Stop: 56840, Start Num: 6

Candidate Starts for Ading\_109:

(Start: 6 @56610 has 166 MA's), (11, 56757), (14, 56787), (17, 56817),

Gene: Adlitam\_109 Start: 56627, Stop: 56857, Start Num: 6

Candidate Starts for Adlitam\_109:

(Start: 6 @56627 has 166 MA's), (11, 56774), (14, 56804), (17, 56834),

Gene: Alice\_102 Start: 55904, Stop: 56134, Start Num: 6

Candidate Starts for Alice\_102:

(Start: 6 @55904 has 166 MA's), (11, 56051), (14, 56081), (17, 56111),

Gene: Amataga\_109 Start: 55872, Stop: 56102, Start Num: 6

Candidate Starts for Amataga\_109:

(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: ArcherS7\_108 Start: 56190, Stop: 56420, Start Num: 6

Candidate Starts for ArcherS7\_108:

(Start: 6 @56190 has 166 MA's), (11, 56337), (14, 56367), (17, 56397),

Gene: Asterius\_106 Start: 56865, Stop: 57095, Start Num: 6

Candidate Starts for Asterius\_106:

(Start: 6 @56865 has 166 MA's), (11, 57012), (14, 57042), (17, 57072),

Gene: Astraea\_106 Start: 55641, Stop: 55871, Start Num: 6

Candidate Starts for Astraea\_106:

(Start: 6 @55641 has 166 MA's), (11, 55788), (14, 55818), (17, 55848),

Gene: Atlantean\_108 Start: 55872, Stop: 56102, Start Num: 6

Candidate Starts for Atlantean\_108:

(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: Audrick\_111 Start: 55851, Stop: 56081, Start Num: 6

Candidate Starts for Audrick\_111:

(Start: 6 @55851 has 166 MA's), (11, 55998), (14, 56028), (17, 56058),

Gene: Ava3\_110 Start: 56785, Stop: 57015, Start Num: 6

Candidate Starts for Ava3\_110:

(Start: 6 @56785 has 166 MA's), (11, 56932), (14, 56962), (17, 56992),

Gene: Babyland\_110 Start: 55960, Stop: 56190, Start Num: 6

Candidate Starts for Babyland\_110:

(Start: 6 @55960 has 166 MA's), (11, 56107), (14, 56137), (17, 56167),

Gene: BackyardAgain\_106 Start: 55787, Stop: 56017, Start Num: 6

Candidate Starts for BackyardAgain\_106:

(Start: 6 @55787 has 166 MA's), (11, 55934), (14, 55964), (17, 55994),

Gene: BadAgartude\_105 Start: 57076, Stop: 57306, Start Num: 6

Candidate Starts for BadAgartude\_105:

(Start: 6 @57076 has 166 MA's), (11, 57223), (14, 57253), (17, 57283),

Gene: BananaFence\_108 Start: 57041, Stop: 57271, Start Num: 6

Candidate Starts for BananaFence\_108:

(Start: 6 @57041 has 166 MA's), (11, 57188), (14, 57218), (17, 57248),

Gene: Bangla1971\_110 Start: 56320, Stop: 56550, Start Num: 6

Candidate Starts for Bangla1971\_110:

(Start: 6 @56320 has 166 MA's), (11, 56467), (14, 56497), (17, 56527),

Gene: Basquiat\_105 Start: 55503, Stop: 55733, Start Num: 6

Candidate Starts for Basquiat\_105:

(Start: 6 @55503 has 166 MA's), (11, 55650), (14, 55680), (17, 55710),

Gene: BeanWater\_101 Start: 56637, Stop: 56867, Start Num: 6

Candidate Starts for BeanWater\_101:

(Start: 6 @56637 has 166 MA's), (11, 56784), (14, 56814), (17, 56844),

Gene: BigCity\_117 Start: 59301, Stop: 59531, Start Num: 6

Candidate Starts for BigCity\_117:

(Start: 6 @59301 has 166 MA's), (11, 59448), (14, 59478), (17, 59508),

Gene: Bigswole\_113 Start: 58586, Stop: 58816, Start Num: 6

Candidate Starts for Bigswole\_113:

(Start: 6 @58586 has 166 MA's), (11, 58733), (14, 58763), (17, 58793),

Gene: Bipolarisk\_108 Start: 57043, Stop: 57273, Start Num: 6

Candidate Starts for Bipolarisk\_108:

(Start: 6 @57043 has 166 MA's), (11, 57190), (14, 57220), (17, 57250),

Gene: Blackbrain\_104 Start: 55334, Stop: 55564, Start Num: 6

Candidate Starts for Blackbrain\_104:

(Start: 6 @55334 has 166 MA's), (11, 55481), (14, 55511), (17, 55541),

Gene: Blackdragon\_105 Start: 56467, Stop: 56697, Start Num: 6  
Candidate Starts for Blackdragon\_105:  
(Start: 6 @56467 has 166 MA's), (11, 56614), (14, 56644), (17, 56674),

Gene: Blubba\_101 Start: 57074, Stop: 57304, Start Num: 6  
Candidate Starts for Blubba\_101:  
(Start: 6 @57074 has 166 MA's), (11, 57221), (14, 57251), (17, 57281),

Gene: Bonray\_109 Start: 57216, Stop: 57446, Start Num: 6  
Candidate Starts for Bonray\_109:  
(Start: 6 @57216 has 166 MA's), (11, 57363), (14, 57393), (17, 57423),

