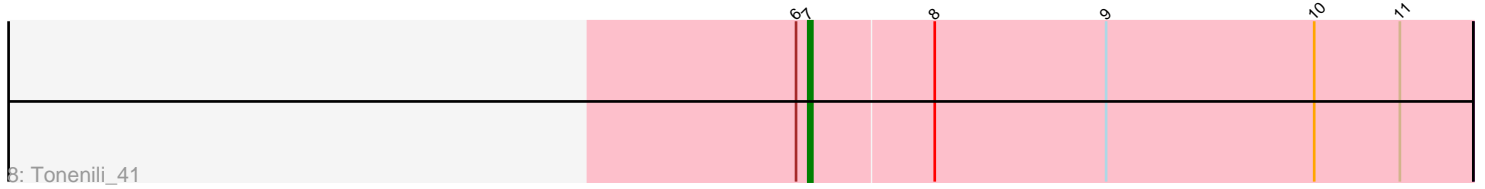
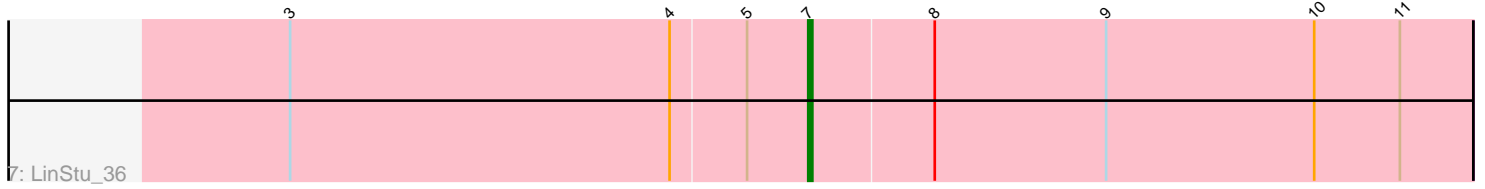
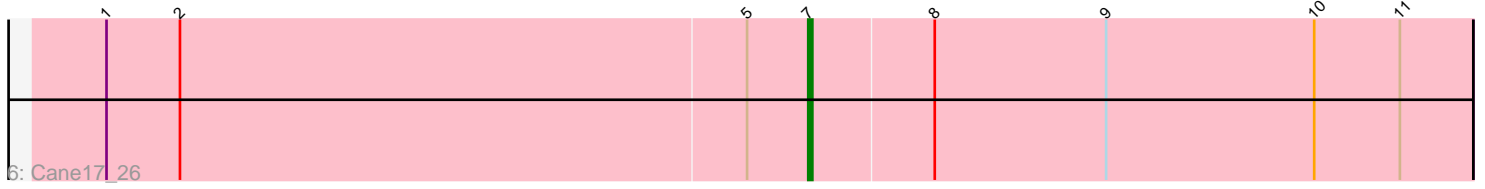
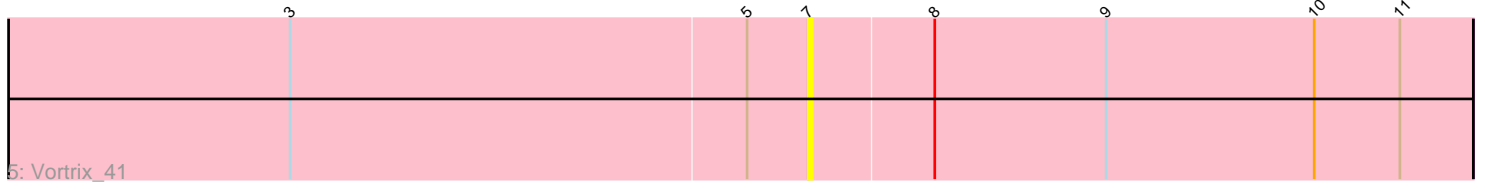
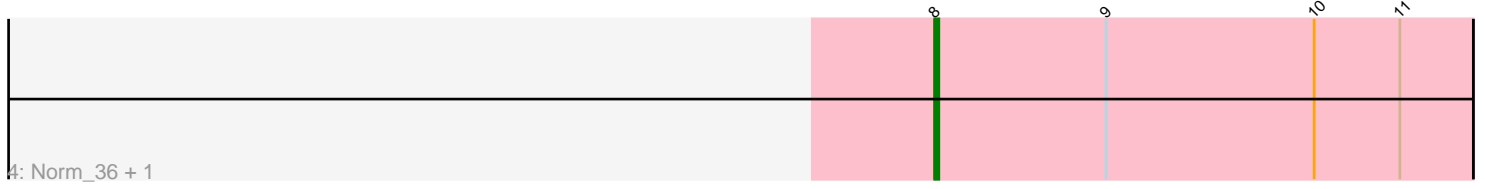
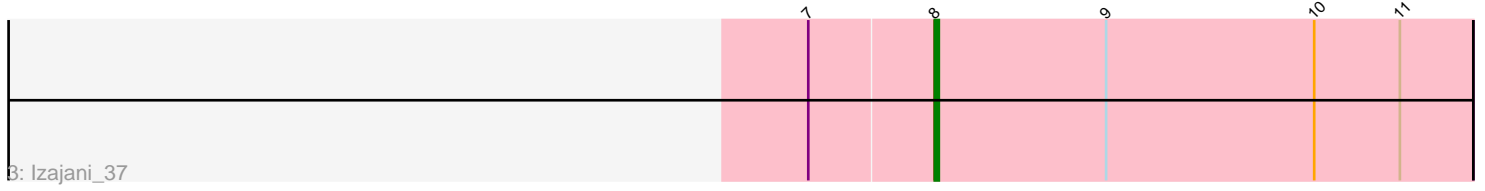
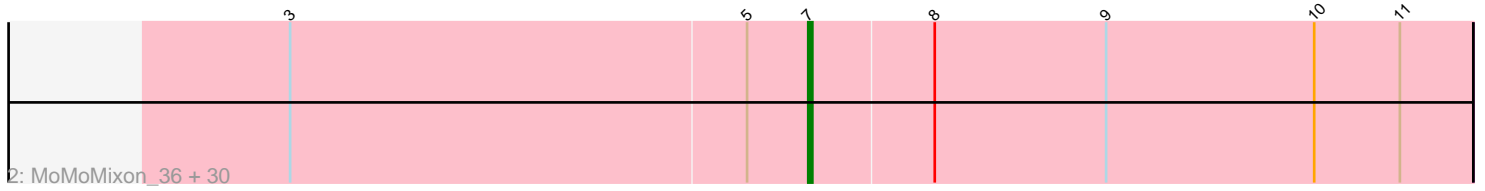
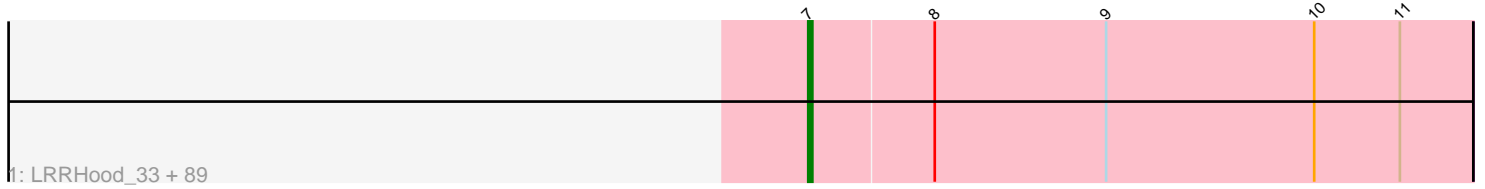


