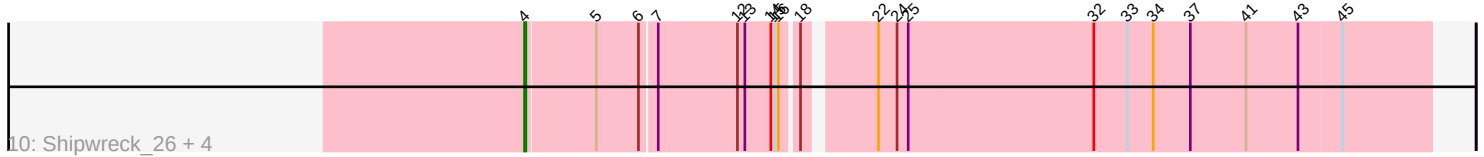
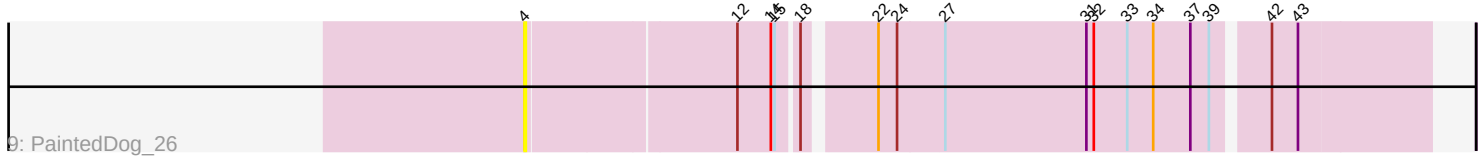
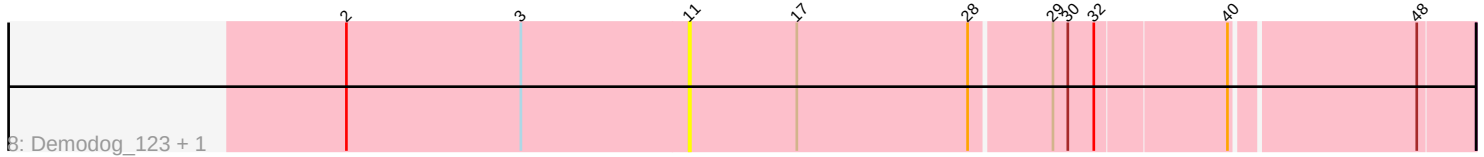
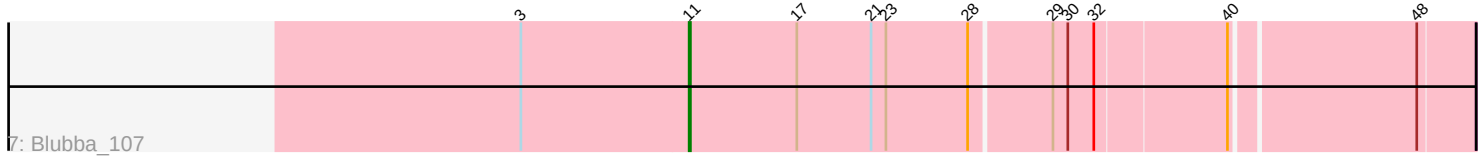
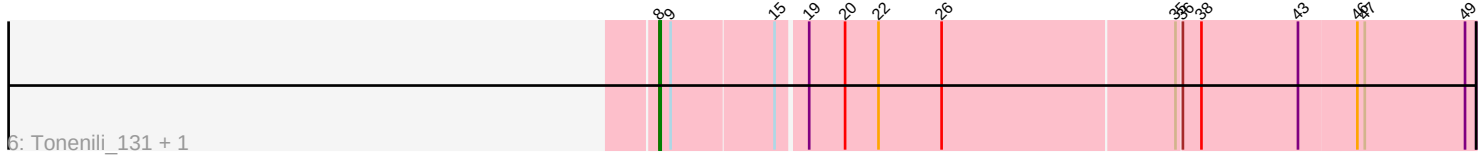
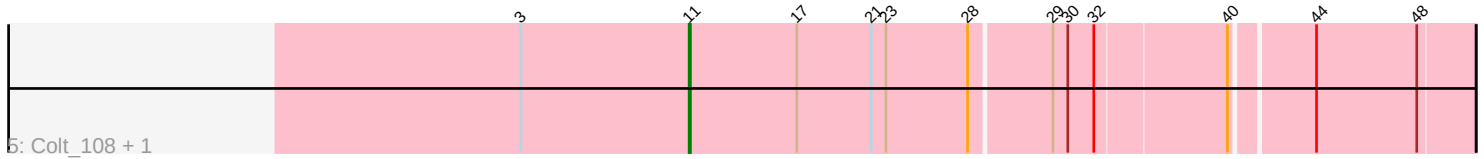
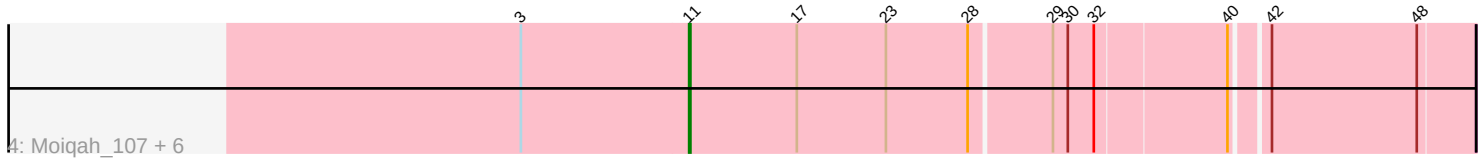
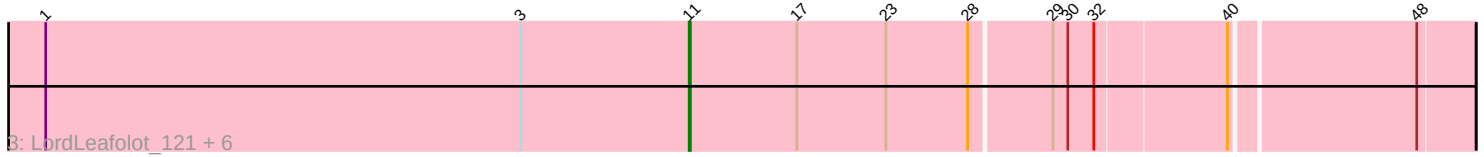
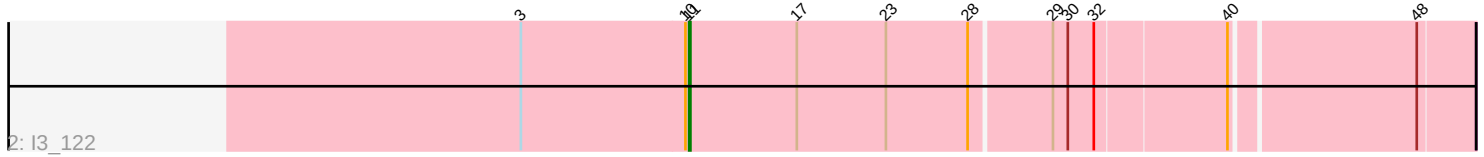
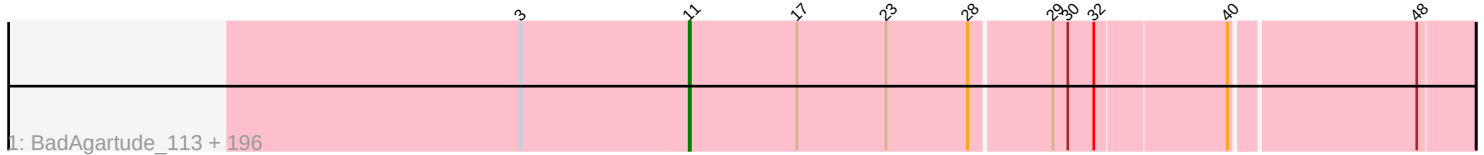


## Pham 330471



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 330471 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330471 has 225 members, 32 are drafts.

Phages represented in each track:

- Track 1 : BadAgartude\_113, FoxtrotP1\_117, DeejaClivia\_104, Ewok\_118, Sauce\_117, Caravan\_111, Dietrick\_109, JPickles\_114, Darko\_117, CharlieB\_113, Koguma\_114, Naija\_116, Spud\_116, LinStu\_115, Audrick\_119, SilverDipper\_118, LRRHood\_110, NedWong\_118, Jessibeth14\_116, SrishMeg2525\_116, Fludd\_117, Substance289\_114, Pivoine\_116, InterFolia\_123, Sebata\_117, Basquiat\_113, Rizal\_112, GlutenPhree\_118, OrediggerDelux\_120, Rocha\_115, JayJay\_122, Ghost\_115, ValleyTerrace\_117, EggyFarm\_124, Shaqnato\_110, Quasimodo\_118, Roots515\_115, Blackdragon\_112, Kboogie\_121, Drazdys\_115, YemiJoy2021\_118, Matsumoto\_115, JigglyPuff\_124, FrayBell\_122, ErnieJ\_111, Delylah\_120, ShiaLabeouf\_116, ET08\_105, SVoro\_114, DTDevon\_117, ChaylaJr\_112, Issimir\_115, CindyLou\_118, Mangeria\_117, Delilah\_117, Astraea\_113, ArcherS7\_116, Grungle\_104, EasyJones\_119, Maby2021\_117, Amataga\_117, Izajani\_117, TinyTim\_117, Loanshark\_116, SiwenD96\_118, Essence\_114, PharkleMinkus\_120, Gizmo\_121, Breeniome\_116, Shelob\_119, GoldenSnow\_120, Burrough\_117, Tainan\_120, Derek\_116, Atlantean\_116, Yassified\_114, Erdmann\_117, Maguvora\_121, MikeLiesIn\_118, Jemmno\_117, Pier\_121, Megamind\_116, Napoleon13\_113, Spec\_114, Cali\_112, Fixie\_109, RoMag\_112, Capablanca\_119, DrPhinkDaddy\_116, Sprinklers\_113, Jaygup\_117, Shnickers\_117, SmallFry\_117, Jezreel\_117, ChickenPhender\_113, Latch\_117, Bowman\_119, Pupusa\_122, Lethe\_115, Ading\_117, Bangla1971\_118, BackyardAgain\_114, Rahel\_116, Norm\_118, Flabslab\_111, Janiyra\_119, Nappy\_119, Kamryn\_117, Phlegm\_119, Melpomini\_111, Bigswole\_120, MoMoMixon\_117, Phusco\_117, Puhon\_120, Teardrop\_116, Dandelion\_122, Lunareta\_115, Ngannou\_113, Trinitium\_114, BigCity\_124, Tortoise16\_114, Maturis\_114, ParkTD\_118, ZygoTaiga\_115, Duckfeet\_109, Zalkecks\_118, Adlitam\_117, BananaFence\_116, Nidhogg\_118, Chargie21\_113, JulietS\_111, Zeenon\_118, EmToTheThree\_119, Belieber\_112, Gabriel\_117, YoungMoneyMata\_118, Asterius\_120, Ronan\_111, Turret\_112, McGee\_119, Catera\_113, Rabinovish\_114, Phox\_114, Primadonna\_110, Specks\_122, Blackbrain\_112, QBert\_111, Dessert\_117, StubbySaigey\_120, Willis\_118, BeanWater\_109, Ava3\_118, Iota\_112, Morizzled23\_117, Halldule\_110, Pio\_121, SoilZilla\_112, LookingGlass\_117, Jedediah\_120, Domi\_110, McWolfish\_115, StephanieG\_115, ScottMcG\_113, NoodleTree\_124, Momo\_116, EmmaElysia\_117, Mikro\_114, Bread\_116, Pleione\_120, Babyland\_118, Lee7\_120, JustHall\_114, Tyke\_117, Cactojaque\_112, Bipolarisk\_116, Patter\_117, Gamgam\_117, Littleton\_117, Naval22\_125, IkeLoa\_110, Daffodil\_122, PurduePete\_117, Yucca\_116, LifeSavor\_115, Ablatia\_116, Bxz1\_114, BobaPhatt\_114, Fongie\_114, NuevoMundo\_122, Guwapp\_116, DirtMonster\_111,

Wally\_116, InigoMontoya\_118, Grasshills\_123, Khaleesi\_116, Montpel\_115, Chomp\_116