Gene: Bread\_109 Start: 56871, Stop: 57101, Start Num: 6  
Candidate Starts for Bread\_109:  
(Start: 6 @56871 has 166 MA's), (11, 57018), (14, 57048), (17, 57078),

Gene: Breeniome\_108 Start: 55219, Stop: 55449, Start Num: 6  
Candidate Starts for Breeniome\_108:  
(Start: 6 @55219 has 166 MA's), (11, 55366), (14, 55396), (17, 55426),

Gene: Burrough\_109 Start: 57370, Stop: 57600, Start Num: 6  
Candidate Starts for Burrough\_109:  
(Start: 6 @57370 has 166 MA's), (11, 57517), (14, 57547), (17, 57577),

Gene: Bxz1\_107 Start: 58574, Stop: 58804, Start Num: 6  
Candidate Starts for Bxz1\_107:  
(Start: 6 @58574 has 166 MA's), (11, 58721), (14, 58751), (17, 58781),

Gene: Cactojaque\_104 Start: 55441, Stop: 55671, Start Num: 6  
Candidate Starts for Cactojaque\_104:  
(Start: 6 @55441 has 166 MA's), (11, 55588), (14, 55618), (17, 55648),

Gene: Cali\_105 Start: 57372, Stop: 57602, Start Num: 6  
Candidate Starts for Cali\_105:  
(Start: 6 @57372 has 166 MA's), (11, 57519), (14, 57549), (17, 57579),

Gene: Cane17\_99 Start: 57132, Stop: 57362, Start Num: 6  
Candidate Starts for Cane17\_99:  
(Start: 6 @57132 has 166 MA's), (11, 57279), (14, 57309), (17, 57339),

Gene: Capablanca\_111 Start: 57622, Stop: 57852, Start Num: 6  
Candidate Starts for Capablanca\_111:  
(Start: 6 @57622 has 166 MA's), (11, 57769), (14, 57799), (17, 57829),

Gene: Caravan\_104 Start: 56729, Stop: 56959, Start Num: 6  
Candidate Starts for Caravan\_104:  
(Start: 6 @56729 has 166 MA's), (11, 56876), (14, 56906), (17, 56936),

Gene: Catera\_106 Start: 55645, Stop: 55875, Start Num: 6  
Candidate Starts for Catera\_106:  
(Start: 6 @55645 has 166 MA's), (11, 55792), (14, 55822), (17, 55852),

Gene: Chargie21\_105 Start: 55503, Stop: 55733, Start Num: 6  
Candidate Starts for Chargie21\_105:  
(Start: 6 @55503 has 166 MA's), (11, 55650), (14, 55680), (17, 55710),

Gene: CharlieB\_105 Start: 55774, Stop: 56004, Start Num: 6  
Candidate Starts for CharlieB\_105:  
(Start: 6 @55774 has 166 MA's), (11, 55921), (14, 55951), (17, 55981),

Gene: ChaylaJr\_104 Start: 55268, Stop: 55498, Start Num: 6  
Candidate Starts for ChaylaJr\_104:  
(Start: 6 @55268 has 166 MA's), (11, 55415), (14, 55445), (17, 55475),

Gene: ChickenPhender\_105 Start: 55571, Stop: 55801, Start Num: 6  
Candidate Starts for ChickenPhender\_105:  
(Start: 6 @55571 has 166 MA's), (11, 55718), (14, 55748), (17, 55778),

Gene: Chomp\_107 Start: 57160, Stop: 57390, Start Num: 6  
Candidate Starts for Chomp\_107:  
(Start: 6 @57160 has 166 MA's), (11, 57307), (14, 57337), (17, 57367),

Gene: CindyLou\_110 Start: 57201, Stop: 57431, Start Num: 6  
Candidate Starts for CindyLou\_110:  
(Start: 6 @57201 has 166 MA's), (11, 57348), (14, 57378), (17, 57408),

Gene: Colt\_100 Start: 57728, Stop: 57958, Start Num: 6  
Candidate Starts for Colt\_100:  
(Start: 6 @57728 has 166 MA's), (11, 57875), (14, 57905), (17, 57935),

Gene: Concombre\_115 Start: 59532, Stop: 59762, Start Num: 6  
Candidate Starts for Concombre\_115:  
(Start: 6 @59532 has 166 MA's), (11, 59679), (14, 59709), (17, 59739),

Gene: DTDevon\_110 Start: 57412, Stop: 57642, Start Num: 6  
Candidate Starts for DTDevon\_110:  
(Start: 6 @57412 has 166 MA's), (11, 57559), (14, 57589), (17, 57619),

Gene: Daffodil\_114 Start: 57343, Stop: 57573, Start Num: 6  
Candidate Starts for Daffodil\_114:  
(Start: 6 @57343 has 166 MA's), (11, 57490), (14, 57520), (17, 57550),

Gene: Dandelion\_115 Start: 59524, Stop: 59754, Start Num: 6  
Candidate Starts for Dandelion\_115:  
(Start: 6 @59524 has 166 MA's), (11, 59671), (14, 59701), (17, 59731),

Gene: Darko\_109 Start: 57045, Stop: 57275, Start Num: 6  
Candidate Starts for Darko\_109:  
(Start: 6 @57045 has 166 MA's), (11, 57192), (14, 57222), (17, 57252),

Gene: Delilah\_109 Start: 57497, Stop: 57727, Start Num: 6  
Candidate Starts for Delilah\_109:  
(Start: 6 @57497 has 166 MA's), (11, 57644), (14, 57674), (17, 57704),