# Pham 292600



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 292600 Report

This analysis was run 04/18/26 on database version 643.

Pham number 292600 has 128 members, 19 are drafts.

Phages represented in each track:

- Track 1 : LRRHood\_33, CharlieB\_36, SVoro\_35, Gizmo\_38, Bowman\_35, Pio\_39, Rahel\_36, Bezza\_28, MikeLiesIn\_36, Lunareta\_35, Maby2021\_37, Catera\_34, ArcherS7\_35, Grungle\_29, Zeenon\_38, McWolfish\_35, Ewok\_36, YemiJoy2021\_37, Bangla1971\_35, Kboogie\_36, Pleione\_38, Montpel\_35, Asterius\_37, Lee7\_35, Morizzled23\_35, Shrimp\_36, EmToTheThree\_39, Cactojaque\_33, Yucca\_36, PurduePete\_35, Sprinklers\_36, Jessibeth14\_35, Rizal\_34, NedWong\_37, Koguma\_32, Darko\_35, Pier\_38, Bxz1\_36, Zalkecks\_38, BobaPhatt\_33, SrishMeg2525\_35, Daffodil\_38, TinyTim\_36, Bread\_37, Phusco\_36, Shaqnato\_32, Delilah\_36, StubbySaigey\_35, Concombre\_35, Khaleesi\_35, ParkTD\_35, Burrough\_36, Derek\_37, Fongie\_36, Duckfeet\_33, FoxtrotP1\_36, Loanshark\_36, Breeniome\_36, JigglyPuff\_36, Gabriel\_36, EmmaElysia\_34, Fludd\_35, Erdmann\_37, Rocha\_34, Cali\_36, Yassified\_33, JulietS\_31, FudgeTart\_37, DrPhinkDaddy\_36, Willis\_36, Demodog\_34, Salacia\_38, Bipolarisk\_35, Naval22\_38, BackyardAgain\_33, BadAgartude\_37, RoMag\_31, Wally\_35, Mikro\_34, OrediggerDelux\_35, LookingGlass\_39, Quasimodo\_36, Primadonna\_31, Lukilu\_29, ZygoTaiga\_36, Teardrop\_35, Megamind\_36, BananaFence\_37, Ava3\_37, Bonray\_36
- Track 2 : MoMoMixon\_36, Specks\_40, Blackbrain\_33, Mangeria\_38, Lethe\_34, Kamryn\_35, Phox\_34, ChickenPhender\_34, JustHall\_34, Dandelion\_39, Turret\_33, Dietrick\_30, I3\_37, Halldule\_31, Trinitium\_34, Spud\_37, NuevoMundo\_38, ErnieJ\_36, Caravan\_33, DeejaClivia\_30, Jezreel\_34, Basquiat\_34, ScottMcG\_35, Napoleon13\_34, Colt\_28, Nidhogg\_36, Melpomini\_34, Bigswole\_41, ChaylaJr\_34, IkeLoa\_31, Chargie21\_34
- Track 3 : Izajani\_37
- Track 4 : Norm\_36, DirtMonster\_34
- Track 5 : Vortex\_41
- Track 6 : Cane17\_26
- Track 7 : LinStu\_36
- Track 8 : Tonenili\_41

