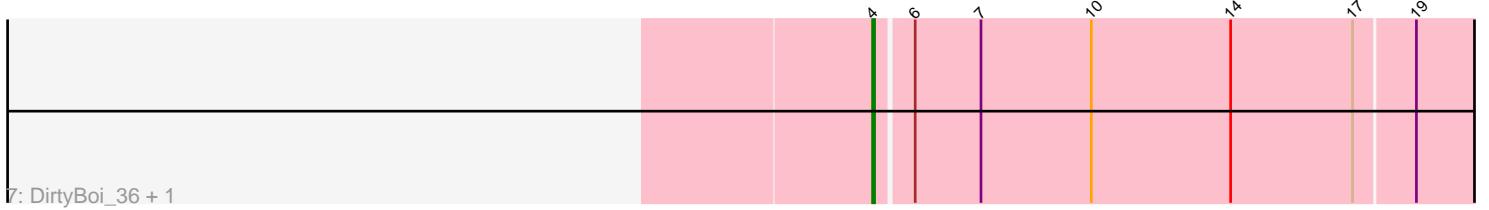
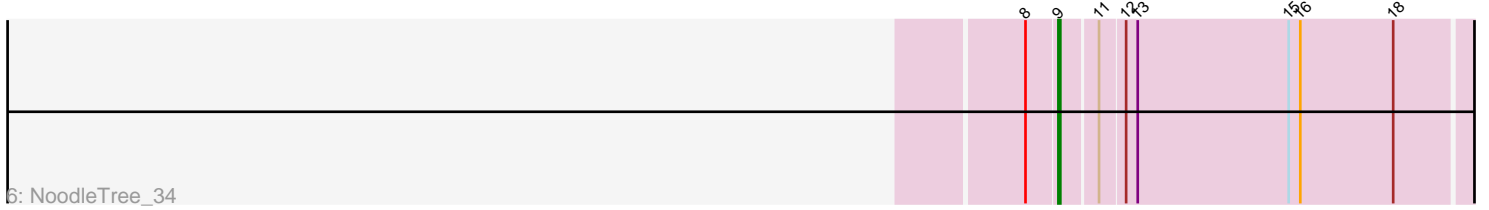
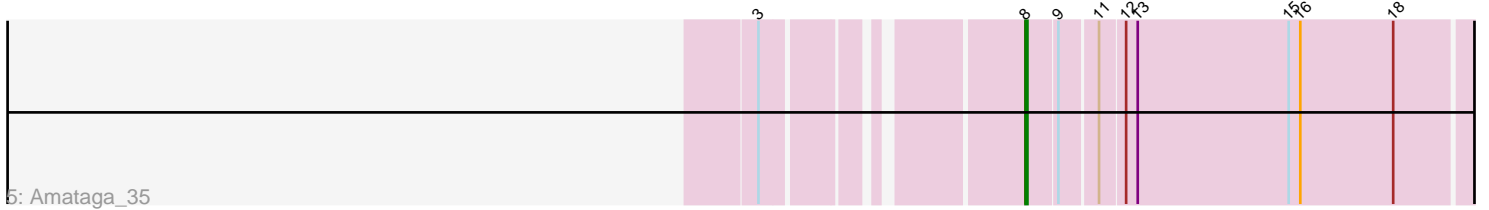
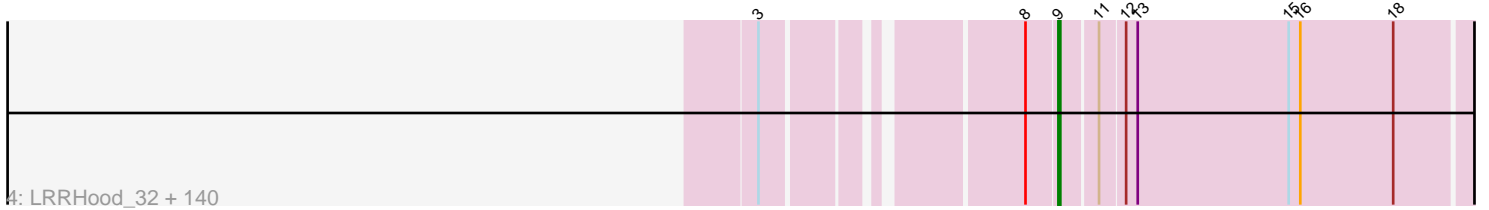
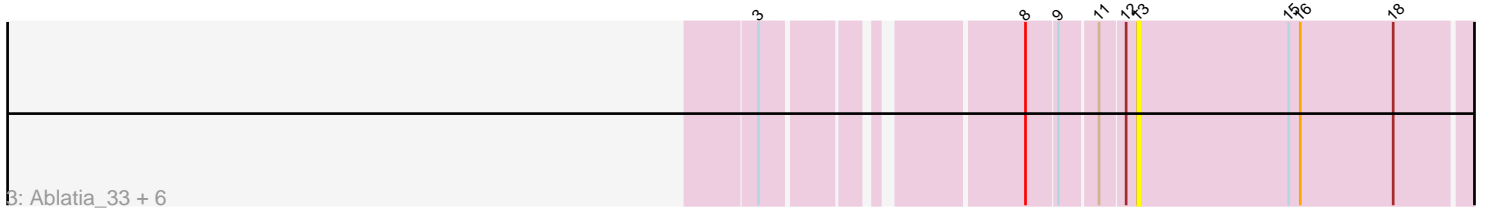
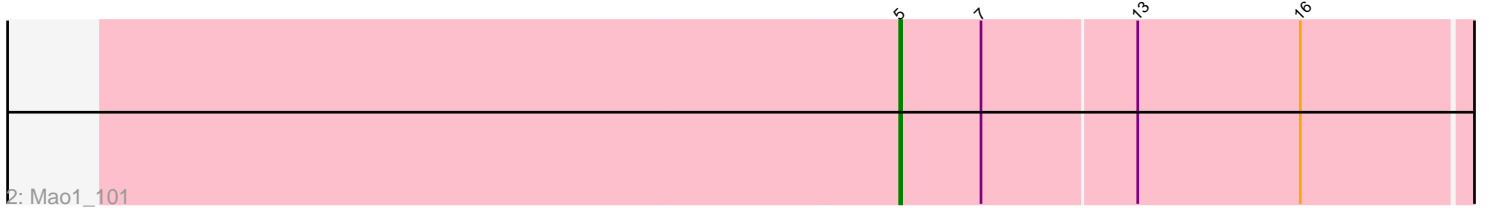
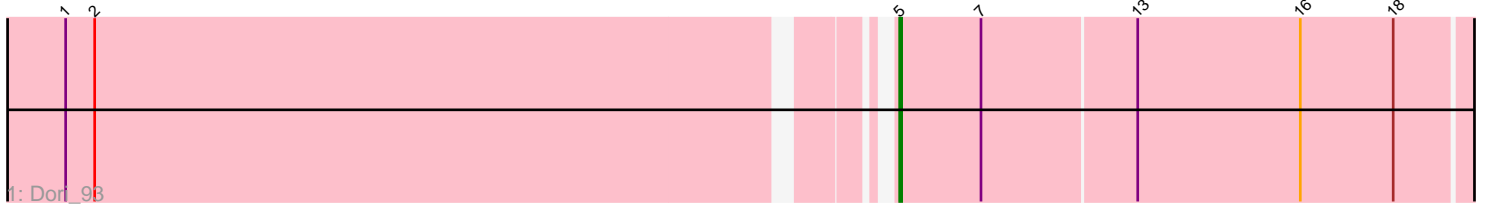