Gene: Delylah\_112 Start: 57036, Stop: 57266, Start Num: 6



Candidate Starts for Delylah\_112:  
(Start: 6 @57036 has 166 MA's), (11, 57183), (14, 57213), (17, 57243),

Gene: Derek\_109 Start: 56962, Stop: 57192, Start Num: 6  
Candidate Starts for Derek\_109:  
(Start: 6 @56962 has 166 MA's), (11, 57109), (14, 57139), (17, 57169),

Gene: Dietrick\_101 Start: 55038, Stop: 55268, Start Num: 6  
Candidate Starts for Dietrick\_101:  
(Start: 6 @55038 has 166 MA's), (11, 55185), (14, 55215), (17, 55245),

Gene: DirtMonster\_103 Start: 56296, Stop: 56526, Start Num: 6  
Candidate Starts for DirtMonster\_103:  
(Start: 6 @56296 has 166 MA's), (11, 56443), (14, 56473), (17, 56503),

Gene: DrPhinkDaddy\_108 Start: 57565, Stop: 57795, Start Num: 6  
Candidate Starts for DrPhinkDaddy\_108:  
(Start: 6 @57565 has 166 MA's), (11, 57712), (14, 57742), (17, 57772),

Gene: Drazdys\_108 Start: 56026, Stop: 56256, Start Num: 6  
Candidate Starts for Drazdys\_108:  
(Start: 6 @56026 has 166 MA's), (11, 56173), (14, 56203), (17, 56233),

Gene: ET08\_98 Start: 56026, Stop: 56256, Start Num: 6  
Candidate Starts for ET08\_98:  
(Start: 6 @56026 has 166 MA's), (11, 56173), (14, 56203), (17, 56233),

Gene: EasyJones\_111 Start: 56167, Stop: 56397, Start Num: 6  
Candidate Starts for EasyJones\_111:  
(Start: 6 @56167 has 166 MA's), (11, 56314), (14, 56344), (17, 56374),

Gene: EggyFarm\_117 Start: 59301, Stop: 59531, Start Num: 6  
Candidate Starts for EggyFarm\_117:  
(Start: 6 @59301 has 166 MA's), (11, 59448), (14, 59478), (17, 59508),

Gene: EmToTheThree\_111 Start: 58304, Stop: 58534, Start Num: 6  
Candidate Starts for EmToTheThree\_111:  
(Start: 6 @58304 has 166 MA's), (11, 58451), (14, 58481), (17, 58511),

Gene: EmmaElysia\_109 Start: 56091, Stop: 56321, Start Num: 6  
Candidate Starts for EmmaElysia\_109:  
(Start: 6 @56091 has 166 MA's), (11, 56238), (14, 56268), (17, 56298),

Gene: Erdmann\_110 Start: 57344, Stop: 57574, Start Num: 6  
Candidate Starts for Erdmann\_110:  
(Start: 6 @57344 has 166 MA's), (11, 57491), (14, 57521), (17, 57551),

Gene: ErnieJ\_104 Start: 55298, Stop: 55528, Start Num: 6  
Candidate Starts for ErnieJ\_104:  
(Start: 6 @55298 has 166 MA's), (11, 55445), (14, 55475), (17, 55505),

Gene: Essence\_106 Start: 56192, Stop: 56422, Start Num: 6  
Candidate Starts for Essence\_106:

(Start: 6 @56192 has 166 MA's), (11, 56339), (14, 56369), (17, 56399),

Gene: Ewok\_110 Start: 56731, Stop: 56961, Start Num: 6

Candidate Starts for Ewok\_110:

(Start: 6 @56731 has 166 MA's), (11, 56878), (14, 56908), (17, 56938),

Gene: Flabslab\_103 Start: 54423, Stop: 54653, Start Num: 6

Candidate Starts for Flabslab\_103:

(Start: 6 @54423 has 166 MA's), (11, 54570), (14, 54600), (17, 54630),

Gene: Fludd\_109 Start: 55938, Stop: 56168, Start Num: 6

Candidate Starts for Fludd\_109:

(Start: 6 @55938 has 166 MA's), (11, 56085), (14, 56115), (17, 56145),

Gene: FoxtrotP1\_109 Start: 58514, Stop: 58744, Start Num: 6

Candidate Starts for FoxtrotP1\_109:

(Start: 6 @58514 has 166 MA's), (11, 58661), (14, 58691), (17, 58721),

Gene: FrayBell\_114 Start: 57678, Stop: 57908, Start Num: 6

Candidate Starts for FrayBell\_114:

(Start: 6 @57678 has 166 MA's), (11, 57825), (14, 57855), (17, 57885),

Gene: FudgeTart\_108 Start: 56372, Stop: 56602, Start Num: 6

Candidate Starts for FudgeTart\_108:

(Start: 6 @56372 has 166 MA's), (11, 56519), (14, 56549), (17, 56579),

Gene: Gabriel\_110 Start: 55598, Stop: 55828, Start Num: 6

Candidate Starts for Gabriel\_110:

(Start: 6 @55598 has 166 MA's), (11, 55745), (14, 55775), (17, 55805),

Gene: Gamgam\_109 Start: 55872, Stop: 56102, Start Num: 6

Candidate Starts for Gamgam\_109:

(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: Ghost\_108 Start: 55872, Stop: 56102, Start Num: 6

Candidate Starts for Ghost\_108:

(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: Gizmo\_113 Start: 58494, Stop: 58724, Start Num: 6

Candidate Starts for Gizmo\_113:

(Start: 6 @58494 has 166 MA's), (11, 58641), (14, 58671), (17, 58701),

Gene: Grasshills\_116 Start: 59301, Stop: 59531, Start Num: 6

Candidate Starts for Grasshills\_116:

(Start: 6 @59301 has 166 MA's), (11, 59448), (14, 59478), (17, 59508),

Gene: Greely\_108 Start: 55034, Stop: 55237, Start Num: 7

Candidate Starts for Greely\_108:

(Start: 7 @55034 has 3 MA's), (9, 55091), (10, 55094), (16, 55196), (17, 55217),

Gene: Grungle\_97 Start: 53615, Stop: 53845, Start Num: 6

Candidate Starts for Grungle\_97:

(Start: 6 @53615 has 166 MA's), (11, 53762), (14, 53792), (17, 53822),

Gene: Guwapp\_108 Start: 55763, Stop: 55993, Start Num: 6  
Candidate Starts for Guwapp\_108:  
(Start: 6 @55763 has 166 MA's), (11, 55910), (14, 55940), (17, 55970),

Gene: Halldule\_103 Start: 54641, Stop: 54871, Start Num: 6  
Candidate Starts for Halldule\_103:  
(Start: 6 @54641 has 166 MA's), (11, 54788), (14, 54818), (17, 54848),

Gene: HyRo\_100 Start: 55868, Stop: 56098, Start Num: 6  
Candidate Starts for HyRo\_100:  
(Start: 6 @55868 has 166 MA's), (11, 56015), (14, 56045), (17, 56075),

Gene: I3\_114 Start: 57829, Stop: 58059, Start Num: 6  
Candidate Starts for I3\_114:  
(Start: 6 @57829 has 166 MA's), (11, 57976), (14, 58006), (17, 58036),

Gene: IkeLoa\_102 Start: 55698, Stop: 55928, Start Num: 6  
Candidate Starts for IkeLoa\_102:  
(Start: 6 @55698 has 166 MA's), (11, 55845), (14, 55875), (17, 55905),

Gene: InigoMontoya\_110 Start: 55833, Stop: 56063, Start Num: 6  
Candidate Starts for InigoMontoya\_110:  
(Start: 6 @55833 has 166 MA's), (11, 55980), (14, 56010), (17, 56040),

Gene: Iota\_104 Start: 56309, Stop: 56539, Start Num: 6  
Candidate Starts for Iota\_104:  
(Start: 6 @56309 has 166 MA's), (11, 56456), (14, 56486), (17, 56516),

Gene: Issimir\_108 Start: 57318, Stop: 57548, Start Num: 6  
Candidate Starts for Issimir\_108:  
(Start: 6 @57318 has 166 MA's), (11, 57465), (14, 57495), (17, 57525),

Gene: Izajani\_109 Start: 57524, Stop: 57754, Start Num: 6  
Candidate Starts for Izajani\_109:  
(Start: 6 @57524 has 166 MA's), (11, 57671), (14, 57701), (17, 57731),

Gene: JPickles\_107 Start: 55103, Stop: 55333, Start Num: 6  
Candidate Starts for JPickles\_107:  
(Start: 6 @55103 has 166 MA's), (11, 55250), (14, 55280), (17, 55310),

Gene: Janiyra\_111 Start: 56799, Stop: 57029, Start Num: 6  
Candidate Starts for Janiyra\_111:  
(Start: 6 @56799 has 166 MA's), (11, 56946), (14, 56976), (17, 57006),

Gene: JayJay\_110 Start: 58308, Stop: 58538, Start Num: 6  
Candidate Starts for JayJay\_110:  
(Start: 6 @58308 has 166 MA's), (11, 58455), (14, 58485), (17, 58515),

Gene: Jaygup\_109 Start: 56628, Stop: 56858, Start Num: 6  
Candidate Starts for Jaygup\_109:  
(Start: 6 @56628 has 166 MA's), (11, 56775), (14, 56805), (17, 56835),

Gene: Jedediah\_112 Start: 57161, Stop: 57391, Start Num: 6  
Candidate Starts for Jedediah\_112:  
(Start: 6 @57161 has 166 MA's), (11, 57308), (14, 57338), (17, 57368),

Gene: Jemmno\_109 Start: 56608, Stop: 56838, Start Num: 6  
Candidate Starts for Jemmno\_109:  
(Start: 6 @56608 has 166 MA's), (11, 56755), (14, 56785), (17, 56815),

Gene: Jessibeth14\_108 Start: 57129, Stop: 57359, Start Num: 6  
Candidate Starts for Jessibeth14\_108:  
(Start: 6 @57129 has 166 MA's), (11, 57276), (14, 57306), (17, 57336),

Gene: JulietS\_104 Start: 54494, Stop: 54724, Start Num: 6  
Candidate Starts for JulietS\_104:  
(Start: 6 @54494 has 166 MA's), (11, 54641), (14, 54671), (17, 54701),

Gene: JustHall\_106 Start: 56667, Stop: 56897, Start Num: 6  
Candidate Starts for JustHall\_106:  
(Start: 6 @56667 has 166 MA's), (11, 56814), (14, 56844), (17, 56874),

Gene: Kamryn\_109 Start: 57944, Stop: 58174, Start Num: 6  
Candidate Starts for Kamryn\_109:  
(Start: 6 @57944 has 166 MA's), (11, 58091), (14, 58121), (17, 58151),

Gene: Kboogie\_113 Start: 56300, Stop: 56530, Start Num: 6  
Candidate Starts for Kboogie\_113:  
(Start: 6 @56300 has 166 MA's), (11, 56447), (14, 56477), (17, 56507),