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

The start number called the most often in the published annotations is 7, it was called in 106 of the 109 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ArcherS7\_35, Asterius\_37, Ava3\_37, BackyardAgain\_33, BadAgartude\_37, BananaFence\_37, Bangla1971\_35, Basquiat\_34, Bezza\_28, Bigswole\_41, Bipolarisk\_35, Blackbrain\_33, BobaPhatt\_33, Bonray\_36, Bowman\_35, Bread\_37, Breeniome\_36, Burrough\_36, Bxz1\_36, Cactojaque\_33, Cali\_36, Cane17\_26, Caravan\_33, Catera\_34, Chargie21\_34, CharlieB\_36, ChaylaJr\_34, ChickenPhender\_34, Colt\_28, Concombre\_35, Daffodil\_38, Dandelion\_39, Darko\_35, DeejaClivia\_30, Delilah\_36, Demodog\_34, Derek\_37, Dietrick\_30, DrPhinkDaddy\_36, Duckfeet\_33, EmToTheThree\_39, EmmaElysia\_34, Erdmann\_37, ErnieJ\_36, Ewok\_36, Fludd\_35, Fongie\_36, FoxtrotP1\_36, FudgeTart\_37, Gabriel\_36, Gizmo\_38, Grungle\_29, Halldule\_31, I3\_37, IkeLoa\_31, Jessibeth14\_35, Jezreel\_34, JigglyPuff\_36, JulietS\_31, JustHall\_34, Kamryn\_35, Kboogie\_36, Khaleesi\_35, Koguma\_32, LRRHood\_33, Lee7\_35, Lethe\_34, LinStu\_36, Loanshark\_36, LookingGlass\_39, Lukilu\_29, Lunareta\_35, Maby2021\_37, Mangeria\_38, McWolfish\_35, Megamind\_36, Melpomini\_34, MikeLiesIn\_36, Mikro\_34, MoMoMixon\_36, Montpel\_35, Morizzled23\_35, Napoleon13\_34, Naval22\_38, NedWong\_37, Nidhogg\_36, NuevoMundo\_38, OrediggerDelux\_35, ParkTD\_35, Phox\_34, Phusco\_36, Pier\_38, Pio\_39, Pleione\_38, Primadonna\_31, PurduePete\_35, Quasimodo\_36, Rahel\_36, Rizal\_34, RoMag\_31, Rocha\_34, SVoro\_35, Salacia\_38, ScottMcG\_35, Shaqnato\_32, Shrimp\_36, Specks\_40, Sprinklers\_36, Spud\_37, SrishMeg2525\_35, StubbySaigey\_35, Teardrop\_35, TinyTim\_36, Tonenili\_41, Trinitium\_34, Turret\_33, Vortex\_41, Wally\_35, Willis\_36, Yassified\_33, YemiJoy2021\_37, Yucca\_36, Zalkecks\_38, Zeenon\_38, ZygoTaiga\_36,

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

- Izajani\_37,

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

- DirtMonster\_34, Norm\_36,

### Summary by start number:

Start 7:

- Found in 126 of 128 ( 98.4% ) of genes in pham
- Manual Annotations of this start: 106 of 109
- Called 99.2% of time when present
- Phage (with cluster) where this start called: ArcherS7\_35 (C1), Asterius\_37 (C1), Ava3\_37 (C1), BackyardAgain\_33 (C1), BadAgartude\_37 (C1), BananaFence\_37 (C1), Bangla1971\_35 (C1), Basquiat\_34 (C1), Bezza\_28 (C1), Bigswole\_41 (C1), Bipolarisk\_35 (C1), Blackbrain\_33 (C1), BobaPhatt\_33 (C1), Bonray\_36 (C1), Bowman\_35 (C1), Bread\_37 (C1), Breeniome\_36 (C1), Burrough\_36 (C1), Bxz1\_36 (C1), Cactojaque\_33 (C1), Cali\_36 (C1), Cane17\_26 (C1), Caravan\_33 (C1), Catera\_34 (C1), Chargie21\_34 (C1), CharlieB\_36 (C1), ChaylaJr\_34 (C1), ChickenPhender\_34 (C1), Colt\_28 (C1), Concombre\_35 (C1), Daffodil\_38 (C1), Dandelion\_39 (C1), Darko\_35 (C1), DeejaClivia\_30 (C1), Delilah\_36 (C1), Demodog\_34 (C1), Derek\_37 (C1), Dietrick\_30 (C1), DrPhinkDaddy\_36 (C1), Duckfeet\_33 (C1), EmToTheThree\_39 (C1), EmmaElysia\_34 (C1), Erdmann\_37 (C1), ErnieJ\_36 (C1), Ewok\_36 (C1), Fludd\_35 (C1), Fongie\_36 (C1), FoxtrotP1\_36 (C1), FudgeTart\_37 (C1), Gabriel\_36 (C1), Gizmo\_38 (C1), Grungle\_29 (C1), Halldule\_31 (C1), I3\_37 (C1), IkeLoa\_31 (C1), Jessibeth14\_35 (C1), Jezreel\_34 (C1), JigglyPuff\_36 (C1), JulietS\_31 (C1), JustHall\_34 (C1), Kamryn\_35 (C1), Kboogie\_36 (C1), Khaleesi\_35 (C1), Koguma\_32 (C1), LRRHood\_33 (C1), Lee7\_35 (C1), Lethe\_34 (C1), LinStu\_36 (C1), Loanshark\_36 (C1), LookingGlass\_39 (C1),

Lukilu\_29 (C1), Lunareta\_35 (C1), Maby2021\_37 (C1), Mangeria\_38 (C1), McWolfish\_35 (C1), Megamind\_36 (C1), Melpomini\_34 (C1), MikeLiesIn\_36 (C1), Mikro\_34 (C1), MoMoMixon\_36 (C1), Montpel\_35 (C1), Morizzled23\_35 (C1), Napoleon13\_34 (C1), Naval22\_38 (C1), NedWong\_37 (C1), Nidhogg\_36 (C1), NuevoMundo\_38 (C1), OrediggerDelux\_35 (C1), ParkTD\_35 (C1), Phox\_34 (C1), Phusco\_36 (C1), Pier\_38 (C1), Pio\_39 (C1), Pleione\_38 (C1), Primadonna\_31 (C1), PurduePete\_35 (C1), Quasimodo\_36 (C1), Rahel\_36 (C1), Rizal\_34 (C1), RoMag\_31 (C1), Rocha\_34 (C1), SVoro\_35 (C1), Salacia\_38 (C1), ScottMcG\_35 (C1), Shaq nato\_32 (C1), Shrimp\_36 (C1), Specks\_40 (C1), Sprinklers\_36 (C1), Spud\_37 (C1), SrishMeg2525\_35 (C1), StubbySaigey\_35 (C1), Teardrop\_35 (C1), TinyTim\_36 (C1), Tonenili\_41 (C1), Trinitium\_34 (C1), Turret\_33 (C1), Vortrix\_41 (C1), Wally\_35 (C1), Willis\_36 (C1), Yassified\_33 (C1), YemiJoy2021\_37 (C1), Yucca\_36 (C1), Zalkecks\_38 (C1), Zeenon\_38 (C1), ZygoTaiga\_36 (C1),