- Track 2 : I3\_122
- Track 3 : LordLeafolot\_121, Cleatunium\_110, Labradorite\_115, LolaVinca\_117, Shrimp\_117, Salacia\_121, Bonray\_117
- Track 4 : Moiqah\_107, Moby\_108, Alice\_109, Pinkcreek\_108, Shifa\_105, Stubby\_109, HyRo\_107
- Track 5 : Colt\_108, Cane17\_107
- Track 6 : Tonenili\_131, Vortrix\_130
- Track 7 : Blubba\_107
- Track 8 : Demodog\_123, Concombre\_122
- Track 9 : PaintedDog\_26
- Track 10 : Shipwreck\_26, Brujita\_27, Pygmy\_26, Island3\_27, Bogie\_26

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

The start number called the most often in the published annotations is 11, it was called in 187 of the 193 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ablatia\_116, Ading\_117, Adlitam\_117, Alice\_109, Amataga\_117, ArcherS7\_116, Asterius\_120, Astraea\_113, Atlantean\_116, Audrick\_119, Ava3\_118, Babyland\_118, BackyardAgain\_114, BadAgartude\_113, BananaFence\_116, Bangla1971\_118, Basquiat\_113, BeanWater\_109, Belieber\_112, BigCity\_124, Bigswole\_120, Bipolarisk\_116, Blackbrain\_112, Blackdragon\_112, Blubba\_107, BobaPhatt\_114, Bonray\_117, Bowman\_119, Bread\_116, Breeniome\_116, Burrough\_117, Bxz1\_114, Cactojaque\_112, Cali\_112, Cane17\_107, Capablanca\_119, Caravan\_111, Catera\_113, Chargie21\_113, CharlieB\_113, ChaylaJr\_112, ChickenPhender\_113, Chomp\_116, CindyLou\_118, Cleatunium\_110, Colt\_108, Concombre\_122, DTDevon\_117, Daffodil\_122, Dandelion\_122, Darko\_117, DeejaClivia\_104, Delilah\_117, Delylah\_120, Demodog\_123, Derek\_116, Dessert\_117, Dietrick\_109, DirtMonster\_111, Domi\_110, DrPhinkDaddy\_116, Drazdys\_115, Duckfeet\_109, ET08\_105, EasyJones\_119, EggyFarm\_124, EmToTheThree\_119, EmmaElysia\_117, Erdmann\_117, ErnieJ\_111, Essence\_114, Ewok\_118, Fixie\_109, Flabslab\_111, Fludd\_117, Fongie\_114, FoxtrotP1\_117, FrayBell\_122, Gabriel\_117, Gangam\_117, Ghost\_115, Gizmo\_121, GlutenPhree\_118, GoldenSnow\_120, Grasshills\_123, Grungle\_104, Guwapp\_116, Halldule\_110, HyRo\_107, I3\_122, IkeLoa\_110, InigoMontoya\_118, InterFolia\_123, Iota\_112, Issimir\_115, Izajani\_117, JPickles\_114, Janiyra\_119, JayJay\_122, Jaygup\_117, Jedediah\_120, Jemmno\_117, Jessibeth14\_116, Jezreel\_117, JigglyPuff\_124, JulietS\_111, JustHall\_114, Kamryn\_117, Kboogie\_121, Khaleesi\_116, Koguma\_114, LRRHood\_110, Labradorite\_115, Latch\_117, Lee7\_120, Lethe\_115, LifeSavor\_115, LinStu\_115, Littleton\_117, Loanshark\_116, LolaVinca\_117, LookingGlass\_117, LordLeafolot\_121, Lunareta\_115, Maby2021\_117, Maguvora\_121, Mangeria\_117, Matsumoto\_115, Maturis\_114, McGee\_119, McWolfish\_115, Megamind\_116, Melpomini\_111, MikeLiesIn\_118, Mikro\_114, MoMoMixon\_117, Moby\_108, Moiqah\_107, Momo\_116, Montpel\_115, Morizzled23\_117, Naija\_116, Napoleon13\_113, Nappy\_119, Naval22\_125, NedWong\_118, Ngannou\_113, Nidhogg\_118, NoodleTree\_124, Norm\_118, NuevoMundo\_122, OrediggerDelux\_120, ParkTD\_118, Patter\_117, PharkleMinkus\_120, Phlegm\_119, Phox\_114, Phusco\_117, Pier\_121,

Pinkcreek\_108, Pio\_121, Pivoine\_116, Pleione\_120, Primadonna\_110, Puhon\_120, Pupusa\_122, PurduePete\_117, QBert\_111, Quasimodo\_118, Rabinovich\_114, Rahel\_116, Rizal\_112, RoMag\_112, Rocha\_115, Ronan\_111, Roots515\_115, SVoro\_114, Salacia\_121, Sauce\_117, ScottMcG\_113, Sebata\_117, Shaqnato\_110, Shelob\_119, ShiaLabeouf\_116, Shifa\_105, Shnickers\_117, Shrimp\_117, SilverDipper\_118, SiwenD96\_118, SmallFry\_117, SoilZilla\_112, Spec\_114, Specks\_122, Sprinklers\_113, Spud\_116, SrishMeg2525\_116, StephanieG\_115, StubbySaigey\_120, Stubby\_109, Substance289\_114, Tainan\_120, Teardrop\_116, TinyTim\_117, Tortoise16\_114, Trinitium\_114, Turret\_112, Tyke\_117, ValleyTerrace\_117, Wally\_116, Willis\_118, Yassified\_114, YemiJoy2021\_118, YoungMoneyMata\_118, Yucca\_116, Zalkecks\_118, Zeenon\_118, ZygoTaiga\_115,

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

- 

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

- Bogie\_26, Brujita\_27, Island3\_27, PaintedDog\_26, Pygmy\_26, Shipwreck\_26, Tonenili\_131, Vortrix\_130,

### Summary by start number:

Start 4:

- Found in 6 of 225 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 5 of 193
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bogie\_26 (P1), Brujita\_27 (I1), Island3\_27 (I1), PaintedDog\_26 (I1), Pygmy\_26 (P1), Shipwreck\_26 (P1),

Start 8:

- Found in 2 of 225 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 193
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tonenili\_131 (C1), Vortrix\_130 (C1),

Start 11:

- Found in 217 of 225 ( 96.4% ) of genes in pham
- Manual Annotations of this start: 187 of 193
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ablatia\_116 (C1), Ading\_117 (C1), Adlitam\_117 (C1), Alice\_109 (C1), Amataga\_117 (C1), ArcherS7\_116 (C1), Asterius\_120 (C1), Astraea\_113 (C1), Atlantean\_116 (C1), Audrick\_119 (C1), Ava3\_118 (C1), Babyland\_118 (C1), BackyardAgain\_114 (C1), BadAgartude\_113 (C1), BananaFence\_116 (C1), Bangla1971\_118 (C1), Basquiat\_113 (C1), BeanWater\_109 (C1), Belieber\_112 (C1), BigCity\_124 (C1), Bigswole\_120 (C1), Bipolarisk\_116 (C1), Blackbrain\_112 (C1), Blackdragon\_112 (C1), Blubba\_107 (C1), BobaPhatt\_114 (C1), Bonray\_117 (C1), Bowman\_119 (C1), Bread\_116 (C1), Breeniome\_116 (C1), Burrough\_117 (C1), Bxz1\_114 (C1), Cactojaque\_112 (C1), Cali\_112 (C1), Cane17\_107 (C1), Capablanca\_119 (C1), Caravan\_111 (C1), Catera\_113 (C1), Chargie21\_113 (C1), CharlieB\_113 (C1), ChaylaJr\_112 (C1), ChickenPhender\_113 (C1), Chomp\_116 (C1), CindyLou\_118 (C1), Cleatunium\_110 (C1), Colt\_108 (C1), Concombre\_122 (C1), DTDevon\_117 (C1), Daffodil\_122 (C1), Dandelion\_122 (C1), Darko\_117 (C1), DeejaClivia\_104 (C1), Delilah\_117 (C1), Delylah\_120 (C1), Demodog\_123 (C1), Derek\_116 (C1), Dessert\_117 (C1),

Dietrick\_109 (C1), DirtMonster\_111 (C1), Domi\_110 (C1), DrPhinkDaddy\_116 (C1), Drazdys\_115 (C1), Duckfeet\_109 (C1), ET08\_105 (C1), EasyJones\_119 (C1), EggyFarm\_124 (C1), EmToTheThree\_119 (C1), EmmaElysia\_117 (C1), Erdmann\_117 (C1), ErnieJ\_111 (C1), Essence\_114 (C1), Ewok\_118 (C1), Fixie\_109 (C1), Flabslab\_111 (C1), Fludd\_117 (C1), Fongie\_114 (C1), FoxtrotP1\_117 (C1), FrayBell\_122 (C1), Gabriel\_117 (C1), Gamgam\_117 (C1), Ghost\_115 (C1), Gizmo\_121 (C1), GlutenPhree\_118 (C1), GoldenSnow\_120 (C1), Grasshills\_123 (C1), Grungle\_104 (C1), Guwapp\_116 (C1), Halldule\_110 (C1), HyRo\_107 (C1), I3\_122 (C1), IkeLoa\_110 (C1), InigoMontoya\_118 (C1), InterFolia\_123 (C1), Iota\_112 (C1), Issimir\_115 (C1), Izajani\_117 (C1), JPickles\_114 (C1), JaniYra\_119 (C1), JayJay\_122 (C1), Jaygup\_117 (C1), Jedediah\_120 (C1), Jemmno\_117 (C1), Jessibeth14\_116 (C1), Jezreel\_117 (C1), JigglyPuff\_124 (C1), JulietS\_111 (C1), JustHall\_114 (C1), Kamryn\_117 (C1), Kboogie\_121 (C1), Khaleesi\_116 (C1), Koguma\_114 (C1), LRRHood\_110 (C1), Labradorite\_115 (C1), Latch\_117 (C1), Lee7\_120 (C1), Lethe\_115 (C1), LifeSavor\_115 (C1), LinStu\_115 (C1), Littleton\_117 (C1), Loanshark\_116 (C1), LolaVinca\_117 (C1), LookingGlass\_117 (C1), LordLeafolot\_121 (C1), Lunareta\_115 (C1), Maby2021\_117 (C1), Maguvora\_121 (C1), Mangeria\_117 (C1), Matsumoto\_115 (C1), Maturis\_114 (C1), McGee\_119 (C1), McWolfish\_115 (C1), Megamind\_116 (C1), Melpomini\_111 (C1), MikeLiesIn\_118 (C1), Mikro\_114 (C1), MoMoMixon\_117 (C1), Moby\_108 (C1), Moiqah\_107 (C1), Momo\_116 (C1), Montpel\_115 (C1), Morizzled23\_117 (C1), Naija\_116 (C1), Napoleon13\_113 (C1), Nappy\_119 (C1), Naval22\_125 (C1), NedWong\_118 (C1), Ngannou\_113 (C1), Nidhogg\_118 (C1), NoodleTree\_124 (C1), Norm\_118 (C1), NuevoMundo\_122 (C1), OrediggerDelux\_120 (C1), ParkTD\_118 (C1), Patter\_117 (C1), PharkleMinkus\_120 (C1), Phlegm\_119 (C1), Phox\_114 (C1), Phusco\_117 (C1), Pier\_121 (C1), Pinkcreek\_108 (C1), Pio\_121 (C1), Pivoine\_116 (C1), Pleione\_120 (C1), Primadonna\_110 (C1), Puhon\_120 (C1), Pupusa\_122 (C1), PurduePete\_117 (C1), QBert\_111 (C1), Quasimodo\_118 (C1), Rabinovich\_114 (C1), Rahel\_116 (C1), Rizal\_112 (C1), RoMag\_112 (C1), Rocha\_115 (C1), Ronan\_111 (C1), Roots515\_115 (C1), SVoro\_114 (C1), Salacia\_121 (C1), Sauce\_117 (C1), ScottMcG\_113 (C1), Sebata\_117 (C1), Shaqnato\_110 (C1), Shelob\_119 (C1), ShiaLabeouf\_116 (C1), Shifa\_105 (C1), Shnicks\_117 (C1), Shrimp\_117 (C1), SilverDipper\_118 (C1), SiwenD96\_118 (C1), SmallFry\_117 (C1), SoilZilla\_112 (C1), Spec\_114 (C1), Specks\_122 (C1), Sprinklers\_113 (C1), Spud\_116 (C1), SrishMeg2525\_116 (C1), StephanieG\_115 (C1), StubbySaigey\_120 (C1), Stubby\_109 (C1), Substance289\_114 (C1), Tainan\_120 (C1), Teardrop\_116 (C1), TinyTim\_117 (C1), Tortoise16\_114 (C1), Trinitium\_114 (C1), Turret\_112 (C1), Tyke\_117 (C1), ValleyTerrace\_117 (C1), Wally\_116 (C1), Willis\_118 (C1), Yassified\_114 (C1), YemiJoy2021\_118 (C1), YoungMoneyMata\_118 (C1), Yucca\_116 (C1), Zalkecks\_118 (C1), Zeenon\_118 (C1), ZygoTaiga\_115 (C1),

## Summary by clusters:

There are 3 clusters represented in this pham: I1, C1, P1,

Info for manual annotations of cluster C1:

- Start number 8 was manually annotated 1 time for cluster C1.
- Start number 11 was manually annotated 187 times for cluster C1.