Pham 224346



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 224346 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224346 has 154 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Dori\_93
- Track 2 : Mao1\_101
- Track 3 : Ablatia\_33, Matsumoto\_34, Belieber\_31, Lee7\_34, Domi\_30, JigglyPuff\_35, Naval22\_37
- Track 4 : LRRHood\_32, Gizmo\_37, Issimir\_35, CharlieB\_35, ET08\_30, Pio\_38, Rahel\_35, JayJay\_38, Catera\_33, MikeLiesIn\_35, Maby2021\_36, LifeSavor\_36, Drazdys\_35, Momo\_34, Blackdragon\_30, Zeenon\_37, ArcherS7\_34, Grungle\_28, DTDevon\_36, Ewok\_35, InterFolia\_42, YemiJoy2021\_36, InigoMontoya\_36, Kboogie\_35, Bangla1971\_34, Asterius\_36, Pleione\_37, Morizzled23\_34, Tortoise16\_34, Shrimp\_35, Ading\_35, Bonray\_35, Adlitam\_35, EmToTheThree\_38, SVoro\_34, PurduePete\_34, CindyLou\_35, Izajani\_36, Audrick\_37, Jessibeth14\_34, Loanshark\_35, Rizal\_33, Shnickers\_35, Daffodil\_37, Patter\_35, NedWong\_36, Tyke\_37, Koguma\_31, Zalkecks\_37, Bxz1\_35, Pier\_37, SrishMeg2525\_34, Littleton\_35, TinyTim\_35, Bread\_36, Phusco\_35, Shaqnato\_31, Yucca\_35, Delilah\_35, Atlantean\_35, StubbySaigey\_34, EggyFarm\_39, Concombre\_34, Norm\_35, Khaleesi\_34, Janiyra\_35, Essence\_34, Sauce\_36, SmallFry\_35, ParkTD\_34, Burrough\_35, Derek\_36, LolaVinca\_38, Sprinklers\_35, Latch\_35, Fongie\_35, ShiaLabeouf\_35, FoxtrotP1\_35, Chomp\_35, ValleyTerrace\_35, Capablanca\_37, Gamgam\_35, ZygoTaiga\_35, Pivoine\_35, YoungMoneyMata\_35, Breeniome\_35, Megamind\_35, Gabriel\_35, Salacia\_37, Jedediah\_35, Ronan\_30, Phlegm\_37, Darko\_34, FrayBell\_41, EmmaElysia\_33, Fludd\_34, BigCity\_39, Erdmann\_36, Cactojaque\_32, Guwapp\_35, Ghost\_35, McWolfish\_34, Cali\_35, LordLeafolot\_40, Demodog\_33, Yassified\_32, Tonenili\_40, Spec\_33, JulietS\_30, FudgeTart\_36, SilverDipper\_36, DrPhinkDaddy\_35, Willis\_35, Sebata\_35, BeanWater\_31, Bipolarisk\_34, Jemmno\_35, BackyardAgain\_32, JPickles\_33, Tainan\_40, Iota\_32, Nappy\_36, Naija\_35, Grasshills\_39, BadAgartude\_36, Wally\_34, RoMag\_30, Mikro\_33, McGee\_34, Quasimodo\_35, QBert\_33, Primadonna\_30, Ngannou\_33, Lukilu\_28, Teardrop\_34, StephanieG\_35, GlutenPhree\_33, BananaFence\_36, Ava3\_36, Jaygup\_35, Babyland\_34
- Track 5 : Amataga\_35
- Track 6 : NoodleTree\_34
- Track 7 : DirtyBoi\_36, Hedwig\_38

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

The start number called the most often in the published annotations is 9, it was called in 128 of the 133 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ading\_35, Adlitam\_35, ArcherS7\_34, Asterius\_36, Atlantean\_35, Audrick\_37, Ava3\_36, Babyland\_34, BackyardAgain\_32, BadAgartude\_36, BananaFence\_36, Bangla1971\_34, BeanWater\_31, BigCity\_39, Bipolarisk\_34, Blackdragon\_30, Bonray\_35, Bread\_36, Breeniome\_35, Burrough\_35, Bxz1\_35, Cactojaque\_32, Cali\_35, Capablanca\_37, Catera\_33, CharlieB\_35, Chomp\_35, CindyLou\_35, Concombre\_34, DTDevon\_36, Daffodil\_37, Darko\_34, Delilah\_35, Demodog\_33, Derek\_36, DrPhinkDaddy\_35, Drazdys\_35, ET08\_30, EggyFarm\_39, EmToTheThree\_38, EmmaElysia\_33, Erdmann\_36, Essence\_34, Ewok\_35, Fludd\_34, Fongie\_35, FoxtrotP1\_35, FrayBell\_41, FudgeTart\_36, Gabriel\_35, Gamgam\_35, Ghost\_35, Gizmo\_37, GlutenPhree\_33, Grasshills\_39, Grungle\_28, Guwapp\_35, InigoMontoya\_36, InterFolia\_42, Iota\_32, Issimir\_35, Izajani\_36, JPickles\_33, Janiyra\_35, JayJay\_38, Jaygup\_35, Jedediah\_35, Jemmno\_35, Jessibeth14\_34, JulietS\_30, Kboogie\_35, Khaleesi\_34, Koguma\_31, LRRHood\_32, Latch\_35, LifeSavor\_36, Littleton\_35, Loanshark\_35, LolaVinca\_38, LordLeafolot\_40, Lukilu\_28, Maby2021\_36, McGee\_34, McWolfish\_34, Megamind\_35, MikeLiesIn\_35, Mikro\_33, Momo\_34, Morizzled23\_34, Naija\_35, Nappy\_36, NedWong\_36, Ngannou\_33, NoodleTree\_34, Norm\_35, ParkTD\_34, Patter\_35, Phlegm\_37, Phusco\_35, Pier\_37, Pio\_38, Pivoine\_35, Pleione\_37, Primadonna\_30, PurduePete\_34, QBert\_33, Quasimodo\_35, Rahel\_35, Rizal\_33, RoMag\_30, Ronan\_30, SVoro\_34, Salacia\_37, Sauce\_36, Sebata\_35, Shaqnato\_31, ShiaLabeouf\_35, Shnickers\_35, Shrimp\_35, SilverDipper\_36, SmallFry\_35, Spec\_33, Sprinklers\_35, SrishMeg2525\_34, StephanieG\_35, StubbySaigey\_34, Tainan\_40, Teardrop\_34, TinyTim\_35, Tonenili\_40, Tortoise16\_34, Tyke\_37, ValleyTerrace\_35, Wally\_34, Willis\_35, Yassified\_32, YemiJoy2021\_36, YoungMoneyMata\_35, Yucca\_35, Zalkecks\_37, Zeenon\_37, ZygoTaiga\_35,

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

- Ablatia\_33, Amataga\_35, Belieber\_31, Domi\_30, JigglyPuff\_35, Lee7\_34, Matsumoto\_34, Naval22\_37,

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

- DirtyBoi\_36, Dori\_93, Hedwig\_38, Mao1\_101,

### Summary by start number:

Start 4:

- Found in 2 of 154 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 2 of 133
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DirtyBoi\_36 (DB), Hedwig\_38 (DB),

Start 5:

- Found in 2 of 154 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 2 of 133
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dori\_93 (AD), Mao1\_101 (AD),

Start 8:

- Found in 150 of 154 ( 97.4% ) of genes in pham
- Manual Annotations of this start: 1 of 133
- Called 0.7% of time when present
- Phage (with cluster) where this start called: Amataga\_35 (C1),