Start 8:

- Found in 128 of 128 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 3 of 109
- Called 2.3% of time when present
- Phage (with cluster) where this start called: DirtMonster\_34 (C1), Izajani\_37 (C1), Norm\_36 (C1),

### Summary by clusters:

There is one cluster represented in this pham: C1

Info for manual annotations of cluster C1:

- Start number 7 was manually annotated 106 times for cluster C1.
- Start number 8 was manually annotated 3 times for cluster C1.

### Gene Information:

Gene: ArcherS7\_35 Start: 11458, Stop: 11619, Start Num: 7

Candidate Starts for ArcherS7\_35:

(Start: 7 @11458 has 106 MA's), (Start: 8 @11488 has 3 MA's), (9, 11530), (10, 11581), (11, 11602),

Gene: Asterius\_37 Start: 11733, Stop: 11894, Start Num: 7

Candidate Starts for Asterius\_37:

(Start: 7 @11733 has 106 MA's), (Start: 8 @11763 has 3 MA's), (9, 11805), (10, 11856), (11, 11877),

Gene: Ava3\_37 Start: 12013, Stop: 12174, Start Num: 7

Candidate Starts for Ava3\_37:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: BackyardAgain\_33 Start: 10887, Stop: 11048, Start Num: 7

Candidate Starts for BackyardAgain\_33:

(Start: 7 @10887 has 106 MA's), (Start: 8 @10917 has 3 MA's), (9, 10959), (10, 11010), (11, 11031),

Gene: BadAgartude\_37 Start: 12100, Stop: 12261, Start Num: 7

Candidate Starts for BadAgartude\_37:

(Start: 7 @12100 has 106 MA's), (Start: 8 @12130 has 3 MA's), (9, 12172), (10, 12223), (11, 12244),

Gene: BananaFence\_37 Start: 11897, Stop: 12058, Start Num: 7  
Candidate Starts for BananaFence\_37:  
(Start: 7 @11897 has 106 MA's), (Start: 8 @11927 has 3 MA's), (9, 11969), (10, 12020), (11, 12041),

Gene: Bangla1971\_35 Start: 11464, Stop: 11625, Start Num: 7  
Candidate Starts for Bangla1971\_35:  
(Start: 7 @11464 has 106 MA's), (Start: 8 @11494 has 3 MA's), (9, 11536), (10, 11587), (11, 11608),

Gene: Basquiat\_34 Start: 10669, Stop: 10830, Start Num: 7  
Candidate Starts for Basquiat\_34:  
(3, 10543), (5, 10654), (Start: 7 @10669 has 106 MA's), (Start: 8 @10699 has 3 MA's), (9, 10741), (10, 10792), (11, 10813),

Gene: Bezza\_28 Start: 10533, Stop: 10694, Start Num: 7  
Candidate Starts for Bezza\_28:  
(Start: 7 @10533 has 106 MA's), (Start: 8 @10563 has 3 MA's), (9, 10605), (10, 10656), (11, 10677),

Gene: Bigswole\_41 Start: 13585, Stop: 13746, Start Num: 7  
Candidate Starts for Bigswole\_41:  
(3, 13459), (5, 13570), (Start: 7 @13585 has 106 MA's), (Start: 8 @13615 has 3 MA's), (9, 13657), (10, 13708), (11, 13729),

Gene: Bipolarisk\_35 Start: 11724, Stop: 11885, Start Num: 7  
Candidate Starts for Bipolarisk\_35:  
(Start: 7 @11724 has 106 MA's), (Start: 8 @11754 has 3 MA's), (9, 11796), (10, 11847), (11, 11868),

Gene: Blackbrain\_33 Start: 10485, Stop: 10646, Start Num: 7  
Candidate Starts for Blackbrain\_33:  
(3, 10359), (5, 10470), (Start: 7 @10485 has 106 MA's), (Start: 8 @10515 has 3 MA's), (9, 10557), (10, 10608), (11, 10629),

Gene: BobaPhatt\_33 Start: 10898, Stop: 11059, Start Num: 7  
Candidate Starts for BobaPhatt\_33:  
(Start: 7 @10898 has 106 MA's), (Start: 8 @10928 has 3 MA's), (9, 10970), (10, 11021), (11, 11042),

Gene: Bonray\_36 Start: 12001, Stop: 12162, Start Num: 7  
Candidate Starts for Bonray\_36:  
(Start: 7 @12001 has 106 MA's), (Start: 8 @12031 has 3 MA's), (9, 12073), (10, 12124), (11, 12145),

Gene: Bowman\_35 Start: 12013, Stop: 12174, Start Num: 7  
Candidate Starts for Bowman\_35:  
(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Bread\_37 Start: 12013, Stop: 12174, Start Num: 7  
Candidate Starts for Bread\_37:  
(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Breeniome\_36 Start: 10896, Stop: 11057, Start Num: 7  
Candidate Starts for Breeniome\_36:  
(Start: 7 @10896 has 106 MA's), (Start: 8 @10926 has 3 MA's), (9, 10968), (10, 11019), (11, 11040),