Gene: Khaleesi\_108 Start: 57243, Stop: 57473, Start Num: 6  
Candidate Starts for Khaleesi\_108:  
(Start: 6 @57243 has 166 MA's), (11, 57390), (14, 57420), (17, 57450),

Gene: Koguma\_106 Start: 54788, Stop: 55018, Start Num: 6  
Candidate Starts for Koguma\_106:  
(Start: 6 @54788 has 166 MA's), (11, 54935), (14, 54965), (17, 54995),

Gene: LRRHood\_103 Start: 56586, Stop: 56816, Start Num: 6  
Candidate Starts for LRRHood\_103:  
(Start: 6 @56586 has 166 MA's), (11, 56733), (14, 56763), (17, 56793),

Gene: Latch\_109 Start: 55872, Stop: 56102, Start Num: 6  
Candidate Starts for Latch\_109:  
(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: Lee7\_107 Start: 57877, Stop: 58107, Start Num: 6  
Candidate Starts for Lee7\_107:  
(Start: 6 @57877 has 166 MA's), (11, 58024), (14, 58054), (17, 58084),

Gene: LifeSavor\_108 Start: 56560, Stop: 56790, Start Num: 6  
Candidate Starts for LifeSavor\_108:  
(Start: 6 @56560 has 166 MA's), (11, 56707), (14, 56737), (17, 56767),

Gene: LinStu\_108 Start: 57194, Stop: 57424, Start Num: 6

Candidate Starts for LinStu\_108:  
(Start: 6 @57194 has 166 MA's), (11, 57341), (14, 57371), (17, 57401),

Gene: Littleton\_109 Start: 56689, Stop: 56919, Start Num: 6  
Candidate Starts for Littleton\_109:  
(Start: 6 @56689 has 166 MA's), (11, 56836), (14, 56866), (17, 56896),

Gene: Loanshark\_108 Start: 57211, Stop: 57441, Start Num: 6  
Candidate Starts for Loanshark\_108:  
(Start: 6 @57211 has 166 MA's), (11, 57358), (14, 57388), (17, 57418),

Gene: LolaVinca\_110 Start: 57563, Stop: 57793, Start Num: 6  
Candidate Starts for LolaVinca\_110:  
(Start: 6 @57563 has 166 MA's), (11, 57710), (14, 57740), (17, 57770),

Gene: LordLeafolot\_113 Start: 58530, Stop: 58760, Start Num: 6  
Candidate Starts for LordLeafolot\_113:  
(Start: 6 @58530 has 166 MA's), (11, 58677), (14, 58707), (17, 58737),

Gene: Lukilu\_100 Start: 56976, Stop: 57206, Start Num: 6  
Candidate Starts for Lukilu\_100:  
(Start: 6 @56976 has 166 MA's), (11, 57123), (14, 57153), (17, 57183),

Gene: Maby2021\_109 Start: 57337, Stop: 57567, Start Num: 6  
Candidate Starts for Maby2021\_109:  
(Start: 6 @57337 has 166 MA's), (11, 57484), (14, 57514), (17, 57544),

Gene: Mangeria\_109 Start: 57406, Stop: 57636, Start Num: 6  
Candidate Starts for Mangeria\_109:  
(Start: 6 @57406 has 166 MA's), (11, 57553), (14, 57583), (17, 57613),

Gene: Matsumoto\_106 Start: 56188, Stop: 56418, Start Num: 6  
Candidate Starts for Matsumoto\_106:  
(Start: 6 @56188 has 166 MA's), (11, 56335), (14, 56365), (17, 56395),

Gene: McGee\_111 Start: 55941, Stop: 56171, Start Num: 6  
Candidate Starts for McGee\_111:  
(Start: 6 @55941 has 166 MA's), (11, 56088), (14, 56118), (17, 56148),

Gene: McWolfish\_107 Start: 57126, Stop: 57356, Start Num: 6  
Candidate Starts for McWolfish\_107:  
(Start: 6 @57126 has 166 MA's), (11, 57273), (14, 57303), (17, 57333),

Gene: Megamind\_108 Start: 57010, Stop: 57240, Start Num: 6  
Candidate Starts for Megamind\_108:  
(Start: 6 @57010 has 166 MA's), (11, 57157), (14, 57187), (17, 57217),

Gene: Melpomini\_103 Start: 54476, Stop: 54706, Start Num: 6  
Candidate Starts for Melpomini\_103:  
(Start: 6 @54476 has 166 MA's), (11, 54623), (14, 54653), (17, 54683),

Gene: MikeLiesIn\_110 Start: 57357, Stop: 57587, Start Num: 6  
Candidate Starts for MikeLiesIn\_110:

(Start: 6 @57357 has 166 MA's), (11, 57504), (14, 57534), (17, 57564),

Gene: Mikro\_107 Start: 58579, Stop: 58809, Start Num: 6

Candidate Starts for Mikro\_107:

(Start: 6 @58579 has 166 MA's), (11, 58726), (14, 58756), (17, 58786),

Gene: MoMoMixon\_110 Start: 56833, Stop: 57063, Start Num: 6

Candidate Starts for MoMoMixon\_110:

(Start: 6 @56833 has 166 MA's), (11, 56980), (14, 57010), (17, 57040),

Gene: Momo\_108 Start: 55872, Stop: 56102, Start Num: 6

Candidate Starts for Momo\_108:

(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: Morizzled23\_109 Start: 56237, Stop: 56467, Start Num: 6