#### Start 9:

- Found in 150 of 154 ( 97.4% ) of genes in pham
- Manual Annotations of this start: 128 of 133
- Called 94.7% of time when present
- Phage (with cluster) where this start called: Ading\_35 (C1), Adlitam\_35 (C1), ArcherS7\_34 (C1), Asterius\_36 (C1), Atlantean\_35 (C1), Audrick\_37 (C1), Ava3\_36 (C1), Babyland\_34 (C1), BackyardAgain\_32 (C1), BadAgartude\_36 (C1), BananaFence\_36 (C1), Bangla1971\_34 (C1), BeanWater\_31 (C1), BigCity\_39 (C1), Bipolarisk\_34 (C1), Blackdragon\_30 (C1), Bonray\_35 (C1), Bread\_36 (C1), Breeniome\_35 (C1), Burrough\_35 (C1), Bxz1\_35 (C1), Cactojaque\_32 (C1), Cali\_35 (C1), Capablanca\_37 (C1), Catera\_33 (C1), CharlieB\_35 (C1), Chomp\_35 (C1), CindyLou\_35 (C1), Concombre\_34 (C1), DTDevon\_36 (C1), Daffodil\_37 (C1), Darko\_34 (C1), Delilah\_35 (C1), Demodog\_33 (C1), Derek\_36 (C1), DrPhinkDaddy\_35 (C1), Drazdys\_35 (C1), ET08\_30 (C1), EggyFarm\_39 (C1), EmToTheThree\_38 (C1), EmmaElysia\_33 (C1), Erdmann\_36 (C1), Essence\_34 (C1), Ewok\_35 (C1), Fludd\_34 (C1), Fongie\_35 (C1), FoxtrotP1\_35 (C1), FrayBell\_41 (C1), FudgeTart\_36 (C1), Gabriel\_35 (C1), Gamgam\_35 (C1), Ghost\_35 (C1), Gizmo\_37 (C1), GlutenPhree\_33 (C1), Grasshills\_39 (C1), Grungle\_28 (C1), Guwapp\_35 (C1), InigoMontoya\_36 (C1), InterFolia\_42 (C1), Iota\_32 (C1), Issimir\_35 (C1), Izajani\_36 (C1), JPickles\_33 (C1), Janiyra\_35 (C1), JayJay\_38 (C1), Jaygup\_35 (C1), Jedediah\_35 (C1), Jemmno\_35 (C1), Jessibeth14\_34 (C1), JulietS\_30 (C1), Kboogie\_35 (C1), Khaleesi\_34 (C1), Koguma\_31 (C1), LRRHood\_32 (C1), Latch\_35 (C1), LifeSavor\_36 (C1), Littleton\_35 (C1), Loanshark\_35 (C1), LolaVince\_38 (C1), LordLeafolot\_40 (C1), Lukilu\_28 (C1), Maby2021\_36 (C1), McGee\_34 (C1), McWolfish\_34 (C1), Megamind\_35 (C1), MikeLiesIn\_35 (C1), Mikro\_33 (C1), Momo\_34 (C1), Morizzled23\_34 (C1), Naija\_35 (C1), Nappy\_36 (C1), NedWong\_36 (C1), Ngannou\_33 (C1), NoodleTree\_34 (C1), Norm\_35 (C1), ParkTD\_34 (C1), Patter\_35 (C1), Phlegm\_37 (C1), Phusco\_35 (C1), Pier\_37 (C1), Pio\_38 (C1), Pivoine\_35 (C1), Pleione\_37 (C1), Primadonna\_30 (C1), PurduePete\_34 (C1), QBert\_33 (C1), Quasimodo\_35 (C1), Rahel\_35 (C1), Rizal\_33 (C1), RoMag\_30 (C1), Ronan\_30 (C1), SVoro\_34 (C1), Salacia\_37 (C1), Sauce\_36 (C1), Sebata\_35 (C1), Shaq nato\_31 (C1), ShiaLabeouf\_35 (C1), Shnickers\_35 (C1), Shrimp\_35 (C1), SilverDipper\_36 (C1), SmallFry\_35 (C1), Spec\_33 (C1), Sprinklers\_35 (C1), SrishMeg2525\_34 (C1), StephanieG\_35 (C1), StubbySaigey\_34 (C1), Tainan\_40 (C1), Teardrop\_34 (C1), TinyTim\_35 (C1), Tonenili\_40 (C1), Tortoise16\_34 (C1), Tyke\_37 (C1), ValleyTerrace\_35 (C1), Wally\_34 (C1), Willis\_35 (C1), Yassified\_32 (C1), YemiJoy2021\_36 (C1), YoungMoneyMata\_35 (C1), Yucca\_35 (C1), Zalkecks\_37 (C1), Zeeon\_37 (C1), ZygoTaiga\_35 (C1),

#### Start 13:

- Found in 152 of 154 ( 98.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 4.6% of time when present
- Phage (with cluster) where this start called: Ablatia\_33 (C1), Belieber\_31 (C1), Domi\_30 (C1), JigglyPuff\_35 (C1), Lee7\_34 (C1), Matsumoto\_34 (C1), Naval22\_37 (C1),

#### Summary by clusters:

There are 3 clusters represented in this pham: C1, DB, AD,

Info for manual annotations of cluster AD:

- Start number 5 was manually annotated 2 times for cluster AD.

Info for manual annotations of cluster C1:

- Start number 8 was manually annotated 1 time for cluster C1.
- Start number 9 was manually annotated 128 times for cluster C1.

Info for manual annotations of cluster DB:

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

### ***Gene Information:***

Gene: Ablatia\_33 Start: 11002, Stop: 11184, Start Num: 13

Candidate Starts for Ablatia\_33:

(3, 10840), (Start: 8 @10951 has 1 MA's), (Start: 9 @10966 has 128 MA's), (11, 10984), (12, 10996), (13, 11002), (15, 11080), (16, 11086), (18, 11134),

Gene: Ading\_35 Start: 11229, Stop: 11447, Start Num: 9

Candidate Starts for Ading\_35:

(3, 11103), (Start: 8 @11214 has 1 MA's), (Start: 9 @11229 has 128 MA's), (11, 11247), (12, 11259), (13, 11265), (15, 11343), (16, 11349), (18, 11397),

Gene: Adlitam\_35 Start: 11246, Stop: 11464, Start Num: 9

Candidate Starts for Adlitam\_35:

(3, 11120), (Start: 8 @11231 has 1 MA's), (Start: 9 @11246 has 128 MA's), (11, 11264), (12, 11276), (13, 11282), (15, 11360), (16, 11366), (18, 11414),

Gene: Amataga\_35 Start: 11235, Stop: 11468, Start Num: 8

Candidate Starts for Amataga\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: ArcherS7\_34 Start: 11240, Stop: 11458, Start Num: 9

Candidate Starts for ArcherS7\_34:

(3, 11114), (Start: 8 @11225 has 1 MA's), (Start: 9 @11240 has 128 MA's), (11, 11258), (12, 11270), (13, 11276), (15, 11354), (16, 11360), (18, 11408),

Gene: Asterius\_36 Start: 11515, Stop: 11733, Start Num: 9

Candidate Starts for Asterius\_36:

(3, 11389), (Start: 8 @11500 has 1 MA's), (Start: 9 @11515 has 128 MA's), (11, 11533), (12, 11545), (13, 11551), (15, 11629), (16, 11635), (18, 11683),

Gene: Atlantean\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Atlantean\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Audrick\_37 Start: 11229, Stop: 11447, Start Num: 9

Candidate Starts for Audrick\_37:

(3, 11103), (Start: 8 @11214 has 1 MA's), (Start: 9 @11229 has 128 MA's), (11, 11247), (12, 11259), (13, 11265), (15, 11343), (16, 11349), (18, 11397),

Gene: Ava3\_36 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Ava3\_36:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Babyland\_34 Start: 10688, Stop: 10906, Start Num: 9

Candidate Starts for Babyland\_34:

(3, 10562), (Start: 8 @10673 has 1 MA's), (Start: 9 @10688 has 128 MA's), (11, 10706), (12, 10718), (13, 10724), (15, 10802), (16, 10808), (18, 10856),

Gene: BackyardAgain\_32 Start: 10669, Stop: 10887, Start Num: 9

Candidate Starts for BackyardAgain\_32:

(3, 10543), (Start: 8 @10654 has 1 MA's), (Start: 9 @10669 has 128 MA's), (11, 10687), (12, 10699), (13, 10705), (15, 10783), (16, 10789), (18, 10837),

Gene: BadAgartude\_36 Start: 11882, Stop: 12100, Start Num: 9

Candidate Starts for BadAgartude\_36:

(3, 11756), (Start: 8 @11867 has 1 MA's), (Start: 9 @11882 has 128 MA's), (11, 11900), (12, 11912), (13, 11918), (15, 11996), (16, 12002), (18, 12050),

Gene: BananaFence\_36 Start: 11679, Stop: 11897, Start Num: 9

Candidate Starts for BananaFence\_36:

(3, 11553), (Start: 8 @11664 has 1 MA's), (Start: 9 @11679 has 128 MA's), (11, 11697), (12, 11709), (13, 11715), (15, 11793), (16, 11799), (18, 11847),