Gene: Burrough\_36 Start: 11724, Stop: 11885, Start Num: 7  
Candidate Starts for Burrough\_36:

(Start: 7 @11724 has 106 MA's), (Start: 8 @11754 has 3 MA's), (9, 11796), (10, 11847), (11, 11868),

Gene: Bxz1\_36 Start: 12473, Stop: 12634, Start Num: 7

Candidate Starts for Bxz1\_36:

(Start: 7 @12473 has 106 MA's), (Start: 8 @12503 has 3 MA's), (9, 12545), (10, 12596), (11, 12617),

Gene: Cactojaque\_33 Start: 10592, Stop: 10753, Start Num: 7

Candidate Starts for Cactojaque\_33:

(Start: 7 @10592 has 106 MA's), (Start: 8 @10622 has 3 MA's), (9, 10664), (10, 10715), (11, 10736),

Gene: Cali\_36 Start: 13034, Stop: 13195, Start Num: 7

Candidate Starts for Cali\_36:

(Start: 7 @13034 has 106 MA's), (Start: 8 @13064 has 3 MA's), (9, 13106), (10, 13157), (11, 13178),

Gene: Cane17\_26 Start: 9150, Stop: 9311, Start Num: 7

Candidate Starts for Cane17\_26:

(1, 8979), (2, 8997), (5, 9135), (Start: 7 @9150 has 106 MA's), (Start: 8 @9180 has 3 MA's), (9, 9222), (10, 9273), (11, 9294),

Gene: Caravan\_33 Start: 11065, Stop: 11226, Start Num: 7

Candidate Starts for Caravan\_33:

(3, 10939), (5, 11050), (Start: 7 @11065 has 106 MA's), (Start: 8 @11095 has 3 MA's), (9, 11137), (10, 11188), (11, 11209),

Gene: Catera\_34 Start: 10891, Stop: 11052, Start Num: 7

Candidate Starts for Catera\_34:

(Start: 7 @10891 has 106 MA's), (Start: 8 @10921 has 3 MA's), (9, 10963), (10, 11014), (11, 11035),

Gene: Chargie21\_34 Start: 10669, Stop: 10830, Start Num: 7

Candidate Starts for Chargie21\_34:

(3, 10543), (5, 10654), (Start: 7 @10669 has 106 MA's), (Start: 8 @10699 has 3 MA's), (9, 10741), (10, 10792), (11, 10813),

Gene: CharlieB\_36 Start: 11032, Stop: 11193, Start Num: 7

Candidate Starts for CharlieB\_36:

(Start: 7 @11032 has 106 MA's), (Start: 8 @11062 has 3 MA's), (9, 11104), (10, 11155), (11, 11176),

Gene: ChaylaJr\_34 Start: 10756, Stop: 10917, Start Num: 7

Candidate Starts for ChaylaJr\_34:

(3, 10630), (5, 10741), (Start: 7 @10756 has 106 MA's), (Start: 8 @10786 has 3 MA's), (9, 10828), (10, 10879), (11, 10900),

Gene: ChickenPhender\_34 Start: 10714, Stop: 10875, Start Num: 7

Candidate Starts for ChickenPhender\_34:

(3, 10588), (5, 10699), (Start: 7 @10714 has 106 MA's), (Start: 8 @10744 has 3 MA's), (9, 10786), (10, 10837), (11, 10858),

Gene: Colt\_28 Start: 10017, Stop: 10178, Start Num: 7

Candidate Starts for Colt\_28:

(3, 9891), (5, 10002), (Start: 7 @10017 has 106 MA's), (Start: 8 @10047 has 3 MA's), (9, 10089), (10, 10140), (11, 10161),

Gene: Concombre\_35 Start: 12239, Stop: 12400, Start Num: 7

Candidate Starts for Concombres\_35:

(Start: 7 @12239 has 106 MA's), (Start: 8 @12269 has 3 MA's), (9, 12311), (10, 12362), (11, 12383),

Gene: Daffodil\_38 Start: 12013, Stop: 12174, Start Num: 7

Candidate Starts for Daffodil\_38:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Dandelion\_39 Start: 13110, Stop: 13271, Start Num: 7

Candidate Starts for Dandelion\_39:

(3, 12984), (5, 13095), (Start: 7 @13110 has 106 MA's), (Start: 8 @13140 has 3 MA's), (9, 13182), (10, 13233), (11, 13254),

Gene: Darko\_35 Start: 11866, Stop: 12027, Start Num: 7

Candidate Starts for Darko\_35:

(Start: 7 @11866 has 106 MA's), (Start: 8 @11896 has 3 MA's), (9, 11938), (10, 11989), (11, 12010),

Gene: DeejaClivia\_30 Start: 10018, Stop: 10179, Start Num: 7

Candidate Starts for DeejaClivia\_30:

(3, 9892), (5, 10003), (Start: 7 @10018 has 106 MA's), (Start: 8 @10048 has 3 MA's), (9, 10090), (10, 10141), (11, 10162),

Gene: Delilah\_36 Start: 12013, Stop: 12174, Start Num: 7

Candidate Starts for Delilah\_36:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Demodog\_34 Start: 12239, Stop: 12400, Start Num: 7

Candidate Starts for Demodog\_34:

(Start: 7 @12239 has 106 MA's), (Start: 8 @12269 has 3 MA's), (9, 12311), (10, 12362), (11, 12383),

Gene: Derek\_37 Start: 11425, Stop: 11586, Start Num: 7

Candidate Starts for Derek\_37:

(Start: 7 @11425 has 106 MA's), (Start: 8 @11455 has 3 MA's), (9, 11497), (10, 11548), (11, 11569),