Candidate Starts for Morizzled23\_109:

(Start: 6 @56237 has 166 MA's), (11, 56384), (14, 56414), (17, 56444),

Gene: Myrna\_106 Start: 55990, Stop: 56193, Start Num: 7

Candidate Starts for Myrna\_106:

(Start: 7 @55990 has 3 MA's), (8, 55996), (9, 56047), (10, 56050), (11, 56113), (15, 56149), (17, 56173),

Gene: Naija\_108 Start: 55872, Stop: 56102, Start Num: 6

Candidate Starts for Naija\_108:

(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: Napoleon13\_105 Start: 54914, Stop: 55144, Start Num: 6

Candidate Starts for Napoleon13\_105:

(Start: 6 @54914 has 166 MA's), (11, 55061), (14, 55091), (17, 55121),

Gene: Nappy\_112 Start: 58267, Stop: 58497, Start Num: 6

Candidate Starts for Nappy\_112:

(Start: 6 @58267 has 166 MA's), (11, 58414), (14, 58444), (17, 58474),

Gene: Naval22\_114 Start: 58800, Stop: 59030, Start Num: 6

Candidate Starts for Naval22\_114:

(Start: 6 @58800 has 166 MA's), (11, 58947), (14, 58977), (17, 59007),

Gene: NedWong\_110 Start: 57344, Stop: 57574, Start Num: 6

Candidate Starts for NedWong\_110:

(Start: 6 @57344 has 166 MA's), (11, 57491), (14, 57521), (17, 57551),

Gene: Ngannou\_105 Start: 54854, Stop: 55084, Start Num: 6

Candidate Starts for Ngannou\_105:

(Start: 6 @54854 has 166 MA's), (11, 55001), (14, 55031), (17, 55061),

Gene: Nidhogg\_110 Start: 57078, Stop: 57308, Start Num: 6

Candidate Starts for Nidhogg\_110:

(Start: 6 @57078 has 166 MA's), (11, 57225), (14, 57255), (17, 57285),

Gene: NoodleTree\_116 Start: 57436, Stop: 57666, Start Num: 6

Candidate Starts for NoodleTree\_116:

(Start: 6 @57436 has 166 MA's), (11, 57583), (14, 57613), (17, 57643),

Gene: Norm\_110 Start: 58039, Stop: 58269, Start Num: 6

Candidate Starts for Norm\_110:

(Start: 6 @58039 has 166 MA's), (11, 58186), (14, 58216), (17, 58246),

Gene: NuevoMundo\_115 Start: 59618, Stop: 59848, Start Num: 6

Candidate Starts for NuevoMundo\_115:

(Start: 6 @59618 has 166 MA's), (11, 59765), (14, 59795), (17, 59825),

Gene: ParkTD\_110 Start: 57340, Stop: 57570, Start Num: 6

Candidate Starts for ParkTD\_110:

(Start: 6 @57340 has 166 MA's), (11, 57487), (14, 57517), (17, 57547),

Gene: Patter\_109 Start: 55889, Stop: 56119, Start Num: 6

Candidate Starts for Patter\_109:

(Start: 6 @55889 has 166 MA's), (11, 56036), (14, 56066), (17, 56096),

Gene: Phabba\_110 Start: 54786, Stop: 54989, Start Num: 7

Candidate Starts for Phabba\_110:

(Start: 7 @54786 has 3 MA's), (8, 54792), (9, 54843), (10, 54846), (12, 54927), (16, 54948), (17, 54969),

Gene: Phlegm\_111 Start: 55872, Stop: 56102, Start Num: 6

Candidate Starts for Phlegm\_111:

(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: Phox\_106 Start: 57620, Stop: 57850, Start Num: 6

Candidate Starts for Phox\_106:

(Start: 6 @57620 has 166 MA's), (11, 57767), (14, 57797), (17, 57827),

Gene: Phusco\_109 Start: 56637, Stop: 56867, Start Num: 6

Candidate Starts for Phusco\_109:

(Start: 6 @56637 has 166 MA's), (11, 56784), (14, 56814), (17, 56844),

Gene: Pier\_114 Start: 59626, Stop: 59856, Start Num: 6

Candidate Starts for Pier\_114:

(Start: 6 @59626 has 166 MA's), (11, 59773), (14, 59803), (17, 59833),

Gene: Pinkcreek\_100 Start: 54960, Stop: 55190, Start Num: 6

Candidate Starts for Pinkcreek\_100:

(Start: 6 @54960 has 166 MA's), (11, 55107), (14, 55137), (17, 55167),

Gene: Pio\_113 Start: 59230, Stop: 59460, Start Num: 6

Candidate Starts for Pio\_113:

(Start: 6 @59230 has 166 MA's), (11, 59377), (14, 59407), (17, 59437),

Gene: Pivoine\_108 Start: 55872, Stop: 56102, Start Num: 6

Candidate Starts for Pivoine\_108:

(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: Pleione\_112 Start: 57507, Stop: 57737, Start Num: 6

Candidate Starts for Pleione\_112:

(Start: 6 @57507 has 166 MA's), (11, 57654), (14, 57684), (17, 57714),

Gene: PurduePete\_109 Start: 57764, Stop: 57994, Start Num: 6

Candidate Starts for PurduePete\_109:

(Start: 6 @57764 has 166 MA's), (11, 57911), (14, 57941), (17, 57971),

Gene: QBert\_103 Start: 56343, Stop: 56573, Start Num: 6

Candidate Starts for QBert\_103:

(Start: 6 @56343 has 166 MA's), (11, 56490), (14, 56520), (17, 56550),

Gene: Quasimodo\_110 Start: 57299, Stop: 57529, Start Num: 6

Candidate Starts for Quasimodo\_110:

(Start: 6 @57299 has 166 MA's), (11, 57446), (14, 57476), (17, 57506),

Gene: Rabinovish\_107 Start: 57536, Stop: 57766, Start Num: 6

Candidate Starts for Rabinovish\_107:

(Start: 6 @57536 has 166 MA's), (11, 57683), (14, 57713), (17, 57743),

Gene: Rahel\_108 Start: 56229, Stop: 56459, Start Num: 6

Candidate Starts for Rahel\_108:

(Start: 6 @56229 has 166 MA's), (11, 56376), (14, 56406), (17, 56436),

Gene: Rizal\_105 Start: 55377, Stop: 55607, Start Num: 6

Candidate Starts for Rizal\_105:

(Start: 6 @55377 has 166 MA's), (11, 55524), (14, 55554), (17, 55584),

Gene: RoMag\_104 Start: 56549, Stop: 56779, Start Num: 6

Candidate Starts for RoMag\_104:

(Start: 6 @56549 has 166 MA's), (11, 56696), (14, 56726), (17, 56756),

Gene: Ronan\_103 Start: 54500, Stop: 54730, Start Num: 6

Candidate Starts for Ronan\_103:

(Start: 6 @54500 has 166 MA's), (11, 54647), (14, 54677), (17, 54707),

Gene: Roots515\_108 Start: 57537, Stop: 57767, Start Num: 6

Candidate Starts for Roots515\_108:

(Start: 6 @57537 has 166 MA's), (11, 57684), (14, 57714), (17, 57744),

Gene: Salacia\_113 Start: 57678, Stop: 57908, Start Num: 6

Candidate Starts for Salacia\_113:

(Start: 6 @57678 has 166 MA's), (11, 57825), (14, 57855), (17, 57885),

Gene: Sauce\_109 Start: 56284, Stop: 56514, Start Num: 6

Candidate Starts for Sauce\_109:

(Start: 6 @56284 has 166 MA's), (11, 56431), (14, 56461), (17, 56491),

Gene: ScoobyDoobyDoo\_101 Start: 54368, Stop: 54574, Start Num: 7

Candidate Starts for ScoobyDoobyDoo\_101:

(Start: 7 @54368 has 3 MA's), (9, 54425), (10, 54428), (15, 54527),

Gene: ScottMcG\_106 Start: 56299, Stop: 56529, Start Num: 6

Candidate Starts for ScottMcG\_106:

(Start: 6 @56299 has 166 MA's), (11, 56446), (14, 56476), (17, 56506),



Gene: Sebata\_110 Start: 57753, Stop: 57983, Start Num: 6  
Candidate Starts for Sebata\_110:  
(Start: 6 @57753 has 166 MA's), (11, 57900), (14, 57930), (17, 57960),

Gene: Shaqnato\_102 Start: 55343, Stop: 55573, Start Num: 6  
Candidate Starts for Shaqnato\_102:  
(Start: 6 @55343 has 166 MA's), (11, 55490), (14, 55520), (17, 55550),

Gene: Shelob\_111 Start: 58125, Stop: 58355, Start Num: 6  
Candidate Starts for Shelob\_111:  
(Start: 6 @58125 has 166 MA's), (11, 58272), (14, 58302), (17, 58332),

Gene: ShiaLabeouf\_108 Start: 56664, Stop: 56894, Start Num: 6  
Candidate Starts for ShiaLabeouf\_108:  
(Start: 6 @56664 has 166 MA's), (11, 56811), (14, 56841), (17, 56871),

Gene: Shifa\_97 Start: 55134, Stop: 55364, Start Num: 6  
Candidate Starts for Shifa\_97:  
(Start: 6 @55134 has 166 MA's), (11, 55281), (14, 55311), (17, 55341),

Gene: Shnickers\_109 Start: 56628, Stop: 56858, Start Num: 6  
Candidate Starts for Shnickers\_109:  
(Start: 6 @56628 has 166 MA's), (11, 56775), (14, 56805), (17, 56835),

Gene: Shrimp\_109 Start: 57348, Stop: 57578, Start Num: 6  
Candidate Starts for Shrimp\_109:  
(Start: 6 @57348 has 166 MA's), (11, 57495), (14, 57525), (17, 57555),

Gene: SilverDipper\_110 Start: 55872, Stop: 56102, Start Num: 6  
Candidate Starts for SilverDipper\_110:  
(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: SmallFry\_109 Start: 55853, Stop: 56083, Start Num: 6  
Candidate Starts for SmallFry\_109:  
(Start: 6 @55853 has 166 MA's), (11, 56000), (14, 56030), (17, 56060),

Gene: Spec\_105 Start: 56393, Stop: 56623, Start Num: 6  
Candidate Starts for Spec\_105:  
(Start: 6 @56393 has 166 MA's), (11, 56540), (14, 56570), (17, 56600),

Gene: Specks\_114 Start: 58527, Stop: 58757, Start Num: 6  
Candidate Starts for Specks\_114:  
(Start: 6 @58527 has 166 MA's), (11, 58674), (14, 58704), (17, 58734),

Gene: Sprinklers\_105 Start: 55909, Stop: 56139, Start Num: 6  
Candidate Starts for Sprinklers\_105:  
(Start: 6 @55909 has 166 MA's), (11, 56056), (14, 56086), (17, 56116),