Gene: Bangla1971\_34 Start: 11246, Stop: 11464, Start Num: 9

Candidate Starts for Bangla1971\_34:

(3, 11120), (Start: 8 @11231 has 1 MA's), (Start: 9 @11246 has 128 MA's), (11, 11264), (12, 11276), (13, 11282), (15, 11360), (16, 11366), (18, 11414),

Gene: BeanWater\_31 Start: 11639, Stop: 11857, Start Num: 9

Candidate Starts for BeanWater\_31:

(3, 11513), (Start: 8 @11624 has 1 MA's), (Start: 9 @11639 has 128 MA's), (11, 11657), (12, 11669), (13, 11675), (15, 11753), (16, 11759), (18, 11807),

Gene: Belieber\_31 Start: 10472, Stop: 10654, Start Num: 13

Candidate Starts for Belieber\_31:

(3, 10310), (Start: 8 @10421 has 1 MA's), (Start: 9 @10436 has 128 MA's), (11, 10454), (12, 10466), (13, 10472), (15, 10550), (16, 10556), (18, 10604),

Gene: BigCity\_39 Start: 12775, Stop: 12993, Start Num: 9

Candidate Starts for BigCity\_39:

(3, 12649), (Start: 8 @12760 has 1 MA's), (Start: 9 @12775 has 128 MA's), (11, 12793), (12, 12805), (13, 12811), (15, 12889), (16, 12895), (18, 12943),

Gene: Bipolarisk\_34 Start: 11506, Stop: 11724, Start Num: 9

Candidate Starts for Bipolarisk\_34:

(3, 11380), (Start: 8 @11491 has 1 MA's), (Start: 9 @11506 has 128 MA's), (11, 11524), (12, 11536), (13, 11542), (15, 11620), (16, 11626), (18, 11674),

Gene: Blackdragon\_30 Start: 10271, Stop: 10489, Start Num: 9

Candidate Starts for Blackdragon\_30:

(3, 10145), (Start: 8 @10256 has 1 MA's), (Start: 9 @10271 has 128 MA's), (11, 10289), (12, 10301), (13, 10307), (15, 10385), (16, 10391), (18, 10439),

Gene: Bonray\_35 Start: 11783, Stop: 12001, Start Num: 9

Candidate Starts for Bonray\_35:

(3, 11657), (Start: 8 @11768 has 1 MA's), (Start: 9 @11783 has 128 MA's), (11, 11801), (12, 11813), (13, 11819), (15, 11897), (16, 11903), (18, 11951),

Gene: Bread\_36 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Bread\_36:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Breeniome\_35 Start: 10678, Stop: 10896, Start Num: 9

Candidate Starts for Breeniome\_35:

(3, 10552), (Start: 8 @10663 has 1 MA's), (Start: 9 @10678 has 128 MA's), (11, 10696), (12, 10708), (13, 10714), (15, 10792), (16, 10798), (18, 10846),

Gene: Burrough\_35 Start: 11506, Stop: 11724, Start Num: 9

Candidate Starts for Burrough\_35:

(3, 11380), (Start: 8 @11491 has 1 MA's), (Start: 9 @11506 has 128 MA's), (11, 11524), (12, 11536), (13, 11542), (15, 11620), (16, 11626), (18, 11674),

Gene: Bxz1\_35 Start: 12255, Stop: 12473, Start Num: 9

Candidate Starts for Bxz1\_35:

(3, 12129), (Start: 8 @12240 has 1 MA's), (Start: 9 @12255 has 128 MA's), (11, 12273), (12, 12285), (13, 12291), (15, 12369), (16, 12375), (18, 12423),

Gene: Cactojaque\_32 Start: 10374, Stop: 10592, Start Num: 9

Candidate Starts for Cactojaque\_32:

(3, 10248), (Start: 8 @10359 has 1 MA's), (Start: 9 @10374 has 128 MA's), (11, 10392), (12, 10404), (13, 10410), (15, 10488), (16, 10494), (18, 10542),

Gene: Cali\_35 Start: 12816, Stop: 13034, Start Num: 9

Candidate Starts for Cali\_35:

(3, 12690), (Start: 8 @12801 has 1 MA's), (Start: 9 @12816 has 128 MA's), (11, 12834), (12, 12846), (13, 12852), (15, 12930), (16, 12936), (18, 12984),

Gene: Capablanca\_37 Start: 12375, Stop: 12593, Start Num: 9

Candidate Starts for Capablanca\_37:

(3, 12249), (Start: 8 @12360 has 1 MA's), (Start: 9 @12375 has 128 MA's), (11, 12393), (12, 12405), (13, 12411), (15, 12489), (16, 12495), (18, 12543),

Gene: Catera\_33 Start: 10673, Stop: 10891, Start Num: 9

Candidate Starts for Catera\_33:

(3, 10547), (Start: 8 @10658 has 1 MA's), (Start: 9 @10673 has 128 MA's), (11, 10691), (12, 10703), (13, 10709), (15, 10787), (16, 10793), (18, 10841),

Gene: CharlieB\_35 Start: 10814, Stop: 11032, Start Num: 9

Candidate Starts for CharlieB\_35:

(3, 10688), (Start: 8 @10799 has 1 MA's), (Start: 9 @10814 has 128 MA's), (11, 10832), (12, 10844), (13, 10850), (15, 10928), (16, 10934), (18, 10982),

Gene: Chomp\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Chomp\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: CindyLou\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for CindyLou\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Concombres\_34 Start: 12021, Stop: 12239, Start Num: 9

Candidate Starts for Concombres\_34:

(3, 11895), (Start: 8 @12006 has 1 MA's), (Start: 9 @12021 has 128 MA's), (11, 12039), (12, 12051), (13, 12057), (15, 12135), (16, 12141), (18, 12189),

Gene: DTDevon\_36 Start: 12414, Stop: 12632, Start Num: 9

Candidate Starts for DTDevon\_36:

(3, 12288), (Start: 8 @12399 has 1 MA's), (Start: 9 @12414 has 128 MA's), (11, 12432), (12, 12444), (13, 12450), (15, 12528), (16, 12534), (18, 12582),

Gene: Daffodil\_37 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Daffodil\_37:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Darko\_34 Start: 11648, Stop: 11866, Start Num: 9

Candidate Starts for Darko\_34:

(3, 11522), (Start: 8 @11633 has 1 MA's), (Start: 9 @11648 has 128 MA's), (11, 11666), (12, 11678), (13, 11684), (15, 11762), (16, 11768), (18, 11816),

Gene: Delilah\_35 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Delilah\_35:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Demodog\_33 Start: 12021, Stop: 12239, Start Num: 9

Candidate Starts for Demodog\_33:

(3, 11895), (Start: 8 @12006 has 1 MA's), (Start: 9 @12021 has 128 MA's), (11, 12039), (12, 12051), (13, 12057), (15, 12135), (16, 12141), (18, 12189),

Gene: Derek\_36 Start: 11207, Stop: 11425, Start Num: 9

Candidate Starts for Derek\_36:

(3, 11081), (Start: 8 @11192 has 1 MA's), (Start: 9 @11207 has 128 MA's), (11, 11225), (12, 11237), (13, 11243), (15, 11321), (16, 11327), (18, 11375),

Gene: DirtyBoi\_36 Start: 29499, Stop: 29185, Start Num: 4

Candidate Starts for DirtyBoi\_36:

(Start: 4 @29499 has 2 MA's), (6, 29481), (7, 29448), (10, 29391), (14, 29319), (17, 29256), (19, 29226),



Gene: Domi\_30 Start: 11103, Stop: 11285, Start Num: 13

Candidate Starts for Domi\_30:

(3, 10941), (Start: 8 @11052 has 1 MA's), (Start: 9 @11067 has 128 MA's), (11, 11085), (12, 11097), (13, 11103), (15, 11181), (16, 11187), (18, 11235),

Gene: Dori\_93 Start: 64171, Stop: 63872, Start Num: 5

Candidate Starts for Dori\_93:

(1, 64570), (2, 64555), (Start: 5 @64171 has 2 MA's), (7, 64129), (13, 64051), (16, 63967), (18, 63919),

Gene: DrPhinkDaddy\_35 Start: 11792, Stop: 12010, Start Num: 9

Candidate Starts for DrPhinkDaddy\_35:

(3, 11666), (Start: 8 @11777 has 1 MA's), (Start: 9 @11792 has 128 MA's), (11, 11810), (12, 11822), (13, 11828), (15, 11906), (16, 11912), (18, 11960),

Gene: Drazdys\_35 Start: 11580, Stop: 11798, Start Num: 9

Candidate Starts for Drazdys\_35:

(3, 11454), (Start: 8 @11565 has 1 MA's), (Start: 9 @11580 has 128 MA's), (11, 11598), (12, 11610), (13, 11616), (15, 11694), (16, 11700), (18, 11748),

Gene: ET08\_30 Start: 11251, Stop: 11469, Start Num: 9

Candidate Starts for ET08\_30:

(3, 11125), (Start: 8 @11236 has 1 MA's), (Start: 9 @11251 has 128 MA's), (11, 11269), (12, 11281), (13, 11287), (15, 11365), (16, 11371), (18, 11419),

Gene: EggyFarm\_39 Start: 12775, Stop: 12993, Start Num: 9

Candidate Starts for EggyFarm\_39:

(3, 12649), (Start: 8 @12760 has 1 MA's), (Start: 9 @12775 has 128 MA's), (11, 12793), (12, 12805), (13, 12811), (15, 12889), (16, 12895), (18, 12943),

Gene: EmToTheThree\_38 Start: 13209, Stop: 13427, Start Num: 9

Candidate Starts for EmToTheThree\_38:

(3, 13083), (Start: 8 @13194 has 1 MA's), (Start: 9 @13209 has 128 MA's), (11, 13227), (12, 13239), (13, 13245), (15, 13323), (16, 13329), (18, 13377),

Gene: EmmaElysia\_33 Start: 10434, Stop: 10652, Start Num: 9

Candidate Starts for EmmaElysia\_33:

(3, 10308), (Start: 8 @10419 has 1 MA's), (Start: 9 @10434 has 128 MA's), (11, 10452), (12, 10464), (13, 10470), (15, 10548), (16, 10554), (18, 10602),

Gene: Erdmann\_36 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Erdmann\_36:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Essence\_34 Start: 10969, Stop: 11187, Start Num: 9

Candidate Starts for Essence\_34:

(3, 10843), (Start: 8 @10954 has 1 MA's), (Start: 9 @10969 has 128 MA's), (11, 10987), (12, 10999), (13, 11005), (15, 11083), (16, 11089), (18, 11137),

Gene: Ewok\_35 Start: 11798, Stop: 12016, Start Num: 9

Candidate Starts for Ewok\_35:

(3, 11672), (Start: 8 @11783 has 1 MA's), (Start: 9 @11798 has 128 MA's), (11, 11816), (12, 11828), (13, 11834), (15, 11912), (16, 11918), (18, 11966),

Gene: Fludd\_34 Start: 10670, Stop: 10888, Start Num: 9

Candidate Starts for Fludd\_34:

(3, 10544), (Start: 8 @10655 has 1 MA's), (Start: 9 @10670 has 128 MA's), (11, 10688), (12, 10700), (13, 10706), (15, 10784), (16, 10790), (18, 10838),

Gene: Fongie\_35 Start: 12330, Stop: 12548, Start Num: 9

Candidate Starts for Fongie\_35:

(3, 12204), (Start: 8 @12315 has 1 MA's), (Start: 9 @12330 has 128 MA's), (11, 12348), (12, 12360), (13, 12366), (15, 12444), (16, 12450), (18, 12498),

Gene: FoxtrotP1\_35 Start: 12123, Stop: 12341, Start Num: 9

Candidate Starts for FoxtrotP1\_35:

(3, 11997), (Start: 8 @12108 has 1 MA's), (Start: 9 @12123 has 128 MA's), (11, 12141), (12, 12153), (13, 12159), (15, 12237), (16, 12243), (18, 12291),

Gene: FrayBell\_41 Start: 13363, Stop: 13581, Start Num: 9

Candidate Starts for FrayBell\_41:

(3, 13237), (Start: 8 @13348 has 1 MA's), (Start: 9 @13363 has 128 MA's), (11, 13381), (12, 13393), (13, 13399), (15, 13477), (16, 13483), (18, 13531),

Gene: FudgeTart\_36 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for FudgeTart\_36:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Gabriel\_35 Start: 10669, Stop: 10887, Start Num: 9

Candidate Starts for Gabriel\_35:

(3, 10543), (Start: 8 @10654 has 1 MA's), (Start: 9 @10669 has 128 MA's), (11, 10687), (12, 10699), (13, 10705), (15, 10783), (16, 10789), (18, 10837),

Gene: Gamgam\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Gamgam\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Ghost\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Ghost\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Gizmo\_37 Start: 11797, Stop: 12015, Start Num: 9

Candidate Starts for Gizmo\_37:

(3, 11671), (Start: 8 @11782 has 1 MA's), (Start: 9 @11797 has 128 MA's), (11, 11815), (12, 11827), (13, 11833), (15, 11911), (16, 11917), (18, 11965),

Gene: GlutenPhree\_33 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for GlutenPhree\_33:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Grasshills\_39 Start: 12775, Stop: 12993, Start Num: 9

Candidate Starts for Grasshills\_39:

(3, 12649), (Start: 8 @12760 has 1 MA's), (Start: 9 @12775 has 128 MA's), (11, 12793), (12, 12805), (13, 12811), (15, 12889), (16, 12895), (18, 12943),

Gene: Grungle\_28 Start: 9366, Stop: 9584, Start Num: 9

Candidate Starts for Grungle\_28:

(3, 9240), (Start: 8 @9351 has 1 MA's), (Start: 9 @9366 has 128 MA's), (11, 9384), (12, 9396), (13, 9402), (15, 9480), (16, 9486), (18, 9534),

Gene: Guwapp\_35 Start: 11207, Stop: 11425, Start Num: 9

Candidate Starts for Guwapp\_35:

(3, 11081), (Start: 8 @11192 has 1 MA's), (Start: 9 @11207 has 128 MA's), (11, 11225), (12, 11237), (13, 11243), (15, 11321), (16, 11327), (18, 11375),

Gene: Hedwig\_38 Start: 29922, Stop: 29608, Start Num: 4

Candidate Starts for Hedwig\_38:

(Start: 4 @29922 has 2 MA's), (6, 29904), (7, 29871), (10, 29814), (14, 29742), (17, 29679), (19, 29649),

Gene: InigoMontoya\_36 Start: 11211, Stop: 11429, Start Num: 9

Candidate Starts for InigoMontoya\_36:

(3, 11085), (Start: 8 @11196 has 1 MA's), (Start: 9 @11211 has 128 MA's), (11, 11229), (12, 11241), (13, 11247), (15, 11325), (16, 11331), (18, 11379),

Gene: InterFolia\_42 Start: 13901, Stop: 14119, Start Num: 9

Candidate Starts for InterFolia\_42:

(3, 13775), (Start: 8 @13886 has 1 MA's), (Start: 9 @13901 has 128 MA's), (11, 13919), (12, 13931), (13, 13937), (15, 14015), (16, 14021), (18, 14069),

Gene: Iota\_32 Start: 11330, Stop: 11548, Start Num: 9

Candidate Starts for Iota\_32:

(3, 11204), (Start: 8 @11315 has 1 MA's), (Start: 9 @11330 has 128 MA's), (11, 11348), (12, 11360), (13, 11366), (15, 11444), (16, 11450), (18, 11498),

Gene: Issimir\_35 Start: 11790, Stop: 12008, Start Num: 9

Candidate Starts for Issimir\_35:

(3, 11664), (Start: 8 @11775 has 1 MA's), (Start: 9 @11790 has 128 MA's), (11, 11808), (12, 11820), (13, 11826), (15, 11904), (16, 11910), (18, 11958),

Gene: Izajani\_36 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Izajani\_36:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: JPickles\_33 Start: 10444, Stop: 10662, Start Num: 9