Gene: Dietrick\_30 Start: 10442, Stop: 10603, Start Num: 7

Candidate Starts for Dietrick\_30:

(3, 10316), (5, 10427), (Start: 7 @10442 has 106 MA's), (Start: 8 @10472 has 3 MA's), (9, 10514), (10, 10565), (11, 10586),

Gene: DirtMonster\_34 Start: 12364, Stop: 12495, Start Num: 8

Candidate Starts for DirtMonster\_34:

(Start: 8 @12364 has 3 MA's), (9, 12406), (10, 12457), (11, 12478),

Gene: DrPhinkDaddy\_36 Start: 12010, Stop: 12171, Start Num: 7

Candidate Starts for DrPhinkDaddy\_36:

(Start: 7 @12010 has 106 MA's), (Start: 8 @12040 has 3 MA's), (9, 12082), (10, 12133), (11, 12154),

Gene: Duckfeet\_33 Start: 11204, Stop: 11365, Start Num: 7

Candidate Starts for Duckfeet\_33:

(Start: 7 @11204 has 106 MA's), (Start: 8 @11234 has 3 MA's), (9, 11276), (10, 11327), (11, 11348),

Gene: EmToTheThree\_39 Start: 13427, Stop: 13588, Start Num: 7

Candidate Starts for EmToTheThree\_39:

(Start: 7 @13427 has 106 MA's), (Start: 8 @13457 has 3 MA's), (9, 13499), (10, 13550), (11, 13571),

Gene: EmmaElysia\_34 Start: 10652, Stop: 10813, Start Num: 7  
Candidate Starts for EmmaElysia\_34:  
(Start: 7 @10652 has 106 MA's), (Start: 8 @10682 has 3 MA's), (9, 10724), (10, 10775), (11, 10796),

Gene: Erdmann\_37 Start: 12013, Stop: 12174, Start Num: 7  
Candidate Starts for Erdmann\_37:  
(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: ErnieJ\_36 Start: 11615, Stop: 11776, Start Num: 7  
Candidate Starts for ErnieJ\_36:  
(3, 11489), (5, 11600), (Start: 7 @11615 has 106 MA's), (Start: 8 @11645 has 3 MA's), (9, 11687), (10, 11738), (11, 11759),

Gene: Ewok\_36 Start: 12016, Stop: 12177, Start Num: 7  
Candidate Starts for Ewok\_36:  
(Start: 7 @12016 has 106 MA's), (Start: 8 @12046 has 3 MA's), (9, 12088), (10, 12139), (11, 12160),

Gene: Fludd\_35 Start: 10888, Stop: 11049, Start Num: 7  
Candidate Starts for Fludd\_35:  
(Start: 7 @10888 has 106 MA's), (Start: 8 @10918 has 3 MA's), (9, 10960), (10, 11011), (11, 11032),

Gene: Fongie\_36 Start: 12548, Stop: 12709, Start Num: 7  
Candidate Starts for Fongie\_36:  
(Start: 7 @12548 has 106 MA's), (Start: 8 @12578 has 3 MA's), (9, 12620), (10, 12671), (11, 12692),

Gene: FoxtrotP1\_36 Start: 12341, Stop: 12502, Start Num: 7  
Candidate Starts for FoxtrotP1\_36:  
(Start: 7 @12341 has 106 MA's), (Start: 8 @12371 has 3 MA's), (9, 12413), (10, 12464), (11, 12485),

Gene: FudgeTart\_37 Start: 12013, Stop: 12174, Start Num: 7  
Candidate Starts for FudgeTart\_37:  
(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Gabriel\_36 Start: 10887, Stop: 11048, Start Num: 7  
Candidate Starts for Gabriel\_36:  
(Start: 7 @10887 has 106 MA's), (Start: 8 @10917 has 3 MA's), (9, 10959), (10, 11010), (11, 11031),

Gene: Gizmo\_38 Start: 12015, Stop: 12176, Start Num: 7  
Candidate Starts for Gizmo\_38:  
(Start: 7 @12015 has 106 MA's), (Start: 8 @12045 has 3 MA's), (9, 12087), (10, 12138), (11, 12159),

Gene: Grungle\_29 Start: 9584, Stop: 9745, Start Num: 7  
Candidate Starts for Grungle\_29:  
(Start: 7 @9584 has 106 MA's), (Start: 8 @9614 has 3 MA's), (9, 9656), (10, 9707), (11, 9728),

Gene: Halldule\_31 Start: 10036, Stop: 10197, Start Num: 7  
Candidate Starts for Halldule\_31:  
(3, 9910), (5, 10021), (Start: 7 @10036 has 106 MA's), (Start: 8 @10066 has 3 MA's), (9, 10108), (10, 10159), (11, 10180),

Gene: I3\_37 Start: 12344, Stop: 12505, Start Num: 7  
Candidate Starts for I3\_37:

(3, 12218), (5, 12329), (Start: 7 @12344 has 106 MA's), (Start: 8 @12374 has 3 MA's), (9, 12416), (10, 12467), (11, 12488),

Gene: IkeLoa\_31 Start: 11093, Stop: 11254, Start Num: 7

Candidate Starts for IkeLoa\_31:

(3, 10967), (5, 11078), (Start: 7 @11093 has 106 MA's), (Start: 8 @11123 has 3 MA's), (9, 11165), (10, 11216), (11, 11237),

Gene: Izajani\_37 Start: 12043, Stop: 12174, Start Num: 8

Candidate Starts for Izajani\_37:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Jessibeth14\_35 Start: 11733, Stop: 11894, Start Num: 7

Candidate Starts for Jessibeth14\_35:

(Start: 7 @11733 has 106 MA's), (Start: 8 @11763 has 3 MA's), (9, 11805), (10, 11856), (11, 11877),