Gene: Spud\_109 Start: 57424, Stop: 57654, Start Num: 6  
Candidate Starts for Spud\_109:  
(Start: 6 @57424 has 166 MA's), (11, 57571), (14, 57601), (17, 57631),

Gene: SrishMeg2525\_108 Start: 57446, Stop: 57676, Start Num: 6  
Candidate Starts for SrishMeg2525\_108:  
(Start: 6 @57446 has 166 MA's), (11, 57593), (14, 57623), (17, 57653),

Gene: StephanieG\_108 Start: 58254, Stop: 58484, Start Num: 6  
Candidate Starts for StephanieG\_108:  
(Start: 6 @58254 has 166 MA's), (11, 58401), (14, 58431), (17, 58461),

Gene: Stubby\_101 Start: 55450, Stop: 55680, Start Num: 6  
Candidate Starts for Stubby\_101:  
(Start: 6 @55450 has 166 MA's), (11, 55597), (14, 55627), (17, 55657),

Gene: StubbySaigey\_112 Start: 56041, Stop: 56271, Start Num: 6  
Candidate Starts for StubbySaigey\_112:  
(Start: 6 @56041 has 166 MA's), (11, 56188), (14, 56218), (17, 56248),

Gene: Teardrop\_108 Start: 55851, Stop: 56081, Start Num: 6  
Candidate Starts for Teardrop\_108:  
(Start: 6 @55851 has 166 MA's), (11, 55998), (14, 56028), (17, 56058),

Gene: TinyTim\_109 Start: 57104, Stop: 57334, Start Num: 6  
Candidate Starts for TinyTim\_109:  
(Start: 6 @57104 has 166 MA's), (11, 57251), (14, 57281), (17, 57311),

Gene: Tonenili\_124 Start: 60562, Stop: 60807, Start Num: 6  
Candidate Starts for Tonenili\_124:  
(1, 60043), (2, 60049), (3, 60130), (4, 60274), (5, 60310), (Start: 6 @60562 has 166 MA's), (10, 60646), (11, 60709), (13, 60733), (17, 60769),

Gene: Tortoise16\_106 Start: 56452, Stop: 56682, Start Num: 6  
Candidate Starts for Tortoise16\_106:  
(Start: 6 @56452 has 166 MA's), (11, 56599), (14, 56629), (17, 56659),

Gene: Trinitium\_106 Start: 55807, Stop: 56037, Start Num: 6  
Candidate Starts for Trinitium\_106:  
(Start: 6 @55807 has 166 MA's), (11, 55954), (14, 55984), (17, 56014),

Gene: Turret\_104 Start: 55252, Stop: 55482, Start Num: 6  
Candidate Starts for Turret\_104:  
(Start: 6 @55252 has 166 MA's), (11, 55399), (14, 55429), (17, 55459),

Gene: Tyke\_110 Start: 57759, Stop: 57989, Start Num: 6  
Candidate Starts for Tyke\_110:  
(Start: 6 @57759 has 166 MA's), (11, 57906), (14, 57936), (17, 57966),

Gene: ValleyTerrace\_109 Start: 55872, Stop: 56102, Start Num: 6  
Candidate Starts for ValleyTerrace\_109:  
(Start: 6 @55872 has 166 MA's), (11, 56019), (14, 56049), (17, 56079),

Gene: Wally\_108 Start: 55882, Stop: 56112, Start Num: 6  
Candidate Starts for Wally\_108:  
(Start: 6 @55882 has 166 MA's), (11, 56029), (14, 56059), (17, 56089),

Gene: Willis\_110 Start: 57239, Stop: 57469, Start Num: 6  
Candidate Starts for Willis\_110:  
(Start: 6 @57239 has 166 MA's), (11, 57386), (14, 57416), (17, 57446),

Gene: Yassified\_106 Start: 55959, Stop: 56189, Start Num: 6  
Candidate Starts for Yassified\_106:  
(Start: 6 @55959 has 166 MA's), (11, 56106), (14, 56136), (17, 56166),

Gene: YemiJoy2021\_110 Start: 57341, Stop: 57571, Start Num: 6  
Candidate Starts for YemiJoy2021\_110:  
(Start: 6 @57341 has 166 MA's), (11, 57488), (14, 57518), (17, 57548),

Gene: YoungMoneyMata\_110 Start: 56508, Stop: 56738, Start Num: 6  
Candidate Starts for YoungMoneyMata\_110:  
(Start: 6 @56508 has 166 MA's), (11, 56655), (14, 56685), (17, 56715),

Gene: Yucca\_109 Start: 57023, Stop: 57253, Start Num: 6  
Candidate Starts for Yucca\_109:  
(Start: 6 @57023 has 166 MA's), (11, 57170), (14, 57200), (17, 57230),

Gene: Zalkecks\_110 Start: 57024, Stop: 57254, Start Num: 6  
Candidate Starts for Zalkecks\_110:  
(Start: 6 @57024 has 166 MA's), (11, 57171), (14, 57201), (17, 57231),

Gene: Zeenon\_111 Start: 57109, Stop: 57339, Start Num: 6  
Candidate Starts for Zeenon\_111:  
(Start: 6 @57109 has 166 MA's), (11, 57256), (14, 57286), (17, 57316),

Gene: ZygoTaiga\_108 Start: 58269, Stop: 58499, Start Num: 6  
Candidate Starts for ZygoTaiga\_108:  
(Start: 6 @58269 has 166 MA's), (11, 58416), (14, 58446), (17, 58476),