Info for manual annotations of cluster I1:

- Start number 4 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster P1:

- Start number 4 was manually annotated 3 times for cluster P1.

### **Gene Information:**

Gene: Ablatia\_116 Start: 59743, Stop: 60351, Start Num: 11

Candidate Starts for Ablatia\_116:

(3, 59608), (Start: 11 @59743 has 187 MA's), (17, 59830), (23, 59902), (28, 59968), (29, 60031), (30, 60043), (32, 60064), (40, 60166), (48, 60307),

Gene: Ading\_117 Start: 60127, Stop: 60735, Start Num: 11

Candidate Starts for Ading\_117:

(3, 59992), (Start: 11 @60127 has 187 MA's), (17, 60214), (23, 60286), (28, 60352), (29, 60415), (30, 60427), (32, 60448), (40, 60550), (48, 60691),

Gene: Adlitam\_117 Start: 60144, Stop: 60752, Start Num: 11

Candidate Starts for Adlitam\_117:

(3, 60009), (Start: 11 @60144 has 187 MA's), (17, 60231), (23, 60303), (28, 60369), (29, 60432), (30, 60444), (32, 60465), (40, 60567), (48, 60708),

Gene: Alice\_109 Start: 59432, Stop: 60040, Start Num: 11

Candidate Starts for Alice\_109:

(3, 59297), (Start: 11 @59432 has 187 MA's), (17, 59519), (23, 59591), (28, 59657), (29, 59720), (30, 59732), (32, 59753), (40, 59855), (42, 59879), (48, 59996),

Gene: Amataga\_117 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for Amataga\_117:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: ArcherS7\_116 Start: 59707, Stop: 60315, Start Num: 11

Candidate Starts for ArcherS7\_116:

(3, 59572), (Start: 11 @59707 has 187 MA's), (17, 59794), (23, 59866), (28, 59932), (29, 59995), (30, 60007), (32, 60028), (40, 60130), (48, 60271),

Gene: Asterius\_120 Start: 60383, Stop: 60991, Start Num: 11

Candidate Starts for Asterius\_120:

(3, 60248), (Start: 11 @60383 has 187 MA's), (17, 60470), (23, 60542), (28, 60608), (29, 60671), (30, 60683), (32, 60704), (40, 60806), (48, 60947),

Gene: Astraea\_113 Start: 59158, Stop: 59766, Start Num: 11

Candidate Starts for Astraea\_113:

(3, 59023), (Start: 11 @59158 has 187 MA's), (17, 59245), (23, 59317), (28, 59383), (29, 59446), (30, 59458), (32, 59479), (40, 59581), (48, 59722),

Gene: Atlantean\_116 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for Atlantean\_116:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: Audrick\_119 Start: 59368, Stop: 59976, Start Num: 11

Candidate Starts for Audrick\_119:

(3, 59233), (Start: 11 @59368 has 187 MA's), (17, 59455), (23, 59527), (28, 59593), (29, 59656), (30, 59668), (32, 59689), (40, 59791), (48, 59932),

Gene: Ava3\_118 Start: 60302, Stop: 60910, Start Num: 11

Candidate Starts for Ava3\_118:

(3, 60167), (Start: 11 @60302 has 187 MA's), (17, 60389), (23, 60461), (28, 60527), (29, 60590), (30, 60602), (32, 60623), (40, 60725), (48, 60866),

Gene: Babyland\_118 Start: 59477, Stop: 60085, Start Num: 11

Candidate Starts for Babyland\_118:

(3, 59342), (Start: 11 @59477 has 187 MA's), (17, 59564), (23, 59636), (28, 59702), (29, 59765), (30, 59777), (32, 59798), (40, 59900), (48, 60041),

Gene: BackyardAgain\_114 Start: 59305, Stop: 59913, Start Num: 11

Candidate Starts for BackyardAgain\_114:

(3, 59170), (Start: 11 @59305 has 187 MA's), (17, 59392), (23, 59464), (28, 59530), (29, 59593), (30, 59605), (32, 59626), (40, 59728), (48, 59869),

Gene: BadAgartude\_113 Start: 60594, Stop: 61202, Start Num: 11

Candidate Starts for BadAgartude\_113:

(3, 60459), (Start: 11 @60594 has 187 MA's), (17, 60681), (23, 60753), (28, 60819), (29, 60882), (30, 60894), (32, 60915), (40, 61017), (48, 61158),

Gene: BananaFence\_116 Start: 60558, Stop: 61166, Start Num: 11

Candidate Starts for BananaFence\_116:

(3, 60423), (Start: 11 @60558 has 187 MA's), (17, 60645), (23, 60717), (28, 60783), (29, 60846), (30, 60858), (32, 60879), (40, 60981), (48, 61122),

Gene: Bangla1971\_118 Start: 59837, Stop: 60445, Start Num: 11

Candidate Starts for Bangla1971\_118:

(3, 59702), (Start: 11 @59837 has 187 MA's), (17, 59924), (23, 59996), (28, 60062), (29, 60125), (30, 60137), (32, 60158), (40, 60260), (48, 60401),

Gene: Basquiat\_113 Start: 59031, Stop: 59639, Start Num: 11

Candidate Starts for Basquiat\_113:

(3, 58896), (Start: 11 @59031 has 187 MA's), (17, 59118), (23, 59190), (28, 59256), (29, 59319), (30, 59331), (32, 59352), (40, 59454), (48, 59595),

Gene: BeanWater\_109 Start: 60156, Stop: 60764, Start Num: 11

Candidate Starts for BeanWater\_109:

(3, 60021), (Start: 11 @60156 has 187 MA's), (17, 60243), (23, 60315), (28, 60381), (29, 60444), (30, 60456), (32, 60477), (40, 60579), (48, 60720),

Gene: Belieber\_112 Start: 59631, Stop: 60239, Start Num: 11

Candidate Starts for Belieber\_112:

(3, 59496), (Start: 11 @59631 has 187 MA's), (17, 59718), (23, 59790), (28, 59856), (29, 59919), (30, 59931), (32, 59952), (40, 60054), (48, 60195),

Gene: BigCity\_124 Start: 62818, Stop: 63426, Start Num: 11

Candidate Starts for BigCity\_124:

(3, 62683), (Start: 11 @62818 has 187 MA's), (17, 62905), (23, 62977), (28, 63043), (29, 63106), (30, 63118), (32, 63139), (40, 63241), (48, 63382),

Gene: Bigswole\_120 Start: 62103, Stop: 62711, Start Num: 11

Candidate Starts for Bigswole\_120:

(3, 61968), (Start: 11 @62103 has 187 MA's), (17, 62190), (23, 62262), (28, 62328), (29, 62391), (30, 62403), (32, 62424), (40, 62526), (48, 62667),

Gene: Bipolarisk\_116 Start: 60560, Stop: 61168, Start Num: 11

Candidate Starts for Bipolarisk\_116:

(3, 60425), (Start: 11 @60560 has 187 MA's), (17, 60647), (23, 60719), (28, 60785), (29, 60848), (30, 60860), (32, 60881), (40, 60983), (48, 61124),

Gene: Blackbrain\_112 Start: 58852, Stop: 59460, Start Num: 11

Candidate Starts for Blackbrain\_112:

(3, 58717), (Start: 11 @58852 has 187 MA's), (17, 58939), (23, 59011), (28, 59077), (29, 59140), (30, 59152), (32, 59173), (40, 59275), (48, 59416),

Gene: Blackdragon\_112 Start: 59985, Stop: 60593, Start Num: 11

Candidate Starts for Blackdragon\_112:

(3, 59850), (Start: 11 @59985 has 187 MA's), (17, 60072), (23, 60144), (28, 60210), (29, 60273), (30, 60285), (32, 60306), (40, 60408), (48, 60549),

Gene: Blubba\_107 Start: 60594, Stop: 61202, Start Num: 11

Candidate Starts for Blubba\_107:

(3, 60459), (Start: 11 @60594 has 187 MA's), (17, 60681), (21, 60741), (23, 60753), (28, 60819), (29, 60882), (30, 60894), (32, 60915), (40, 61017), (48, 61158),

Gene: BobaPhatt\_114 Start: 58920, Stop: 59528, Start Num: 11

Candidate Starts for BobaPhatt\_114:

(3, 58785), (Start: 11 @58920 has 187 MA's), (17, 59007), (23, 59079), (28, 59145), (29, 59208), (30, 59220), (32, 59241), (40, 59343), (48, 59484),

Gene: Bogie\_26 Start: 24022, Stop: 24717, Start Num: 4

Candidate Starts for Bogie\_26:

(Start: 4 @24022 has 5 MA's), (5, 24076), (6, 24109), (7, 24121), (12, 24184), (13, 24190), (14, 24211), (15, 24214), (16, 24217), (18, 24229), (22, 24277), (24, 24292), (25, 24301), (32, 24448), (33, 24475), (34, 24496), (37, 24526), (41, 24571), (43, 24613), (45, 24646),

Gene: Bonray\_117 Start: 60733, Stop: 61341, Start Num: 11

Candidate Starts for Bonray\_117:

(1, 60214), (3, 60598), (Start: 11 @60733 has 187 MA's), (17, 60820), (23, 60892), (28, 60958), (29, 61021), (30, 61033), (32, 61054), (40, 61156), (48, 61297),

Gene: Bowman\_119 Start: 60294, Stop: 60902, Start Num: 11

Candidate Starts for Bowman\_119:

(3, 60159), (Start: 11 @60294 has 187 MA's), (17, 60381), (23, 60453), (28, 60519), (29, 60582), (30, 60594), (32, 60615), (40, 60717), (48, 60858),

Gene: Bread\_116 Start: 60388, Stop: 60996, Start Num: 11

Candidate Starts for Bread\_116:

(3, 60253), (Start: 11 @60388 has 187 MA's), (17, 60475), (23, 60547), (28, 60613), (29, 60676), (30, 60688), (32, 60709), (40, 60811), (48, 60952),

Gene: Breeniome\_116 Start: 58736, Stop: 59344, Start Num: 11

Candidate Starts for Breeniome\_116:



(3, 58601), (Start: 11 @58736 has 187 MA's), (17, 58823), (23, 58895), (28, 58961), (29, 59024), (30, 59036), (32, 59057), (40, 59159), (48, 59300),

Gene: Brujita\_27 Start: 24377, Stop: 25072, Start Num: 4

Candidate Starts for Brujita\_27:

(Start: 4 @24377 has 5 MA's), (5, 24431), (6, 24464), (7, 24476), (12, 24539), (13, 24545), (14, 24566), (15, 24569), (16, 24572), (18, 24584), (22, 24632), (24, 24647), (25, 24656), (32, 24803), (33, 24830), (34, 24851), (37, 24881), (41, 24926), (43, 24968), (45, 25001),

Gene: Burrough\_117 Start: 60887, Stop: 61495, Start Num: 11

Candidate Starts for Burrough\_117:

(3, 60752), (Start: 11 @60887 has 187 MA's), (17, 60974), (23, 61046), (28, 61112), (29, 61175), (30, 61187), (32, 61208), (40, 61310), (48, 61451),

Gene: Bxz1\_114 Start: 62090, Stop: 62698, Start Num: 11

Candidate Starts for Bxz1\_114:

(3, 61955), (Start: 11 @62090 has 187 MA's), (17, 62177), (23, 62249), (28, 62315), (29, 62378), (30, 62390), (32, 62411), (40, 62513), (48, 62654),

Gene: Cactojaque\_112 Start: 58959, Stop: 59567, Start Num: 11

Candidate Starts for Cactojaque\_112:

(3, 58824), (Start: 11 @58959 has 187 MA's), (17, 59046), (23, 59118), (28, 59184), (29, 59247), (30, 59259), (32, 59280), (40, 59382), (48, 59523),