Candidate Starts for JPickles\_33:

(3, 10318), (Start: 8 @10429 has 1 MA's), (Start: 9 @10444 has 128 MA's), (11, 10462), (12, 10474), (13, 10480), (15, 10558), (16, 10564), (18, 10612),

Gene: Janiyra\_35 Start: 11229, Stop: 11447, Start Num: 9

Candidate Starts for Janiyra\_35:

(3, 11103), (Start: 8 @11214 has 1 MA's), (Start: 9 @11229 has 128 MA's), (11, 11247), (12, 11259), (13, 11265), (15, 11343), (16, 11349), (18, 11397),

Gene: JayJay\_38 Start: 11760, Stop: 11978, Start Num: 9

Candidate Starts for JayJay\_38:

(3, 11634), (Start: 8 @11745 has 1 MA's), (Start: 9 @11760 has 128 MA's), (11, 11778), (12, 11790), (13, 11796), (15, 11874), (16, 11880), (18, 11928),

Gene: Jaygup\_35 Start: 11246, Stop: 11464, Start Num: 9

Candidate Starts for Jaygup\_35:

(3, 11120), (Start: 8 @11231 has 1 MA's), (Start: 9 @11246 has 128 MA's), (11, 11264), (12, 11276), (13, 11282), (15, 11360), (16, 11366), (18, 11414),

Gene: Jedediah\_35 Start: 10715, Stop: 10933, Start Num: 9

Candidate Starts for Jedediah\_35:

(3, 10589), (Start: 8 @10700 has 1 MA's), (Start: 9 @10715 has 128 MA's), (11, 10733), (12, 10745), (13, 10751), (15, 10829), (16, 10835), (18, 10883),

Gene: Jemmno\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Jemmno\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Jessibeth14\_34 Start: 11515, Stop: 11733, Start Num: 9

Candidate Starts for Jessibeth14\_34:

(3, 11389), (Start: 8 @11500 has 1 MA's), (Start: 9 @11515 has 128 MA's), (11, 11533), (12, 11545), (13, 11551), (15, 11629), (16, 11635), (18, 11683),

Gene: JigglyPuff\_35 Start: 12107, Stop: 12289, Start Num: 13

Candidate Starts for JigglyPuff\_35:

(3, 11945), (Start: 8 @12056 has 1 MA's), (Start: 9 @12071 has 128 MA's), (11, 12089), (12, 12101), (13, 12107), (15, 12185), (16, 12191), (18, 12239),

Gene: JulietS\_30 Start: 9669, Stop: 9887, Start Num: 9

Candidate Starts for JulietS\_30:

(3, 9543), (Start: 8 @9654 has 1 MA's), (Start: 9 @9669 has 128 MA's), (11, 9687), (12, 9699), (13, 9705), (15, 9783), (16, 9789), (18, 9837),

Gene: Kboogie\_35 Start: 10725, Stop: 10943, Start Num: 9

Candidate Starts for Kboogie\_35:

(3, 10599), (Start: 8 @10710 has 1 MA's), (Start: 9 @10725 has 128 MA's), (11, 10743), (12, 10755), (13, 10761), (15, 10839), (16, 10845), (18, 10893),

Gene: Khaleesi\_34 Start: 11542, Stop: 11760, Start Num: 9

Candidate Starts for Khaleesi\_34:

(3, 11416), (Start: 8 @11527 has 1 MA's), (Start: 9 @11542 has 128 MA's), (11, 11560), (12, 11572), (13, 11578), (15, 11656), (16, 11662), (18, 11710),

Gene: Koguma\_31 Start: 10012, Stop: 10230, Start Num: 9

Candidate Starts for Koguma\_31:

(3, 9886), (Start: 8 @9997 has 1 MA's), (Start: 9 @10012 has 128 MA's), (11, 10030), (12, 10042), (13, 10048), (15, 10126), (16, 10132), (18, 10180),

Gene: LRRHood\_32 Start: 11935, Stop: 12153, Start Num: 9

Candidate Starts for LRRHood\_32:

(3, 11809), (Start: 8 @11920 has 1 MA's), (Start: 9 @11935 has 128 MA's), (11, 11953), (12, 11965), (13, 11971), (15, 12049), (16, 12055), (18, 12103),

Gene: Latch\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Latch\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Lee7\_34 Start: 11828, Stop: 12010, Start Num: 13

Candidate Starts for Lee7\_34:

(3, 11666), (Start: 8 @11777 has 1 MA's), (Start: 9 @11792 has 128 MA's), (11, 11810), (12, 11822), (13, 11828), (15, 11906), (16, 11912), (18, 11960),

Gene: LifeSavor\_36 Start: 11246, Stop: 11464, Start Num: 9

Candidate Starts for LifeSavor\_36:

(3, 11120), (Start: 8 @11231 has 1 MA's), (Start: 9 @11246 has 128 MA's), (11, 11264), (12, 11276), (13, 11282), (15, 11360), (16, 11366), (18, 11414),

Gene: Littleton\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Littleton\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Loanshark\_35 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Loanshark\_35:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: LolaVinca\_38 Start: 13007, Stop: 13225, Start Num: 9

Candidate Starts for LolaVinca\_38:

(3, 12881), (Start: 8 @12992 has 1 MA's), (Start: 9 @13007 has 128 MA's), (11, 13025), (12, 13037), (13, 13043), (15, 13121), (16, 13127), (18, 13175),

Gene: LordLeafolot\_40 Start: 13362, Stop: 13580, Start Num: 9

Candidate Starts for LordLeafolot\_40:

(3, 13236), (Start: 8 @13347 has 1 MA's), (Start: 9 @13362 has 128 MA's), (11, 13380), (12, 13392), (13, 13398), (15, 13476), (16, 13482), (18, 13530),

Gene: Lukilu\_28 Start: 10386, Stop: 10604, Start Num: 9

Candidate Starts for Lukilu\_28:

(3, 10260), (Start: 8 @10371 has 1 MA's), (Start: 9 @10386 has 128 MA's), (11, 10404), (12, 10416), (13, 10422), (15, 10500), (16, 10506), (18, 10554),

Gene: Maby2021\_36 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Maby2021\_36:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Mao1\_101 Start: 64723, Stop: 64415, Start Num: 5

Candidate Starts for Mao1\_101:

(Start: 5 @64723 has 2 MA's), (7, 64681), (13, 64603), (16, 64519),

Gene: Matsumoto\_34 Start: 11247, Stop: 11429, Start Num: 13

Candidate Starts for Matsumoto\_34:

(3, 11085), (Start: 8 @11196 has 1 MA's), (Start: 9 @11211 has 128 MA's), (11, 11229), (12, 11241), (13, 11247), (15, 11325), (16, 11331), (18, 11379),

Gene: McGee\_34 Start: 10434, Stop: 10652, Start Num: 9

Candidate Starts for McGee\_34:

(3, 10308), (Start: 8 @10419 has 1 MA's), (Start: 9 @10434 has 128 MA's), (11, 10452), (12, 10464), (13, 10470), (15, 10548), (16, 10554), (18, 10602),

Gene: McWolfish\_34 Start: 11542, Stop: 11760, Start Num: 9

Candidate Starts for McWolfish\_34:

(3, 11416), (Start: 8 @11527 has 1 MA's), (Start: 9 @11542 has 128 MA's), (11, 11560), (12, 11572), (13, 11578), (15, 11656), (16, 11662), (18, 11710),

Gene: Megamind\_35 Start: 11780, Stop: 11998, Start Num: 9

Candidate Starts for Megamind\_35:

(3, 11654), (Start: 8 @11765 has 1 MA's), (Start: 9 @11780 has 128 MA's), (11, 11798), (12, 11810), (13, 11816), (15, 11894), (16, 11900), (18, 11948),

Gene: MikeLiesIn\_35 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for MikeLiesIn\_35:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Mikro\_33 Start: 12281, Stop: 12499, Start Num: 9

Candidate Starts for Mikro\_33:

(3, 12155), (Start: 8 @12266 has 1 MA's), (Start: 9 @12281 has 128 MA's), (11, 12299), (12, 12311), (13, 12317), (15, 12395), (16, 12401), (18, 12449),

Gene: Momo\_34 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Momo\_34:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Morizzled23\_34 Start: 10646, Stop: 10864, Start Num: 9

Candidate Starts for Morizzled23\_34:

(3, 10520), (Start: 8 @10631 has 1 MA's), (Start: 9 @10646 has 128 MA's), (11, 10664), (12, 10676), (13, 10682), (15, 10760), (16, 10766), (18, 10814),

Gene: Naija\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Naija\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Nappy\_36 Start: 11960, Stop: 12178, Start Num: 9

Candidate Starts for Nappy\_36:

(3, 11834), (Start: 8 @11945 has 1 MA's), (Start: 9 @11960 has 128 MA's), (11, 11978), (12, 11990), (13, 11996), (15, 12074), (16, 12080), (18, 12128),

Gene: Naval22\_37 Start: 11871, Stop: 12053, Start Num: 13

Candidate Starts for Naval22\_37:

(3, 11709), (Start: 8 @11820 has 1 MA's), (Start: 9 @11835 has 128 MA's), (11, 11853), (12, 11865), (13, 11871), (15, 11949), (16, 11955), (18, 12003),

Gene: NedWong\_36 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for NedWong\_36:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Ngannou\_33 Start: 10426, Stop: 10644, Start Num: 9

Candidate Starts for Ngannou\_33:

(3, 10300), (Start: 8 @10411 has 1 MA's), (Start: 9 @10426 has 128 MA's), (11, 10444), (12, 10456), (13, 10462), (15, 10540), (16, 10546), (18, 10594),

Gene: NoodleTree\_34 Start: 11557, Stop: 11775, Start Num: 9

Candidate Starts for NoodleTree\_34:

(Start: 8 @11542 has 1 MA's), (Start: 9 @11557 has 128 MA's), (11, 11575), (12, 11587), (13, 11593), (15, 11671), (16, 11677), (18, 11725),

Gene: Norm\_35 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Norm\_35:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: ParkTD\_34 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for ParkTD\_34:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Patter\_35 Start: 11267, Stop: 11485, Start Num: 9

Candidate Starts for Patter\_35:

(3, 11141), (Start: 8 @11252 has 1 MA's), (Start: 9 @11267 has 128 MA's), (11, 11285), (12, 11297), (13, 11303), (15, 11381), (16, 11387), (18, 11435),

Gene: Phlegm\_37 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Phlegm\_37:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Phusco\_35 Start: 11246, Stop: 11464, Start Num: 9

Candidate Starts for Phusco\_35:

(3, 11120), (Start: 8 @11231 has 1 MA's), (Start: 9 @11246 has 128 MA's), (11, 11264), (12, 11276), (13, 11282), (15, 11360), (16, 11366), (18, 11414),

Gene: Pier\_37 Start: 11953, Stop: 12171, Start Num: 9

Candidate Starts for Pier\_37:

(3, 11827), (Start: 8 @11938 has 1 MA's), (Start: 9 @11953 has 128 MA's), (11, 11971), (12, 11983), (13, 11989), (15, 12067), (16, 12073), (18, 12121),

Gene: Pio\_38 Start: 12644, Stop: 12862, Start Num: 9

Candidate Starts for Pio\_38:

(3, 12518), (Start: 8 @12629 has 1 MA's), (Start: 9 @12644 has 128 MA's), (11, 12662), (12, 12674), (13, 12680), (15, 12758), (16, 12764), (18, 12812),

Gene: Pivoine\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for Pivoine\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Pleione\_37 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Pleione\_37:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Primadonna\_30 Start: 10899, Stop: 11117, Start Num: 9

Candidate Starts for Primadonna\_30:

(3, 10773), (Start: 8 @10884 has 1 MA's), (Start: 9 @10899 has 128 MA's), (11, 10917), (12, 10929), (13, 10935), (15, 11013), (16, 11019), (18, 11067),

Gene: PurduePete\_34 Start: 11506, Stop: 11724, Start Num: 9

Candidate Starts for PurduePete\_34:

(3, 11380), (Start: 8 @11491 has 1 MA's), (Start: 9 @11506 has 128 MA's), (11, 11524), (12, 11536), (13, 11542), (15, 11620), (16, 11626), (18, 11674),

Gene: QBert\_33 Start: 11959, Stop: 12177, Start Num: 9

Candidate Starts for QBert\_33:

(3, 11833), (Start: 8 @11944 has 1 MA's), (Start: 9 @11959 has 128 MA's), (11, 11977), (12, 11989), (13, 11995), (15, 12073), (16, 12079), (18, 12127),

Gene: Quasimodo\_35 Start: 12210, Stop: 12428, Start Num: 9

Candidate Starts for Quasimodo\_35:

(3, 12084), (Start: 8 @12195 has 1 MA's), (Start: 9 @12210 has 128 MA's), (11, 12228), (12, 12240), (13, 12246), (15, 12324), (16, 12330), (18, 12378),

Gene: Rahel\_35 Start: 11246, Stop: 11464, Start Num: 9

Candidate Starts for Rahel\_35:

(3, 11120), (Start: 8 @11231 has 1 MA's), (Start: 9 @11246 has 128 MA's), (11, 11264), (12, 11276), (13, 11282), (15, 11360), (16, 11366), (18, 11414),

Gene: Rizal\_33 Start: 10712, Stop: 10930, Start Num: 9

Candidate Starts for Rizal\_33:

(3, 10586), (Start: 8 @10697 has 1 MA's), (Start: 9 @10712 has 128 MA's), (11, 10730), (12, 10742), (13, 10748), (15, 10826), (16, 10832), (18, 10880),

Gene: RoMag\_30 Start: 11044, Stop: 11262, Start Num: 9

Candidate Starts for RoMag\_30:

(3, 10918), (Start: 8 @11029 has 1 MA's), (Start: 9 @11044 has 128 MA's), (11, 11062), (12, 11074), (13, 11080), (15, 11158), (16, 11164), (18, 11212),

Gene: Ronan\_30 Start: 9352, Stop: 9570, Start Num: 9

Candidate Starts for Ronan\_30:

(3, 9226), (Start: 8 @9337 has 1 MA's), (Start: 9 @9352 has 128 MA's), (11, 9370), (12, 9382), (13, 9388), (15, 9466), (16, 9472), (18, 9520),

Gene: SVoro\_34 Start: 11789, Stop: 12007, Start Num: 9

Candidate Starts for SVoro\_34:

(3, 11663), (Start: 8 @11774 has 1 MA's), (Start: 9 @11789 has 128 MA's), (11, 11807), (12, 11819), (13, 11825), (15, 11903), (16, 11909), (18, 11957),



Gene: Salacia\_37 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for Salacia\_37:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Sauce\_36 Start: 11922, Stop: 12140, Start Num: 9

Candidate Starts for Sauce\_36:

(3, 11796), (Start: 8 @11907 has 1 MA's), (Start: 9 @11922 has 128 MA's), (11, 11940), (12, 11952), (13, 11958), (15, 12036), (16, 12042), (18, 12090),

Gene: Sebata\_35 Start: 12145, Stop: 12363, Start Num: 9

Candidate Starts for Sebata\_35:

(3, 12019), (Start: 8 @12130 has 1 MA's), (Start: 9 @12145 has 128 MA's), (11, 12163), (12, 12175), (13, 12181), (15, 12259), (16, 12265), (18, 12313),

Gene: Shaqnato\_31 Start: 10357, Stop: 10575, Start Num: 9

Candidate Starts for Shaqnato\_31:

(3, 10231), (Start: 8 @10342 has 1 MA's), (Start: 9 @10357 has 128 MA's), (11, 10375), (12, 10387), (13, 10393), (15, 10471), (16, 10477), (18, 10525),

Gene: ShiaLabeouf\_35 Start: 11246, Stop: 11464, Start Num: 9

Candidate Starts for ShiaLabeouf\_35:

(3, 11120), (Start: 8 @11231 has 1 MA's), (Start: 9 @11246 has 128 MA's), (11, 11264), (12, 11276), (13, 11282), (15, 11360), (16, 11366), (18, 11414),