Gene: Cali\_112 Start: 60889, Stop: 61497, Start Num: 11

Candidate Starts for Cali\_112:

(3, 60754), (Start: 11 @60889 has 187 MA's), (17, 60976), (23, 61048), (28, 61114), (29, 61177), (30, 61189), (32, 61210), (40, 61312), (48, 61453),

Gene: Cane17\_107 Start: 60652, Stop: 61260, Start Num: 11

Candidate Starts for Cane17\_107:

(3, 60517), (Start: 11 @60652 has 187 MA's), (17, 60739), (21, 60799), (23, 60811), (28, 60877), (29, 60940), (30, 60952), (32, 60973), (40, 61075), (44, 61135), (48, 61216),

Gene: Capablanca\_119 Start: 61139, Stop: 61747, Start Num: 11

Candidate Starts for Capablanca\_119:

(3, 61004), (Start: 11 @61139 has 187 MA's), (17, 61226), (23, 61298), (28, 61364), (29, 61427), (30, 61439), (32, 61460), (40, 61562), (48, 61703),

Gene: Caravan\_111 Start: 60246, Stop: 60854, Start Num: 11

Candidate Starts for Caravan\_111:

(3, 60111), (Start: 11 @60246 has 187 MA's), (17, 60333), (23, 60405), (28, 60471), (29, 60534), (30, 60546), (32, 60567), (40, 60669), (48, 60810),

Gene: Catera\_113 Start: 59163, Stop: 59771, Start Num: 11

Candidate Starts for Catera\_113:

(3, 59028), (Start: 11 @59163 has 187 MA's), (17, 59250), (23, 59322), (28, 59388), (29, 59451), (30, 59463), (32, 59484), (40, 59586), (48, 59727),

Gene: Chargie21\_113 Start: 59031, Stop: 59639, Start Num: 11

Candidate Starts for Chargie21\_113:

(3, 58896), (Start: 11 @59031 has 187 MA's), (17, 59118), (23, 59190), (28, 59256), (29, 59319), (30, 59331), (32, 59352), (40, 59454), (48, 59595),

Gene: CharlieB\_113 Start: 59293, Stop: 59901, Start Num: 11

Candidate Starts for CharlieB\_113:

(3, 59158), (Start: 11 @59293 has 187 MA's), (17, 59380), (23, 59452), (28, 59518), (29, 59581), (30, 59593), (32, 59614), (40, 59716), (48, 59857),

Gene: ChaylaJr\_112 Start: 58785, Stop: 59393, Start Num: 11

Candidate Starts for ChaylaJr\_112:

(3, 58650), (Start: 11 @58785 has 187 MA's), (17, 58872), (23, 58944), (28, 59010), (29, 59073), (30, 59085), (32, 59106), (40, 59208), (48, 59349),

Gene: ChickenPhender\_113 Start: 59088, Stop: 59696, Start Num: 11

Candidate Starts for ChickenPhender\_113:

(3, 58953), (Start: 11 @59088 has 187 MA's), (17, 59175), (23, 59247), (28, 59313), (29, 59376), (30, 59388), (32, 59409), (40, 59511), (48, 59652),

Gene: Chomp\_116 Start: 60678, Stop: 61286, Start Num: 11

Candidate Starts for Chomp\_116:

(3, 60543), (Start: 11 @60678 has 187 MA's), (17, 60765), (23, 60837), (28, 60903), (29, 60966), (30, 60978), (32, 60999), (40, 61101), (48, 61242),

Gene: CindyLou\_118 Start: 60718, Stop: 61326, Start Num: 11

Candidate Starts for CindyLou\_118:

(3, 60583), (Start: 11 @60718 has 187 MA's), (17, 60805), (23, 60877), (28, 60943), (29, 61006), (30, 61018), (32, 61039), (40, 61141), (48, 61282),

Gene: Cleatunium\_110 Start: 59375, Stop: 59983, Start Num: 11

Candidate Starts for Cleatunium\_110:

(1, 58856), (3, 59240), (Start: 11 @59375 has 187 MA's), (17, 59462), (23, 59534), (28, 59600), (29, 59663), (30, 59675), (32, 59696), (40, 59798), (48, 59939),

Gene: Colt\_108 Start: 61248, Stop: 61856, Start Num: 11

Candidate Starts for Colt\_108:

(3, 61113), (Start: 11 @61248 has 187 MA's), (17, 61335), (21, 61395), (23, 61407), (28, 61473), (29, 61536), (30, 61548), (32, 61569), (40, 61671), (44, 61731), (48, 61812),

Gene: Concombre\_122 Start: 63051, Stop: 63659, Start Num: 11

Candidate Starts for Concombre\_122:

(2, 62775), (3, 62916), (Start: 11 @63051 has 187 MA's), (17, 63138), (28, 63276), (29, 63339), (30, 63351), (32, 63372), (40, 63474), (48, 63615),

Gene: DTDevon\_117 Start: 60929, Stop: 61537, Start Num: 11

Candidate Starts for DTDevon\_117:

(3, 60794), (Start: 11 @60929 has 187 MA's), (17, 61016), (23, 61088), (28, 61154), (29, 61217), (30, 61229), (32, 61250), (40, 61352), (48, 61493),

Gene: Daffodil\_122 Start: 60860, Stop: 61468, Start Num: 11

Candidate Starts for Daffodil\_122:

(3, 60725), (Start: 11 @60860 has 187 MA's), (17, 60947), (23, 61019), (28, 61085), (29, 61148), (30, 61160), (32, 61181), (40, 61283), (48, 61424),

Gene: Dandelion\_122 Start: 63052, Stop: 63660, Start Num: 11

Candidate Starts for Dandelion\_122:

(3, 62917), (Start: 11 @63052 has 187 MA's), (17, 63139), (23, 63211), (28, 63277), (29, 63340), (30, 63352), (32, 63373), (40, 63475), (48, 63616),

Gene: Darko\_117 Start: 60562, Stop: 61170, Start Num: 11

Candidate Starts for Darko\_117:

(3, 60427), (Start: 11 @60562 has 187 MA's), (17, 60649), (23, 60721), (28, 60787), (29, 60850), (30, 60862), (32, 60883), (40, 60985), (48, 61126),

Gene: DeejaClivia\_104 Start: 57228, Stop: 57836, Start Num: 11

Candidate Starts for DeejaClivia\_104:

(3, 57093), (Start: 11 @57228 has 187 MA's), (17, 57315), (23, 57387), (28, 57453), (29, 57516), (30, 57528), (32, 57549), (40, 57651), (48, 57792),

Gene: Delilah\_117 Start: 61014, Stop: 61622, Start Num: 11

Candidate Starts for Delilah\_117:

(3, 60879), (Start: 11 @61014 has 187 MA's), (17, 61101), (23, 61173), (28, 61239), (29, 61302), (30, 61314), (32, 61335), (40, 61437), (48, 61578),

Gene: Delylah\_120 Start: 60553, Stop: 61161, Start Num: 11

Candidate Starts for Delylah\_120:

(3, 60418), (Start: 11 @60553 has 187 MA's), (17, 60640), (23, 60712), (28, 60778), (29, 60841), (30, 60853), (32, 60874), (40, 60976), (48, 61117),

Gene: Demodog\_123 Start: 63060, Stop: 63668, Start Num: 11

Candidate Starts for Demodog\_123:

(2, 62784), (3, 62925), (Start: 11 @63060 has 187 MA's), (17, 63147), (28, 63285), (29, 63348), (30, 63360), (32, 63381), (40, 63483), (48, 63624),

Gene: Derek\_116 Start: 60479, Stop: 61087, Start Num: 11

Candidate Starts for Derek\_116:

(3, 60344), (Start: 11 @60479 has 187 MA's), (17, 60566), (23, 60638), (28, 60704), (29, 60767), (30, 60779), (32, 60800), (40, 60902), (48, 61043),

Gene: Dessert\_117 Start: 58955, Stop: 59563, Start Num: 11

Candidate Starts for Dessert\_117:

(3, 58820), (Start: 11 @58955 has 187 MA's), (17, 59042), (23, 59114), (28, 59180), (29, 59243), (30, 59255), (32, 59276), (40, 59378), (48, 59519),

Gene: Dietrick\_109 Start: 58555, Stop: 59163, Start Num: 11

Candidate Starts for Dietrick\_109:

(3, 58420), (Start: 11 @58555 has 187 MA's), (17, 58642), (23, 58714), (28, 58780), (29, 58843), (30, 58855), (32, 58876), (40, 58978), (48, 59119),

Gene: DirtMonster\_111 Start: 59813, Stop: 60421, Start Num: 11

Candidate Starts for DirtMonster\_111:

(3, 59678), (Start: 11 @59813 has 187 MA's), (17, 59900), (23, 59972), (28, 60038), (29, 60101), (30, 60113), (32, 60134), (40, 60236), (48, 60377),

Gene: Domi\_110 Start: 59901, Stop: 60509, Start Num: 11

Candidate Starts for Domi\_110:

(3, 59766), (Start: 11 @59901 has 187 MA's), (17, 59988), (23, 60060), (28, 60126), (29, 60189), (30, 60201), (32, 60222), (40, 60324), (48, 60465),

Gene: DrPhinkDaddy\_116 Start: 61082, Stop: 61690, Start Num: 11

Candidate Starts for DrPhinkDaddy\_116:

(3, 60947), (Start: 11 @61082 has 187 MA's), (17, 61169), (23, 61241), (28, 61307), (29, 61370), (30, 61382), (32, 61403), (40, 61505), (48, 61646),

Gene: Drazdys\_115 Start: 59543, Stop: 60151, Start Num: 11

Candidate Starts for Drazdys\_115:

(3, 59408), (Start: 11 @59543 has 187 MA's), (17, 59630), (23, 59702), (28, 59768), (29, 59831), (30, 59843), (32, 59864), (40, 59966), (48, 60107),

Gene: Duckfeet\_109 Start: 59005, Stop: 59613, Start Num: 11

Candidate Starts for Duckfeet\_109:

(3, 58870), (Start: 11 @59005 has 187 MA's), (17, 59092), (23, 59164), (28, 59230), (29, 59293), (30, 59305), (32, 59326), (40, 59428), (48, 59569),

Gene: ET08\_105 Start: 59543, Stop: 60151, Start Num: 11

Candidate Starts for ET08\_105:

(3, 59408), (Start: 11 @59543 has 187 MA's), (17, 59630), (23, 59702), (28, 59768), (29, 59831), (30, 59843), (32, 59864), (40, 59966), (48, 60107),

Gene: EasyJones\_119 Start: 59685, Stop: 60293, Start Num: 11

Candidate Starts for EasyJones\_119:

(3, 59550), (Start: 11 @59685 has 187 MA's), (17, 59772), (23, 59844), (28, 59910), (29, 59973), (30, 59985), (32, 60006), (40, 60108), (48, 60249),

Gene: EggyFarm\_124 Start: 62818, Stop: 63426, Start Num: 11

Candidate Starts for EggyFarm\_124:

(3, 62683), (Start: 11 @62818 has 187 MA's), (17, 62905), (23, 62977), (28, 63043), (29, 63106), (30, 63118), (32, 63139), (40, 63241), (48, 63382),

Gene: EmToTheThree\_119 Start: 61822, Stop: 62430, Start Num: 11

Candidate Starts for EmToTheThree\_119:

(3, 61687), (Start: 11 @61822 has 187 MA's), (17, 61909), (23, 61981), (28, 62047), (29, 62110), (30, 62122), (32, 62143), (40, 62245), (48, 62386),

Gene: EmmaElysia\_117 Start: 59608, Stop: 60216, Start Num: 11

Candidate Starts for EmmaElysia\_117:

(3, 59473), (Start: 11 @59608 has 187 MA's), (17, 59695), (23, 59767), (28, 59833), (29, 59896), (30, 59908), (32, 59929), (40, 60031), (48, 60172),

Gene: Erdmann\_117 Start: 60861, Stop: 61469, Start Num: 11

Candidate Starts for Erdmann\_117:

(3, 60726), (Start: 11 @60861 has 187 MA's), (17, 60948), (23, 61020), (28, 61086), (29, 61149), (30, 61161), (32, 61182), (40, 61284), (48, 61425),

Gene: ErnieJ\_111 Start: 58826, Stop: 59434, Start Num: 11

Candidate Starts for ErnieJ\_111:

(3, 58691), (Start: 11 @58826 has 187 MA's), (17, 58913), (23, 58985), (28, 59051), (29, 59114), (30, 59126), (32, 59147), (40, 59249), (48, 59390),

Gene: Essence\_114 Start: 59709, Stop: 60317, Start Num: 11

Candidate Starts for Essence\_114:

(3, 59574), (Start: 11 @59709 has 187 MA's), (17, 59796), (23, 59868), (28, 59934), (29, 59997), (30, 60009), (32, 60030), (40, 60132), (48, 60273),

Gene: Ewok\_118 Start: 60248, Stop: 60856, Start Num: 11

Candidate Starts for Ewok\_118:

(3, 60113), (Start: 11 @60248 has 187 MA's), (17, 60335), (23, 60407), (28, 60473), (29, 60536), (30, 60548), (32, 60569), (40, 60671), (48, 60812),

Gene: Fixie\_109 Start: 59502, Stop: 60110, Start Num: 11

Candidate Starts for Fixie\_109:

(3, 59367), (Start: 11 @59502 has 187 MA's), (17, 59589), (23, 59661), (28, 59727), (29, 59790), (30, 59802), (32, 59823), (40, 59925), (48, 60066),

Gene: Flabslab\_111 Start: 57940, Stop: 58548, Start Num: 11

Candidate Starts for Flabslab\_111:

(3, 57805), (Start: 11 @57940 has 187 MA's), (17, 58027), (23, 58099), (28, 58165), (29, 58228), (30, 58240), (32, 58261), (40, 58363), (48, 58504),

Gene: Fludd\_117 Start: 59466, Stop: 60074, Start Num: 11

Candidate Starts for Fludd\_117:

(3, 59331), (Start: 11 @59466 has 187 MA's), (17, 59553), (23, 59625), (28, 59691), (29, 59754), (30, 59766), (32, 59787), (40, 59889), (48, 60030),

Gene: Fongie\_114 Start: 60461, Stop: 61069, Start Num: 11

Candidate Starts for Fongie\_114:

(3, 60326), (Start: 11 @60461 has 187 MA's), (17, 60548), (23, 60620), (28, 60686), (29, 60749), (30, 60761), (32, 60782), (40, 60884), (48, 61025),

Gene: FoxtrotP1\_117 Start: 62031, Stop: 62639, Start Num: 11

Candidate Starts for FoxtrotP1\_117:

(3, 61896), (Start: 11 @62031 has 187 MA's), (17, 62118), (23, 62190), (28, 62256), (29, 62319), (30, 62331), (32, 62352), (40, 62454), (48, 62595),

Gene: FrayBell\_122 Start: 61195, Stop: 61803, Start Num: 11

Candidate Starts for FrayBell\_122:

(3, 61060), (Start: 11 @61195 has 187 MA's), (17, 61282), (23, 61354), (28, 61420), (29, 61483), (30, 61495), (32, 61516), (40, 61618), (48, 61759),

Gene: Gabriel\_117 Start: 59115, Stop: 59723, Start Num: 11

Candidate Starts for Gabriel\_117:

(3, 58980), (Start: 11 @59115 has 187 MA's), (17, 59202), (23, 59274), (28, 59340), (29, 59403), (30, 59415), (32, 59436), (40, 59538), (48, 59679),

Gene: Gamgam\_117 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for Gamgam\_117:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: Ghost\_115 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for Ghost\_115:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: Gizmo\_121 Start: 62011, Stop: 62619, Start Num: 11

Candidate Starts for Gizmo\_121:

(3, 61876), (Start: 11 @62011 has 187 MA's), (17, 62098), (23, 62170), (28, 62236), (29, 62299), (30, 62311), (32, 62332), (40, 62434), (48, 62575),

Gene: GlutenPhree\_118 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for GlutenPhree\_118:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: GoldenSnow\_120 Start: 61194, Stop: 61802, Start Num: 11

Candidate Starts for GoldenSnow\_120:

(3, 61059), (Start: 11 @61194 has 187 MA's), (17, 61281), (23, 61353), (28, 61419), (29, 61482), (30, 61494), (32, 61515), (40, 61617), (48, 61758),

Gene: Grasshills\_123 Start: 62818, Stop: 63426, Start Num: 11

Candidate Starts for Grasshills\_123:

(3, 62683), (Start: 11 @62818 has 187 MA's), (17, 62905), (23, 62977), (28, 63043), (29, 63106), (30, 63118), (32, 63139), (40, 63241), (48, 63382),

Gene: Grungle\_104 Start: 57133, Stop: 57741, Start Num: 11

Candidate Starts for Grungle\_104:

(3, 56998), (Start: 11 @57133 has 187 MA's), (17, 57220), (23, 57292), (28, 57358), (29, 57421), (30, 57433), (32, 57454), (40, 57556), (48, 57697),

Gene: Guwapp\_116 Start: 59280, Stop: 59888, Start Num: 11

Candidate Starts for Guwapp\_116:

(3, 59145), (Start: 11 @59280 has 187 MA's), (17, 59367), (23, 59439), (28, 59505), (29, 59568), (30, 59580), (32, 59601), (40, 59703), (48, 59844),

Gene: Halldule\_110 Start: 58159, Stop: 58767, Start Num: 11

Candidate Starts for Halldule\_110:

(3, 58024), (Start: 11 @58159 has 187 MA's), (17, 58246), (23, 58318), (28, 58384), (29, 58447), (30, 58459), (32, 58480), (40, 58582), (48, 58723),

Gene: HyRo\_107 Start: 59396, Stop: 60004, Start Num: 11

Candidate Starts for HyRo\_107:

(3, 59261), (Start: 11 @59396 has 187 MA's), (17, 59483), (23, 59555), (28, 59621), (29, 59684), (30, 59696), (32, 59717), (40, 59819), (42, 59843), (48, 59960),

Gene: I3\_122 Start: 61346, Stop: 61954, Start Num: 11

Candidate Starts for I3\_122:

(3, 61211), (10, 61343), (Start: 11 @61346 has 187 MA's), (17, 61433), (23, 61505), (28, 61571), (29, 61634), (30, 61646), (32, 61667), (40, 61769), (48, 61910),

Gene: IkeLoa\_110 Start: 59215, Stop: 59823, Start Num: 11

Candidate Starts for IkeLoa\_110:

(3, 59080), (Start: 11 @59215 has 187 MA's), (17, 59302), (23, 59374), (28, 59440), (29, 59503), (30, 59515), (32, 59536), (40, 59638), (48, 59779),

Gene: InigoMontoya\_118 Start: 59350, Stop: 59958, Start Num: 11

Candidate Starts for InigoMontoya\_118:

(3, 59215), (Start: 11 @59350 has 187 MA's), (17, 59437), (23, 59509), (28, 59575), (29, 59638), (30, 59650), (32, 59671), (40, 59773), (48, 59914),

Gene: InterFolia\_123 Start: 62130, Stop: 62738, Start Num: 11

Candidate Starts for InterFolia\_123:

(3, 61995), (Start: 11 @62130 has 187 MA's), (17, 62217), (23, 62289), (28, 62355), (29, 62418), (30, 62430), (32, 62451), (40, 62553), (48, 62694),

Gene: Iota\_112 Start: 59827, Stop: 60435, Start Num: 11

Candidate Starts for Iota\_112:

(3, 59692), (Start: 11 @59827 has 187 MA's), (17, 59914), (23, 59986), (28, 60052), (29, 60115), (30, 60127), (32, 60148), (40, 60250), (48, 60391),

Gene: Island3\_27 Start: 24377, Stop: 25072, Start Num: 4

Candidate Starts for Island3\_27:

(Start: 4 @24377 has 5 MA's), (5, 24431), (6, 24464), (7, 24476), (12, 24539), (13, 24545), (14, 24566), (15, 24569), (16, 24572), (18, 24584), (22, 24632), (24, 24647), (25, 24656), (32, 24803), (33, 24830), (34, 24851), (37, 24881), (41, 24926), (43, 24968), (45, 25001),

Gene: Issimir\_115 Start: 60835, Stop: 61443, Start Num: 11

Candidate Starts for Issimir\_115:

(3, 60700), (Start: 11 @60835 has 187 MA's), (17, 60922), (23, 60994), (28, 61060), (29, 61123), (30, 61135), (32, 61156), (40, 61258), (48, 61399),

Gene: Izajani\_117 Start: 61041, Stop: 61649, Start Num: 11

Candidate Starts for Izajani\_117:

(3, 60906), (Start: 11 @61041 has 187 MA's), (17, 61128), (23, 61200), (28, 61266), (29, 61329), (30, 61341), (32, 61362), (40, 61464), (48, 61605),

Gene: JPickles\_114 Start: 58620, Stop: 59228, Start Num: 11

Candidate Starts for JPickles\_114:

(3, 58485), (Start: 11 @58620 has 187 MA's), (17, 58707), (23, 58779), (28, 58845), (29, 58908), (30, 58920), (32, 58941), (40, 59043), (48, 59184),

Gene: Janiyra\_119 Start: 60316, Stop: 60924, Start Num: 11

Candidate Starts for Janiyra\_119:

(3, 60181), (Start: 11 @60316 has 187 MA's), (17, 60403), (23, 60475), (28, 60541), (29, 60604), (30, 60616), (32, 60637), (40, 60739), (48, 60880),

Gene: JayJay\_122 Start: 61826, Stop: 62434, Start Num: 11

Candidate Starts for JayJay\_122:

(3, 61691), (Start: 11 @61826 has 187 MA's), (17, 61913), (23, 61985), (28, 62051), (29, 62114), (30, 62126), (32, 62147), (40, 62249), (48, 62390),

Gene: Jaygup\_117 Start: 60145, Stop: 60753, Start Num: 11

Candidate Starts for Jaygup\_117:

(3, 60010), (Start: 11 @60145 has 187 MA's), (17, 60232), (23, 60304), (28, 60370), (29, 60433), (30, 60445), (32, 60466), (40, 60568), (48, 60709),

Gene: Jedediah\_120 Start: 60678, Stop: 61286, Start Num: 11

Candidate Starts for Jedediah\_120:

(3, 60543), (Start: 11 @60678 has 187 MA's), (17, 60765), (23, 60837), (28, 60903), (29, 60966), (30, 60978), (32, 60999), (40, 61101), (48, 61242),

Gene: Jemmno\_117 Start: 60125, Stop: 60733, Start Num: 11

Candidate Starts for Jemmno\_117:

(3, 59990), (Start: 11 @60125 has 187 MA's), (17, 60212), (23, 60284), (28, 60350), (29, 60413), (30, 60425), (32, 60446), (40, 60548), (48, 60689),

Gene: Jessibeth14\_116 Start: 60657, Stop: 61265, Start Num: 11

Candidate Starts for Jessibeth14\_116:

(3, 60522), (Start: 11 @60657 has 187 MA's), (17, 60744), (23, 60816), (28, 60882), (29, 60945), (30, 60957), (32, 60978), (40, 61080), (48, 61221),

Gene: Jezreel\_117 Start: 60810, Stop: 61418, Start Num: 11

Candidate Starts for Jezreel\_117:

(3, 60675), (Start: 11 @60810 has 187 MA's), (17, 60897), (23, 60969), (28, 61035), (29, 61098), (30, 61110), (32, 61131), (40, 61233), (48, 61374),

Gene: JigglyPuff\_124 Start: 62975, Stop: 63583, Start Num: 11

Candidate Starts for JigglyPuff\_124:

(3, 62840), (Start: 11 @62975 has 187 MA's), (17, 63062), (23, 63134), (28, 63200), (29, 63263), (30, 63275), (32, 63296), (40, 63398), (48, 63539),

Gene: JulietS\_111 Start: 58012, Stop: 58620, Start Num: 11

Candidate Starts for JulietS\_111:

(3, 57877), (Start: 11 @58012 has 187 MA's), (17, 58099), (23, 58171), (28, 58237), (29, 58300), (30, 58312), (32, 58333), (40, 58435), (48, 58576),

Gene: JustHall\_114 Start: 60184, Stop: 60792, Start Num: 11

Candidate Starts for JustHall\_114:

(3, 60049), (Start: 11 @60184 has 187 MA's), (17, 60271), (23, 60343), (28, 60409), (29, 60472), (30, 60484), (32, 60505), (40, 60607), (48, 60748),

Gene: Kamryn\_117 Start: 61462, Stop: 62070, Start Num: 11

Candidate Starts for Kamryn\_117:

(3, 61327), (Start: 11 @61462 has 187 MA's), (17, 61549), (23, 61621), (28, 61687), (29, 61750), (30, 61762), (32, 61783), (40, 61885), (48, 62026),