Gene: Shnickers\_35 Start: 11246, Stop: 11464, Start Num: 9

Candidate Starts for Shnickers\_35:

(3, 11120), (Start: 8 @11231 has 1 MA's), (Start: 9 @11246 has 128 MA's), (11, 11264), (12, 11276), (13, 11282), (15, 11360), (16, 11366), (18, 11414),

Gene: Shrimp\_35 Start: 11799, Stop: 12017, Start Num: 9

Candidate Starts for Shrimp\_35:

(3, 11673), (Start: 8 @11784 has 1 MA's), (Start: 9 @11799 has 128 MA's), (11, 11817), (12, 11829), (13, 11835), (15, 11913), (16, 11919), (18, 11967),

Gene: SilverDipper\_36 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for SilverDipper\_36:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: SmallFry\_35 Start: 11246, Stop: 11464, Start Num: 9

Candidate Starts for SmallFry\_35:

(3, 11120), (Start: 8 @11231 has 1 MA's), (Start: 9 @11246 has 128 MA's), (11, 11264), (12, 11276), (13, 11282), (15, 11360), (16, 11366), (18, 11414),

Gene: Spec\_33 Start: 11252, Stop: 11470, Start Num: 9

Candidate Starts for Spec\_33:

(3, 11126), (Start: 8 @11237 has 1 MA's), (Start: 9 @11252 has 128 MA's), (11, 11270), (12, 11282), (13, 11288), (15, 11366), (16, 11372), (18, 11420),

Gene: Sprinklers\_35 Start: 11284, Stop: 11502, Start Num: 9

Candidate Starts for Sprinklers\_35:

(3, 11158), (Start: 8 @11269 has 1 MA's), (Start: 9 @11284 has 128 MA's), (11, 11302), (12, 11314), (13, 11320), (15, 11398), (16, 11404), (18, 11452),

Gene: SrishMeg2525\_34 Start: 11506, Stop: 11724, Start Num: 9

Candidate Starts for SrishMeg2525\_34:

(3, 11380), (Start: 8 @11491 has 1 MA's), (Start: 9 @11506 has 128 MA's), (11, 11524), (12, 11536), (13, 11542), (15, 11620), (16, 11626), (18, 11674),

Gene: StephanieG\_35 Start: 11975, Stop: 12193, Start Num: 9

Candidate Starts for StephanieG\_35:

(3, 11849), (Start: 8 @11960 has 1 MA's), (Start: 9 @11975 has 128 MA's), (11, 11993), (12, 12005), (13, 12011), (15, 12089), (16, 12095), (18, 12143),

Gene: StubbySaigey\_34 Start: 10435, Stop: 10653, Start Num: 9

Candidate Starts for StubbySaigey\_34:

(3, 10309), (Start: 8 @10420 has 1 MA's), (Start: 9 @10435 has 128 MA's), (11, 10453), (12, 10465), (13, 10471), (15, 10549), (16, 10555), (18, 10603),

Gene: Tainan\_40 Start: 13362, Stop: 13580, Start Num: 9

Candidate Starts for Tainan\_40:

(3, 13236), (Start: 8 @13347 has 1 MA's), (Start: 9 @13362 has 128 MA's), (11, 13380), (12, 13392), (13, 13398), (15, 13476), (16, 13482), (18, 13530),

Gene: Teardrop\_34 Start: 10711, Stop: 10929, Start Num: 9

Candidate Starts for Teardrop\_34:

(3, 10585), (Start: 8 @10696 has 1 MA's), (Start: 9 @10711 has 128 MA's), (11, 10729), (12, 10741), (13, 10747), (15, 10825), (16, 10831), (18, 10879),

Gene: TinyTim\_35 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for TinyTim\_35:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: Tonenili\_40 Start: 13341, Stop: 13559, Start Num: 9

Candidate Starts for Tonenili\_40:

(3, 13215), (Start: 8 @13326 has 1 MA's), (Start: 9 @13341 has 128 MA's), (11, 13359), (12, 13371), (13, 13377), (15, 13455), (16, 13461), (18, 13509),

Gene: Tortoise16\_34 Start: 11246, Stop: 11464, Start Num: 9

Candidate Starts for Tortoise16\_34:

(3, 11120), (Start: 8 @11231 has 1 MA's), (Start: 9 @11246 has 128 MA's), (11, 11264), (12, 11276), (13, 11282), (15, 11360), (16, 11366), (18, 11414),

Gene: Tyke\_37 Start: 12658, Stop: 12876, Start Num: 9

Candidate Starts for Tyke\_37:

(3, 12532), (Start: 8 @12643 has 1 MA's), (Start: 9 @12658 has 128 MA's), (11, 12676), (12, 12688), (13, 12694), (15, 12772), (16, 12778), (18, 12826),

Gene: ValleyTerrace\_35 Start: 11250, Stop: 11468, Start Num: 9

Candidate Starts for ValleyTerrace\_35:

(3, 11124), (Start: 8 @11235 has 1 MA's), (Start: 9 @11250 has 128 MA's), (11, 11268), (12, 11280), (13, 11286), (15, 11364), (16, 11370), (18, 11418),

Gene: Wally\_34 Start: 10667, Stop: 10885, Start Num: 9

Candidate Starts for Wally\_34:

(3, 10541), (Start: 8 @10652 has 1 MA's), (Start: 9 @10667 has 128 MA's), (11, 10685), (12, 10697), (13, 10703), (15, 10781), (16, 10787), (18, 10835),

Gene: Willis\_35 Start: 11690, Stop: 11908, Start Num: 9

Candidate Starts for Willis\_35:

(3, 11564), (Start: 8 @11675 has 1 MA's), (Start: 9 @11690 has 128 MA's), (11, 11708), (12, 11720), (13, 11726), (15, 11804), (16, 11810), (18, 11858),

Gene: Yassified\_32 Start: 10447, Stop: 10665, Start Num: 9

Candidate Starts for Yassified\_32:

(3, 10321), (Start: 8 @10432 has 1 MA's), (Start: 9 @10447 has 128 MA's), (11, 10465), (12, 10477), (13, 10483), (15, 10561), (16, 10567), (18, 10615),

Gene: YemiJoy2021\_36 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for YemiJoy2021\_36:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),

Gene: YoungMoneyMata\_35 Start: 11001, Stop: 11219, Start Num: 9

Candidate Starts for YoungMoneyMata\_35:

(3, 10875), (Start: 8 @10986 has 1 MA's), (Start: 9 @11001 has 128 MA's), (11, 11019), (12, 11031), (13, 11037), (15, 11115), (16, 11121), (18, 11169),

Gene: Yucca\_35 Start: 11717, Stop: 11935, Start Num: 9

Candidate Starts for Yucca\_35:

(3, 11591), (Start: 8 @11702 has 1 MA's), (Start: 9 @11717 has 128 MA's), (11, 11735), (12, 11747), (13, 11753), (15, 11831), (16, 11837), (18, 11885),

Gene: Zalkecks\_37 Start: 11799, Stop: 12017, Start Num: 9

Candidate Starts for Zalkecks\_37:

(3, 11673), (Start: 8 @11784 has 1 MA's), (Start: 9 @11799 has 128 MA's), (11, 11817), (12, 11829), (13, 11835), (15, 11913), (16, 11919), (18, 11967),

Gene: Zeenon\_37 Start: 11781, Stop: 11999, Start Num: 9

Candidate Starts for Zeenon\_37:

(3, 11655), (Start: 8 @11766 has 1 MA's), (Start: 9 @11781 has 128 MA's), (11, 11799), (12, 11811), (13, 11817), (15, 11895), (16, 11901), (18, 11949),

Gene: ZygoTaiga\_35 Start: 11795, Stop: 12013, Start Num: 9

Candidate Starts for ZygoTaiga\_35:

(3, 11669), (Start: 8 @11780 has 1 MA's), (Start: 9 @11795 has 128 MA's), (11, 11813), (12, 11825), (13, 11831), (15, 11909), (16, 11915), (18, 11963),