Gene: Kboogie\_121 Start: 59828, Stop: 60436, Start Num: 11

Candidate Starts for Kboogie\_121:

(3, 59693), (Start: 11 @59828 has 187 MA's), (17, 59915), (23, 59987), (28, 60053), (29, 60116), (30, 60128), (32, 60149), (40, 60251), (48, 60392),

Gene: Khaleesi\_116 Start: 60760, Stop: 61368, Start Num: 11

Candidate Starts for Khaleesi\_116:

(3, 60625), (Start: 11 @60760 has 187 MA's), (17, 60847), (23, 60919), (28, 60985), (29, 61048), (30, 61060), (32, 61081), (40, 61183), (48, 61324),

Gene: Koguma\_114 Start: 58305, Stop: 58913, Start Num: 11

Candidate Starts for Koguma\_114:

(3, 58170), (Start: 11 @58305 has 187 MA's), (17, 58392), (23, 58464), (28, 58530), (29, 58593), (30, 58605), (32, 58626), (40, 58728), (48, 58869),

Gene: LRRHood\_110 Start: 60103, Stop: 60711, Start Num: 11

Candidate Starts for LRRHood\_110:



(3, 59968), (Start: 11 @60103 has 187 MA's), (17, 60190), (23, 60262), (28, 60328), (29, 60391), (30, 60403), (32, 60424), (40, 60526), (48, 60667),

Gene: Labradorite\_115 Start: 58842, Stop: 59450, Start Num: 11  
Candidate Starts for Labradorite\_115:

(1, 58323), (3, 58707), (Start: 11 @58842 has 187 MA's), (17, 58929), (23, 59001), (28, 59067), (29, 59130), (30, 59142), (32, 59163), (40, 59265), (48, 59406),

Gene: Latch\_117 Start: 59389, Stop: 59997, Start Num: 11  
Candidate Starts for Latch\_117:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: Lee7\_120 Start: 61394, Stop: 62002, Start Num: 11  
Candidate Starts for Lee7\_120:

(3, 61259), (Start: 11 @61394 has 187 MA's), (17, 61481), (23, 61553), (28, 61619), (29, 61682), (30, 61694), (32, 61715), (40, 61817), (48, 61958),

Gene: Lethe\_115 Start: 60832, Stop: 61440, Start Num: 11  
Candidate Starts for Lethe\_115:

(3, 60697), (Start: 11 @60832 has 187 MA's), (17, 60919), (23, 60991), (28, 61057), (29, 61120), (30, 61132), (32, 61153), (40, 61255), (48, 61396),

Gene: LifeSavor\_115 Start: 60077, Stop: 60685, Start Num: 11  
Candidate Starts for LifeSavor\_115:

(3, 59942), (Start: 11 @60077 has 187 MA's), (17, 60164), (23, 60236), (28, 60302), (29, 60365), (30, 60377), (32, 60398), (40, 60500), (48, 60641),

Gene: LinStu\_115 Start: 60722, Stop: 61330, Start Num: 11  
Candidate Starts for LinStu\_115:

(3, 60587), (Start: 11 @60722 has 187 MA's), (17, 60809), (23, 60881), (28, 60947), (29, 61010), (30, 61022), (32, 61043), (40, 61145), (48, 61286),

Gene: Littleton\_117 Start: 60207, Stop: 60815, Start Num: 11  
Candidate Starts for Littleton\_117:

(3, 60072), (Start: 11 @60207 has 187 MA's), (17, 60294), (23, 60366), (28, 60432), (29, 60495), (30, 60507), (32, 60528), (40, 60630), (48, 60771),

Gene: Loanshark\_116 Start: 60728, Stop: 61336, Start Num: 11  
Candidate Starts for Loanshark\_116:

(3, 60593), (Start: 11 @60728 has 187 MA's), (17, 60815), (23, 60887), (28, 60953), (29, 61016), (30, 61028), (32, 61049), (40, 61151), (48, 61292),

Gene: LolaVince\_117 Start: 61080, Stop: 61688, Start Num: 11  
Candidate Starts for LolaVince\_117:

(1, 60561), (3, 60945), (Start: 11 @61080 has 187 MA's), (17, 61167), (23, 61239), (28, 61305), (29, 61368), (30, 61380), (32, 61401), (40, 61503), (48, 61644),

Gene: LookingGlass\_117 Start: 60905, Stop: 61513, Start Num: 11  
Candidate Starts for LookingGlass\_117:

(3, 60770), (Start: 11 @60905 has 187 MA's), (17, 60992), (23, 61064), (28, 61130), (29, 61193), (30, 61205), (32, 61226), (40, 61328), (48, 61469),

Gene: LordLeafolot\_121 Start: 62047, Stop: 62655, Start Num: 11

Candidate Starts for LordLeafolot\_121:

(1, 61528), (3, 61912), (Start: 11 @62047 has 187 MA's), (17, 62134), (23, 62206), (28, 62272), (29, 62335), (30, 62347), (32, 62368), (40, 62470), (48, 62611),

Gene: Lunareta\_115 Start: 62000, Stop: 62608, Start Num: 11

Candidate Starts for Lunareta\_115:

(3, 61865), (Start: 11 @62000 has 187 MA's), (17, 62087), (23, 62159), (28, 62225), (29, 62288), (30, 62300), (32, 62321), (40, 62423), (48, 62564),

Gene: Maby2021\_117 Start: 60854, Stop: 61462, Start Num: 11

Candidate Starts for Maby2021\_117:

(3, 60719), (Start: 11 @60854 has 187 MA's), (17, 60941), (23, 61013), (28, 61079), (29, 61142), (30, 61154), (32, 61175), (40, 61277), (48, 61418),

Gene: Maguvora\_121 Start: 61434, Stop: 62042, Start Num: 11

Candidate Starts for Maguvora\_121:

(3, 61299), (Start: 11 @61434 has 187 MA's), (17, 61521), (23, 61593), (28, 61659), (29, 61722), (30, 61734), (32, 61755), (40, 61857), (48, 61998),

Gene: Mangeria\_117 Start: 60923, Stop: 61531, Start Num: 11

Candidate Starts for Mangeria\_117:

(3, 60788), (Start: 11 @60923 has 187 MA's), (17, 61010), (23, 61082), (28, 61148), (29, 61211), (30, 61223), (32, 61244), (40, 61346), (48, 61487),

Gene: Matsumoto\_115 Start: 59706, Stop: 60314, Start Num: 11

Candidate Starts for Matsumoto\_115:

(3, 59571), (Start: 11 @59706 has 187 MA's), (17, 59793), (23, 59865), (28, 59931), (29, 59994), (30, 60006), (32, 60027), (40, 60129), (48, 60270),

Gene: Maturis\_114 Start: 60496, Stop: 61104, Start Num: 11

Candidate Starts for Maturis\_114:

(3, 60361), (Start: 11 @60496 has 187 MA's), (17, 60583), (23, 60655), (28, 60721), (29, 60784), (30, 60796), (32, 60817), (40, 60919), (48, 61060),

Gene: McGee\_119 Start: 59469, Stop: 60077, Start Num: 11

Candidate Starts for McGee\_119:

(3, 59334), (Start: 11 @59469 has 187 MA's), (17, 59556), (23, 59628), (28, 59694), (29, 59757), (30, 59769), (32, 59790), (40, 59892), (48, 60033),

Gene: McWolfish\_115 Start: 60643, Stop: 61251, Start Num: 11

Candidate Starts for McWolfish\_115:

(3, 60508), (Start: 11 @60643 has 187 MA's), (17, 60730), (23, 60802), (28, 60868), (29, 60931), (30, 60943), (32, 60964), (40, 61066), (48, 61207),

Gene: Megamind\_116 Start: 60527, Stop: 61135, Start Num: 11

Candidate Starts for Megamind\_116:

(3, 60392), (Start: 11 @60527 has 187 MA's), (17, 60614), (23, 60686), (28, 60752), (29, 60815), (30, 60827), (32, 60848), (40, 60950), (48, 61091),

Gene: Melpomini\_111 Start: 57993, Stop: 58601, Start Num: 11

Candidate Starts for Melpomini\_111:

(3, 57858), (Start: 11 @57993 has 187 MA's), (17, 58080), (23, 58152), (28, 58218), (29, 58281), (30, 58293), (32, 58314), (40, 58416), (48, 58557),

Gene: MikeLiesIn\_118 Start: 60874, Stop: 61482, Start Num: 11

Candidate Starts for MikeLiesIn\_118:

(3, 60739), (Start: 11 @60874 has 187 MA's), (17, 60961), (23, 61033), (28, 61099), (29, 61162), (30, 61174), (32, 61195), (40, 61297), (48, 61438),

Gene: Mikro\_114 Start: 62097, Stop: 62705, Start Num: 11

Candidate Starts for Mikro\_114:

(3, 61962), (Start: 11 @62097 has 187 MA's), (17, 62184), (23, 62256), (28, 62322), (29, 62385), (30, 62397), (32, 62418), (40, 62520), (48, 62661),

Gene: MoMoMixon\_117 Start: 60350, Stop: 60958, Start Num: 11

Candidate Starts for MoMoMixon\_117:

(3, 60215), (Start: 11 @60350 has 187 MA's), (17, 60437), (23, 60509), (28, 60575), (29, 60638), (30, 60650), (32, 60671), (40, 60773), (48, 60914),

Gene: Moby\_108 Start: 57274, Stop: 57882, Start Num: 11

Candidate Starts for Moby\_108:

(3, 57139), (Start: 11 @57274 has 187 MA's), (17, 57361), (23, 57433), (28, 57499), (29, 57562), (30, 57574), (32, 57595), (40, 57697), (42, 57721), (48, 57838),

Gene: Moiqah\_107 Start: 57251, Stop: 57859, Start Num: 11

Candidate Starts for Moiqah\_107:

(3, 57116), (Start: 11 @57251 has 187 MA's), (17, 57338), (23, 57410), (28, 57476), (29, 57539), (30, 57551), (32, 57572), (40, 57674), (42, 57698), (48, 57815),

Gene: Momo\_116 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for Momo\_116:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: Montpel\_115 Start: 61998, Stop: 62606, Start Num: 11

Candidate Starts for Montpel\_115:

(3, 61863), (Start: 11 @61998 has 187 MA's), (17, 62085), (23, 62157), (28, 62223), (29, 62286), (30, 62298), (32, 62319), (40, 62421), (48, 62562),

Gene: Morizzled23\_117 Start: 59754, Stop: 60362, Start Num: 11

Candidate Starts for Morizzled23\_117:

(3, 59619), (Start: 11 @59754 has 187 MA's), (17, 59841), (23, 59913), (28, 59979), (29, 60042), (30, 60054), (32, 60075), (40, 60177), (48, 60318),

Gene: Naija\_116 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for Naija\_116:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: Napoleon13\_113 Start: 58431, Stop: 59039, Start Num: 11

Candidate Starts for Napoleon13\_113:

(3, 58296), (Start: 11 @58431 has 187 MA's), (17, 58518), (23, 58590), (28, 58656), (29, 58719), (30, 58731), (32, 58752), (40, 58854), (48, 58995),

Gene: Nappy\_119 Start: 61784, Stop: 62392, Start Num: 11

Candidate Starts for Nappy\_119:

(3, 61649), (Start: 11 @61784 has 187 MA's), (17, 61871), (23, 61943), (28, 62009), (29, 62072), (30, 62084), (32, 62105), (40, 62207), (48, 62348),

Gene: Naval22\_125 Start: 62317, Stop: 62925, Start Num: 11

Candidate Starts for Naval22\_125:

(3, 62182), (Start: 11 @62317 has 187 MA's), (17, 62404), (23, 62476), (28, 62542), (29, 62605), (30, 62617), (32, 62638), (40, 62740), (48, 62881),

Gene: NedWong\_118 Start: 60861, Stop: 61469, Start Num: 11

Candidate Starts for NedWong\_118:

(3, 60726), (Start: 11 @60861 has 187 MA's), (17, 60948), (23, 61020), (28, 61086), (29, 61149), (30, 61161), (32, 61182), (40, 61284), (48, 61425),

Gene: Ngannou\_113 Start: 58371, Stop: 58979, Start Num: 11

Candidate Starts for Ngannou\_113:

(3, 58236), (Start: 11 @58371 has 187 MA's), (17, 58458), (23, 58530), (28, 58596), (29, 58659), (30, 58671), (32, 58692), (40, 58794), (48, 58935),

Gene: Nidhogg\_118 Start: 60595, Stop: 61203, Start Num: 11

Candidate Starts for Nidhogg\_118:

(3, 60460), (Start: 11 @60595 has 187 MA's), (17, 60682), (23, 60754), (28, 60820), (29, 60883), (30, 60895), (32, 60916), (40, 61018), (48, 61159),

Gene: NoodleTree\_124 Start: 60954, Stop: 61562, Start Num: 11

Candidate Starts for NoodleTree\_124:

(3, 60819), (Start: 11 @60954 has 187 MA's), (17, 61041), (23, 61113), (28, 61179), (29, 61242), (30, 61254), (32, 61275), (40, 61377), (48, 61518),

Gene: Norm\_118 Start: 61556, Stop: 62164, Start Num: 11

Candidate Starts for Norm\_118:

(3, 61421), (Start: 11 @61556 has 187 MA's), (17, 61643), (23, 61715), (28, 61781), (29, 61844), (30, 61856), (32, 61877), (40, 61979), (48, 62120),

Gene: NuevoMundo\_122 Start: 63135, Stop: 63743, Start Num: 11

Candidate Starts for NuevoMundo\_122:

(3, 63000), (Start: 11 @63135 has 187 MA's), (17, 63222), (23, 63294), (28, 63360), (29, 63423), (30, 63435), (32, 63456), (40, 63558), (48, 63699),

Gene: OrediggerDelux\_120 Start: 61391, Stop: 61999, Start Num: 11

Candidate Starts for OrediggerDelux\_120:

(3, 61256), (Start: 11 @61391 has 187 MA's), (17, 61478), (23, 61550), (28, 61616), (29, 61679), (30, 61691), (32, 61712), (40, 61814), (48, 61955),

Gene: PaintedDog\_26 Start: 23818, Stop: 24501, Start Num: 4

Candidate Starts for PaintedDog\_26:

(Start: 4 @23818 has 5 MA's), (12, 23980), (14, 24007), (15, 24010), (18, 24025), (22, 24073), (24, 24088), (27, 24124), (31, 24238), (32, 24244), (33, 24271), (34, 24292), (37, 24322), (39, 24337), (42, 24376), (43, 24397),

Gene: ParkTD\_118 Start: 60857, Stop: 61465, Start Num: 11

Candidate Starts for ParkTD\_118:

(3, 60722), (Start: 11 @60857 has 187 MA's), (17, 60944), (23, 61016), (28, 61082), (29, 61145), (30, 61157), (32, 61178), (40, 61280), (48, 61421),

Gene: Patter\_117 Start: 59406, Stop: 60014, Start Num: 11

Candidate Starts for Patter\_117:

(3, 59271), (Start: 11 @59406 has 187 MA's), (17, 59493), (23, 59565), (28, 59631), (29, 59694), (30, 59706), (32, 59727), (40, 59829), (48, 59970),

Gene: PharkleMinkus\_120 Start: 61195, Stop: 61803, Start Num: 11

Candidate Starts for PharkleMinkus\_120:

(3, 61060), (Start: 11 @61195 has 187 MA's), (17, 61282), (23, 61354), (28, 61420), (29, 61483), (30, 61495), (32, 61516), (40, 61618), (48, 61759),

Gene: Phlegm\_119 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for Phlegm\_119:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: Phox\_114 Start: 61137, Stop: 61745, Start Num: 11

Candidate Starts for Phox\_114:

(3, 61002), (Start: 11 @61137 has 187 MA's), (17, 61224), (23, 61296), (28, 61362), (29, 61425), (30, 61437), (32, 61458), (40, 61560), (48, 61701),

Gene: Phusco\_117 Start: 60154, Stop: 60762, Start Num: 11

Candidate Starts for Phusco\_117:

(3, 60019), (Start: 11 @60154 has 187 MA's), (17, 60241), (23, 60313), (28, 60379), (29, 60442), (30, 60454), (32, 60475), (40, 60577), (48, 60718),

Gene: Pier\_121 Start: 63143, Stop: 63751, Start Num: 11

Candidate Starts for Pier\_121:

(3, 63008), (Start: 11 @63143 has 187 MA's), (17, 63230), (23, 63302), (28, 63368), (29, 63431), (30, 63443), (32, 63464), (40, 63566), (48, 63707),

Gene: Pinkcreek\_108 Start: 58488, Stop: 59096, Start Num: 11

Candidate Starts for Pinkcreek\_108:

(3, 58353), (Start: 11 @58488 has 187 MA's), (17, 58575), (23, 58647), (28, 58713), (29, 58776), (30, 58788), (32, 58809), (40, 58911), (42, 58935), (48, 59052),

Gene: Pio\_121 Start: 62747, Stop: 63355, Start Num: 11

Candidate Starts for Pio\_121:

(3, 62612), (Start: 11 @62747 has 187 MA's), (17, 62834), (23, 62906), (28, 62972), (29, 63035), (30, 63047), (32, 63068), (40, 63170), (48, 63311),

Gene: Pivoine\_116 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for Pivoine\_116:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: Pleione\_120 Start: 61024, Stop: 61632, Start Num: 11

Candidate Starts for Pleione\_120:

(3, 60889), (Start: 11 @61024 has 187 MA's), (17, 61111), (23, 61183), (28, 61249), (29, 61312), (30, 61324), (32, 61345), (40, 61447), (48, 61588),

Gene: Primadonna\_110 Start: 59519, Stop: 60127, Start Num: 11

Candidate Starts for Primadonna\_110:

(3, 59384), (Start: 11 @59519 has 187 MA's), (17, 59606), (23, 59678), (28, 59744), (29, 59807), (30, 59819), (32, 59840), (40, 59942), (48, 60083),

Gene: Puhon\_120 Start: 61382, Stop: 61990, Start Num: 11

Candidate Starts for Puhon\_120:

(3, 61247), (Start: 11 @61382 has 187 MA's), (17, 61469), (23, 61541), (28, 61607), (29, 61670), (30, 61682), (32, 61703), (40, 61805), (48, 61946),

Gene: Pupusa\_122 Start: 62236, Stop: 62844, Start Num: 11

Candidate Starts for Pupusa\_122:

(3, 62101), (Start: 11 @62236 has 187 MA's), (17, 62323), (23, 62395), (28, 62461), (29, 62524), (30, 62536), (32, 62557), (40, 62659), (48, 62800),

Gene: PurduePete\_117 Start: 61281, Stop: 61889, Start Num: 11

Candidate Starts for PurduePete\_117:

(3, 61146), (Start: 11 @61281 has 187 MA's), (17, 61368), (23, 61440), (28, 61506), (29, 61569), (30, 61581), (32, 61602), (40, 61704), (48, 61845),

Gene: Pygmy\_26 Start: 24022, Stop: 24717, Start Num: 4

Candidate Starts for Pygmy\_26:

(Start: 4 @24022 has 5 MA's), (5, 24076), (6, 24109), (7, 24121), (12, 24184), (13, 24190), (14, 24211), (15, 24214), (16, 24217), (18, 24229), (22, 24277), (24, 24292), (25, 24301), (32, 24448), (33, 24475), (34, 24496), (37, 24526), (41, 24571), (43, 24613), (45, 24646),

Gene: QBert\_111 Start: 59861, Stop: 60469, Start Num: 11

Candidate Starts for QBert\_111:

(3, 59726), (Start: 11 @59861 has 187 MA's), (17, 59948), (23, 60020), (28, 60086), (29, 60149), (30, 60161), (32, 60182), (40, 60284), (48, 60425),

Gene: Quasimodo\_118 Start: 60816, Stop: 61424, Start Num: 11

Candidate Starts for Quasimodo\_118:

(3, 60681), (Start: 11 @60816 has 187 MA's), (17, 60903), (23, 60975), (28, 61041), (29, 61104), (30, 61116), (32, 61137), (40, 61239), (48, 61380),

Gene: Rabinovish\_114 Start: 61054, Stop: 61662, Start Num: 11

Candidate Starts for Rabinovish\_114:

(3, 60919), (Start: 11 @61054 has 187 MA's), (17, 61141), (23, 61213), (28, 61279), (29, 61342), (30, 61354), (32, 61375), (40, 61477), (48, 61618),

Gene: Rahel\_116 Start: 59746, Stop: 60354, Start Num: 11

Candidate Starts for Rahel\_116:

(3, 59611), (Start: 11 @59746 has 187 MA's), (17, 59833), (23, 59905), (28, 59971), (29, 60034), (30, 60046), (32, 60067), (40, 60169), (48, 60310),

Gene: Rizal\_112 Start: 58894, Stop: 59502, Start Num: 11

Candidate Starts for Rizal\_112:

(3, 58759), (Start: 11 @58894 has 187 MA's), (17, 58981), (23, 59053), (28, 59119), (29, 59182), (30, 59194), (32, 59215), (40, 59317), (48, 59458),

Gene: RoMag\_112 Start: 60067, Stop: 60675, Start Num: 11

Candidate Starts for RoMag\_112:

(3, 59932), (Start: 11 @60067 has 187 MA's), (17, 60154), (23, 60226), (28, 60292), (29, 60355), (30, 60367), (32, 60388), (40, 60490), (48, 60631),

Gene: Rocha\_115 Start: 60320, Stop: 60928, Start Num: 11

Candidate Starts for Rocha\_115:

(3, 60185), (Start: 11 @60320 has 187 MA's), (17, 60407), (23, 60479), (28, 60545), (29, 60608), (30, 60620), (32, 60641), (40, 60743), (48, 60884),

Gene: Ronan\_111 Start: 58017, Stop: 58625, Start Num: 11

Candidate Starts for Ronan\_111:

(3, 57882), (Start: 11 @58017 has 187 MA's), (17, 58104), (23, 58176), (28, 58242), (29, 58305), (30, 58317), (32, 58338), (40, 58440), (48, 58581),

Gene: Roots515\_115 Start: 61054, Stop: 61662, Start Num: 11

Candidate Starts for Roots515\_115:

(3, 60919), (Start: 11 @61054 has 187 MA's), (17, 61141), (23, 61213), (28, 61279), (29, 61342), (30, 61354), (32, 61375), (40, 61477), (48, 61618),

Gene: SVoro\_114 Start: 61231, Stop: 61839, Start Num: 11

Candidate Starts for SVoro\_114:

(3, 61096), (Start: 11 @61231 has 187 MA's), (17, 61318), (23, 61390), (28, 61456), (29, 61519), (30, 61531), (32, 61552), (40, 61654), (48, 61795),

Gene: Salacia\_121 Start: 61195, Stop: 61803, Start Num: 11

Candidate Starts for Salacia\_121:

(1, 60676), (3, 61060), (Start: 11 @61195 has 187 MA's), (17, 61282), (23, 61354), (28, 61420), (29, 61483), (30, 61495), (32, 61516), (40, 61618), (48, 61759),

Gene: Sauce\_117 Start: 59801, Stop: 60409, Start Num: 11

Candidate Starts for Sauce\_117:

(3, 59666), (Start: 11 @59801 has 187 MA's), (17, 59888), (23, 59960), (28, 60026), (29, 60089), (30, 60101), (32, 60122), (40, 60224), (48, 60365),

Gene: ScottMcG\_113 Start: 59817, Stop: 60425, Start Num: 11

Candidate Starts for ScottMcG\_113:

(3, 59682), (Start: 11 @59817 has 187 MA's), (17, 59904), (23, 59976), (28, 60042), (29, 60105), (30, 60117), (32, 60138), (40, 60240), (48, 60381),

Gene: Sebata\_117 Start: 61280, Stop: 61888, Start Num: 11

Candidate Starts for Sebata\_117:

(3, 61145), (Start: 11 @61280 has 187 MA's), (17, 61367), (23, 61439), (28, 61505), (29, 61568), (30, 61580), (32, 61601), (40, 61703), (48, 61844),

Gene: Shaqnato\_110 Start: 58861, Stop: 59469, Start Num: 11

Candidate Starts for Shaqnato\_110:

(3, 58726), (Start: 11 @58861 has 187 MA's), (17, 58948), (23, 59020), (28, 59086), (29, 59149), (30, 59161), (32, 59182), (40, 59284), (48, 59425),

Gene: Shelob\_119 Start: 61653, Stop: 62261, Start Num: 11

Candidate Starts for Shelob\_119:

(3, 61518), (Start: 11 @61653 has 187 MA's), (17, 61740), (23, 61812), (28, 61878), (29, 61941), (30, 61953), (32, 61974), (40, 62076), (48, 62217),

Gene: ShiaLabeouf\_116 Start: 60181, Stop: 60789, Start Num: 11

Candidate Starts for ShiaLabeouf\_116:

(3, 60046), (Start: 11 @60181 has 187 MA's), (17, 60268), (23, 60340), (28, 60406), (29, 60469), (30, 60481), (32, 60502), (40, 60604), (48, 60745),

Gene: Shifa\_105 Start: 58662, Stop: 59270, Start Num: 11

Candidate Starts for Shifa\_105:

(3, 58527), (Start: 11 @58662 has 187 MA's), (17, 58749), (23, 58821), (28, 58887), (29, 58950), (30, 58962), (32, 58983), (40, 59085), (42, 59109), (48, 59226),

Gene: Shipwreck\_26 Start: 24000, Stop: 24695, Start Num: 4

Candidate Starts for Shipwreck\_26:

(Start: 4 @24000 has 5 MA's), (5, 24054), (6, 24087), (7, 24099), (12, 24162), (13, 24168), (14, 24189), (15, 24192), (16, 24195), (18, 24207), (22, 24255), (24, 24270), (25, 24279), (32, 24426), (33, 24453), (34, 24474), (37, 24504), (41, 24549), (43, 24591), (45, 24624),

Gene: Shnickers\_117 Start: 60145, Stop: 60753, Start Num: 11

Candidate Starts for Shnickers\_117:

(3, 60010), (Start: 11 @60145 has 187 MA's), (17, 60232), (23, 60304), (28, 60370), (29, 60433), (30, 60445), (32, 60466), (40, 60568), (48, 60709),

Gene: Shrimp\_117 Start: 60865, Stop: 61473, Start Num: 11

Candidate Starts for Shrimp\_117:

(1, 60346), (3, 60730), (Start: 11 @60865 has 187 MA's), (17, 60952), (23, 61024), (28, 61090), (29, 61153), (30, 61165), (32, 61186), (40, 61288), (48, 61429),

Gene: SilverDipper\_118 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for SilverDipper\_118:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: SiwenD96\_118 Start: 61322, Stop: 61930, Start Num: 11

Candidate Starts for SiwenD96\_118:

(3, 61187), (Start: 11 @61322 has 187 MA's), (17, 61409), (23, 61481), (28, 61547), (29, 61610), (30, 61622), (32, 61643), (40, 61745), (48, 61886),

Gene: SmallFry\_117 Start: 59370, Stop: 59978, Start Num: 11

Candidate Starts for SmallFry\_117:

(3, 59235), (Start: 11 @59370 has 187 MA's), (17, 59457), (23, 59529), (28, 59595), (29, 59658), (30, 59670), (32, 59691), (40, 59793), (48, 59934),

Gene: SoilZilla\_112 Start: 60154, Stop: 60762, Start Num: 11

Candidate Starts for SoilZilla\_112:

(3, 60019), (Start: 11 @60154 has 187 MA's), (17, 60241), (23, 60313), (28, 60379), (29, 60442), (30, 60454), (32, 60475), (40, 60577), (48, 60718),

Gene: Spec\_114 Start: 59910, Stop: 60518, Start Num: 11

Candidate Starts for Spec\_114:

(3, 59775), (Start: 11 @59910 has 187 MA's), (17, 59997), (23, 60069), (28, 60135), (29, 60198), (30, 60210), (32, 60231), (40, 60333), (48, 60474),

Gene: Specks\_122 Start: 62045, Stop: 62653, Start Num: 11

Candidate Starts for Specks\_122:



(3, 61910), (Start: 11 @62045 has 187 MA's), (17, 62132), (23, 62204), (28, 62270), (29, 62333), (30, 62345), (32, 62366), (40, 62468), (48, 62609),

Gene: Sprinklers\_113 Start: 59426, Stop: 60034, Start Num: 11

Candidate Starts for Sprinklers\_113:

(3, 59291), (Start: 11 @59426 has 187 MA's), (17, 59513), (23, 59585), (28, 59651), (29, 59714), (30, 59726), (32, 59747), (40, 59849), (48, 59990),

Gene: Spud\_116 Start: 60941, Stop: 61549, Start Num: 11

Candidate Starts for Spud\_116:

(3, 60806), (Start: 11 @60941 has 187 MA's), (17, 61028), (23, 61100), (28, 61166), (29, 61229), (30, 61241), (32, 61262), (40, 61364), (48, 61505),

Gene: SrishMeg2525\_116 Start: 60963, Stop: 61571, Start Num: 11

Candidate Starts for SrishMeg2525\_116:

(3, 60828), (Start: 11 @60963 has 187 MA's), (17, 61050), (23, 61122), (28, 61188), (29, 61251), (30, 61263), (32, 61284), (40, 61386), (48, 61527),

Gene: StephanieG\_115 Start: 61772, Stop: 62380, Start Num: 11

Candidate Starts for StephanieG\_115:

(3, 61637), (Start: 11 @61772 has 187 MA's), (17, 61859), (23, 61931), (28, 61997), (29, 62060), (30, 62072), (32, 62093), (40, 62195), (48, 62336),

Gene: Stubby\_109 Start: 58978, Stop: 59586, Start Num: 11

Candidate Starts for Stubby\_109:

(3, 58843), (Start: 11 @58978 has 187 MA's), (17, 59065), (23, 59137), (28, 59203), (29, 59266), (30, 59278), (32, 59299), (40, 59401), (42, 59425), (48, 59542),

Gene: StubbySaigey\_120 Start: 59559, Stop: 60167, Start Num: 11

Candidate Starts for StubbySaigey\_120:

(3, 59424), (Start: 11 @59559 has 187 MA's), (17, 59646), (23, 59718), (28, 59784), (29, 59847), (30, 59859), (32, 59880), (40, 59982), (48, 60123),

Gene: Substance289\_114 Start: 59663, Stop: 60271, Start Num: 11

Candidate Starts for Substance289\_114:

(3, 59528), (Start: 11 @59663 has 187 MA's), (17, 59750), (23, 59822), (28, 59888), (29, 59951), (30, 59963), (32, 59984), (40, 60086), (48, 60227),

Gene: Tainan\_120 Start: 61367, Stop: 61975, Start Num: 11

Candidate Starts for Tainan\_120:

(3, 61232), (Start: 11 @61367 has 187 MA's), (17, 61454), (23, 61526), (28, 61592), (29, 61655), (30, 61667), (32, 61688), (40, 61790), (48, 61931),

Gene: Teardrop\_116 Start: 59369, Stop: 59977, Start Num: 11

Candidate Starts for Teardrop\_116:

(3, 59234), (Start: 11 @59369 has 187 MA's), (17, 59456), (23, 59528), (28, 59594), (29, 59657), (30, 59669), (32, 59690), (40, 59792), (48, 59933),

Gene: TinyTim\_117 Start: 60621, Stop: 61229, Start Num: 11

Candidate Starts for TinyTim\_117:

(3, 60486), (Start: 11 @60621 has 187 MA's), (17, 60708), (23, 60780), (28, 60846), (29, 60909), (30, 60921), (32, 60942), (40, 61044), (48, 61185),

Gene: Tonenili\_131 Start: 64088, Stop: 64720, Start Num: 8

Candidate Starts for Tonenili\_131:

(Start: 8 @64088 has 1 MA's), (9, 64097), (15, 64178), (19, 64199), (20, 64226), (22, 64253), (26, 64301), (35, 64484), (36, 64487), (38, 64502), (43, 64580), (46, 64625), (47, 64631), (49, 64712),

Gene: Tortoise16\_114 Start: 59970, Stop: 60578, Start Num: 11

Candidate Starts for Tortoise16\_114:

(3, 59835), (Start: 11 @59970 has 187 MA's), (17, 60057), (23, 60129), (28, 60195), (29, 60258), (30, 60270), (32, 60291), (40, 60393), (48, 60534),

Gene: Trinitium\_114 Start: 59325, Stop: 59933, Start Num: 11

Candidate Starts for Trinitium\_114:

(3, 59190), (Start: 11 @59325 has 187 MA's), (17, 59412), (23, 59484), (28, 59550), (29, 59613), (30, 59625), (32, 59646), (40, 59748), (48, 59889),

Gene: Turret\_112 Start: 58770, Stop: 59378, Start Num: 11

Candidate Starts for Turret\_112:

(3, 58635), (Start: 11 @58770 has 187 MA's), (17, 58857), (23, 58929), (28, 58995), (29, 59058), (30, 59070), (32, 59091), (40, 59193), (48, 59334),

Gene: Tyke\_117 Start: 61276, Stop: 61884, Start Num: 11

Candidate Starts for Tyke\_117:

(3, 61141), (Start: 11 @61276 has 187 MA's), (17, 61363), (23, 61435), (28, 61501), (29, 61564), (30, 61576), (32, 61597), (40, 61699), (48, 61840),

Gene: ValleyTerrace\_117 Start: 59389, Stop: 59997, Start Num: 11

Candidate Starts for ValleyTerrace\_117:

(3, 59254), (Start: 11 @59389 has 187 MA's), (17, 59476), (23, 59548), (28, 59614), (29, 59677), (30, 59689), (32, 59710), (40, 59812), (48, 59953),

Gene: Vortrix\_130 Start: 63404, Stop: 64036, Start Num: 8

Candidate Starts for Vortrix\_130:

(Start: 8 @63404 has 1 MA's), (9, 63413), (15, 63494), (19, 63515), (20, 63542), (22, 63569), (26, 63617), (35, 63800), (36, 63803), (38, 63818), (43, 63896), (46, 63941), (47, 63947), (49, 64028),

Gene: Wally\_116 Start: 59399, Stop: 60007, Start Num: 11

Candidate Starts for Wally\_116:

(3, 59264), (Start: 11 @59399 has 187 MA's), (17, 59486), (23, 59558), (28, 59624), (29, 59687), (30, 59699), (32, 59720), (40, 59822), (48, 59963),

Gene: Willis\_118 Start: 60756, Stop: 61364, Start Num: 11

Candidate Starts for Willis\_118:

(3, 60621), (Start: 11 @60756 has 187 MA's), (17, 60843), (23, 60915), (28, 60981), (29, 61044), (30, 61056), (32, 61077), (40, 61179), (48, 61320),

Gene: Yassified\_114 Start: 59476, Stop: 60084, Start Num: 11

Candidate Starts for Yassified\_114:

(3, 59341), (Start: 11 @59476 has 187 MA's), (17, 59563), (23, 59635), (28, 59701), (29, 59764), (30, 59776), (32, 59797), (40, 59899), (48, 60040),

Gene: YemiJoy2021\_118 Start: 60858, Stop: 61466, Start Num: 11

Candidate Starts for YemiJoy2021\_118:

(3, 60723), (Start: 11 @60858 has 187 MA's), (17, 60945), (23, 61017), (28, 61083), (29, 61146), (30, 61158), (32, 61179), (40, 61281), (48, 61422),

Gene: YoungMoneyMata\_118 Start: 60025, Stop: 60633, Start Num: 11

Candidate Starts for YoungMoneyMata\_118:

(3, 59890), (Start: 11 @60025 has 187 MA's), (17, 60112), (23, 60184), (28, 60250), (29, 60313), (30, 60325), (32, 60346), (40, 60448), (48, 60589),

Gene: Yucca\_116 Start: 60540, Stop: 61148, Start Num: 11

Candidate Starts for Yucca\_116:

(3, 60405), (Start: 11 @60540 has 187 MA's), (17, 60627), (23, 60699), (28, 60765), (29, 60828), (30, 60840), (32, 60861), (40, 60963), (48, 61104),

Gene: Zalkecks\_118 Start: 60541, Stop: 61149, Start Num: 11

Candidate Starts for Zalkecks\_118:

(3, 60406), (Start: 11 @60541 has 187 MA's), (17, 60628), (23, 60700), (28, 60766), (29, 60829), (30, 60841), (32, 60862), (40, 60964), (48, 61105),

Gene: Zeenon\_118 Start: 60626, Stop: 61234, Start Num: 11

Candidate Starts for Zeenon\_118:

(3, 60491), (Start: 11 @60626 has 187 MA's), (17, 60713), (23, 60785), (28, 60851), (29, 60914), (30, 60926), (32, 60947), (40, 61049), (48, 61190),

Gene: ZygoTaiga\_115 Start: 61786, Stop: 62394, Start Num: 11

Candidate Starts for ZygoTaiga\_115:

(3, 61651), (Start: 11 @61786 has 187 MA's), (17, 61873), (23, 61945), (28, 62011), (29, 62074), (30, 62086), (32, 62107), (40, 62209), (48, 62350),