Gene: Jezreel\_34 Start: 11264, Stop: 11425, Start Num: 7

Candidate Starts for Jezreel\_34:

(3, 11138), (5, 11249), (Start: 7 @11264 has 106 MA's), (Start: 8 @11294 has 3 MA's), (9, 11336), (10, 11387), (11, 11408),

Gene: JigglyPuff\_36 Start: 12289, Stop: 12450, Start Num: 7

Candidate Starts for JigglyPuff\_36:

(Start: 7 @12289 has 106 MA's), (Start: 8 @12319 has 3 MA's), (9, 12361), (10, 12412), (11, 12433),

Gene: JulietS\_31 Start: 9887, Stop: 10048, Start Num: 7

Candidate Starts for JulietS\_31:

(Start: 7 @9887 has 106 MA's), (Start: 8 @9917 has 3 MA's), (9, 9959), (10, 10010), (11, 10031),

Gene: JustHall\_34 Start: 11695, Stop: 11856, Start Num: 7

Candidate Starts for JustHall\_34:

(3, 11569), (5, 11680), (Start: 7 @11695 has 106 MA's), (Start: 8 @11725 has 3 MA's), (9, 11767), (10, 11818), (11, 11839),

Gene: Kamryn\_35 Start: 11568, Stop: 11729, Start Num: 7

Candidate Starts for Kamryn\_35:

(3, 11442), (5, 11553), (Start: 7 @11568 has 106 MA's), (Start: 8 @11598 has 3 MA's), (9, 11640), (10, 11691), (11, 11712),

Gene: Kboogie\_36 Start: 10943, Stop: 11104, Start Num: 7

Candidate Starts for Kboogie\_36:

(Start: 7 @10943 has 106 MA's), (Start: 8 @10973 has 3 MA's), (9, 11015), (10, 11066), (11, 11087),

Gene: Khaleesi\_35 Start: 11760, Stop: 11921, Start Num: 7

Candidate Starts for Khaleesi\_35:

(Start: 7 @11760 has 106 MA's), (Start: 8 @11790 has 3 MA's), (9, 11832), (10, 11883), (11, 11904),

Gene: Koguma\_32 Start: 10230, Stop: 10391, Start Num: 7

Candidate Starts for Koguma\_32:

(Start: 7 @10230 has 106 MA's), (Start: 8 @10260 has 3 MA's), (9, 10302), (10, 10353), (11, 10374),

Gene: LRRHood\_33 Start: 12153, Stop: 12314, Start Num: 7

Candidate Starts for LRRHood\_33:

(Start: 7 @12153 has 106 MA's), (Start: 8 @12183 has 3 MA's), (9, 12225), (10, 12276), (11, 12297),

Gene: Lee7\_35 Start: 12010, Stop: 12171, Start Num: 7

Candidate Starts for Lee7\_35:

(Start: 7 @12010 has 106 MA's), (Start: 8 @12040 has 3 MA's), (9, 12082), (10, 12133), (11, 12154),

Gene: Lethe\_34 Start: 11486, Stop: 11647, Start Num: 7

Candidate Starts for Lethe\_34:

(3, 11360), (5, 11471), (Start: 7 @11486 has 106 MA's), (Start: 8 @11516 has 3 MA's), (9, 11558), (10, 11609), (11, 11630),

Gene: LinStu\_36 Start: 12146, Stop: 12307, Start Num: 7

Candidate Starts for LinStu\_36:

(3, 12020), (4, 12113), (5, 12131), (Start: 7 @12146 has 106 MA's), (Start: 8 @12176 has 3 MA's), (9, 12218), (10, 12269), (11, 12290),

Gene: Loanshark\_36 Start: 12013, Stop: 12174, Start Num: 7

Candidate Starts for Loanshark\_36:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: LookingGlass\_39 Start: 12784, Stop: 12945, Start Num: 7

Candidate Starts for LookingGlass\_39:

(Start: 7 @12784 has 106 MA's), (Start: 8 @12814 has 3 MA's), (9, 12856), (10, 12907), (11, 12928),

Gene: Lukilu\_29 Start: 10604, Stop: 10765, Start Num: 7

Candidate Starts for Lukilu\_29:

(Start: 7 @10604 has 106 MA's), (Start: 8 @10634 has 3 MA's), (9, 10676), (10, 10727), (11, 10748),

Gene: Lunareta\_35 Start: 11744, Stop: 11905, Start Num: 7

Candidate Starts for Lunareta\_35:

(Start: 7 @11744 has 106 MA's), (Start: 8 @11774 has 3 MA's), (9, 11816), (10, 11867), (11, 11888),

Gene: Maby2021\_37 Start: 12013, Stop: 12174, Start Num: 7

Candidate Starts for Maby2021\_37:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Mangeria\_38 Start: 12318, Stop: 12479, Start Num: 7

Candidate Starts for Mangeria\_38:

(3, 12192), (5, 12303), (Start: 7 @12318 has 106 MA's), (Start: 8 @12348 has 3 MA's), (9, 12390), (10, 12441), (11, 12462),

Gene: McWolfish\_35 Start: 11760, Stop: 11921, Start Num: 7

Candidate Starts for McWolfish\_35:

(Start: 7 @11760 has 106 MA's), (Start: 8 @11790 has 3 MA's), (9, 11832), (10, 11883), (11, 11904),

Gene: Megamind\_36 Start: 11998, Stop: 12159, Start Num: 7

Candidate Starts for Megamind\_36:

(Start: 7 @11998 has 106 MA's), (Start: 8 @12028 has 3 MA's), (9, 12070), (10, 12121), (11, 12142),

Gene: Melpomini\_34 Start: 10652, Stop: 10813, Start Num: 7

Candidate Starts for Melpomini\_34:

(3, 10526), (5, 10637), (Start: 7 @10652 has 106 MA's), (Start: 8 @10682 has 3 MA's), (9, 10724), (10, 10775), (11, 10796),

Gene: MikeLiesIn\_36 Start: 12013, Stop: 12174, Start Num: 7

Candidate Starts for MikeLiesIn\_36:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Mikro\_34 Start: 12499, Stop: 12660, Start Num: 7

Candidate Starts for Mikro\_34:

(Start: 7 @12499 has 106 MA's), (Start: 8 @12529 has 3 MA's), (9, 12571), (10, 12622), (11, 12643),

Gene: MoMoMixon\_36 Start: 12109, Stop: 12270, Start Num: 7

Candidate Starts for MoMoMixon\_36:

(3, 11983), (5, 12094), (Start: 7 @12109 has 106 MA's), (Start: 8 @12139 has 3 MA's), (9, 12181), (10, 12232), (11, 12253),

Gene: Montpel\_35 Start: 11744, Stop: 11905, Start Num: 7

Candidate Starts for Montpel\_35:

(Start: 7 @11744 has 106 MA's), (Start: 8 @11774 has 3 MA's), (9, 11816), (10, 11867), (11, 11888),

Gene: Morizzled23\_35 Start: 10864, Stop: 11025, Start Num: 7

Candidate Starts for Morizzled23\_35:

(Start: 7 @10864 has 106 MA's), (Start: 8 @10894 has 3 MA's), (9, 10936), (10, 10987), (11, 11008),

Gene: Napoleon13\_34 Start: 10665, Stop: 10826, Start Num: 7

Candidate Starts for Napoleon13\_34:

(3, 10539), (5, 10650), (Start: 7 @10665 has 106 MA's), (Start: 8 @10695 has 3 MA's), (9, 10737), (10, 10788), (11, 10809),

Gene: Naval22\_38 Start: 12053, Stop: 12214, Start Num: 7

Candidate Starts for Naval22\_38:

(Start: 7 @12053 has 106 MA's), (Start: 8 @12083 has 3 MA's), (9, 12125), (10, 12176), (11, 12197),

Gene: NedWong\_37 Start: 12013, Stop: 12174, Start Num: 7

Candidate Starts for NedWong\_37:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Nidhogg\_36 Start: 11859, Stop: 12020, Start Num: 7

Candidate Starts for Nidhogg\_36:

(3, 11733), (5, 11844), (Start: 7 @11859 has 106 MA's), (Start: 8 @11889 has 3 MA's), (9, 11931), (10, 11982), (11, 12003),

Gene: Norm\_36 Start: 12044, Stop: 12175, Start Num: 8

Candidate Starts for Norm\_36:

(Start: 8 @12044 has 3 MA's), (9, 12086), (10, 12137), (11, 12158),

Gene: NuevoMundo\_38 Start: 12849, Stop: 13010, Start Num: 7

Candidate Starts for NuevoMundo\_38:

(3, 12723), (5, 12834), (Start: 7 @12849 has 106 MA's), (Start: 8 @12879 has 3 MA's), (9, 12921), (10, 12972), (11, 12993),

Gene: OrediggerDelux\_35 Start: 12013, Stop: 12174, Start Num: 7

Candidate Starts for OrediggerDelux\_35:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: ParkTD\_35 Start: 12013, Stop: 12174, Start Num: 7  
Candidate Starts for ParkTD\_35:  
(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Phox\_34 Start: 11959, Stop: 12120, Start Num: 7  
Candidate Starts for Phox\_34:  
(3, 11833), (5, 11944), (Start: 7 @11959 has 106 MA's), (Start: 8 @11989 has 3 MA's), (9, 12031), (10, 12082), (11, 12103),

Gene: Phusco\_36 Start: 11464, Stop: 11625, Start Num: 7  
Candidate Starts for Phusco\_36:  
(Start: 7 @11464 has 106 MA's), (Start: 8 @11494 has 3 MA's), (9, 11536), (10, 11587), (11, 11608),

Gene: Pier\_38 Start: 12171, Stop: 12332, Start Num: 7  
Candidate Starts for Pier\_38:  
(Start: 7 @12171 has 106 MA's), (Start: 8 @12201 has 3 MA's), (9, 12243), (10, 12294), (11, 12315),

Gene: Pio\_39 Start: 12862, Stop: 13023, Start Num: 7  
Candidate Starts for Pio\_39:  
(Start: 7 @12862 has 106 MA's), (Start: 8 @12892 has 3 MA's), (9, 12934), (10, 12985), (11, 13006),

Gene: Pleione\_38 Start: 12013, Stop: 12174, Start Num: 7  
Candidate Starts for Pleione\_38:  
(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Primadonna\_31 Start: 11117, Stop: 11278, Start Num: 7  
Candidate Starts for Primadonna\_31:  
(Start: 7 @11117 has 106 MA's), (Start: 8 @11147 has 3 MA's), (9, 11189), (10, 11240), (11, 11261),

Gene: PurduePete\_35 Start: 11724, Stop: 11885, Start Num: 7  
Candidate Starts for PurduePete\_35:  
(Start: 7 @11724 has 106 MA's), (Start: 8 @11754 has 3 MA's), (9, 11796), (10, 11847), (11, 11868),

Gene: Quasimodo\_36 Start: 12428, Stop: 12589, Start Num: 7  
Candidate Starts for Quasimodo\_36:  
(Start: 7 @12428 has 106 MA's), (Start: 8 @12458 has 3 MA's), (9, 12500), (10, 12551), (11, 12572),

Gene: Rahel\_36 Start: 11464, Stop: 11625, Start Num: 7  
Candidate Starts for Rahel\_36:  
(Start: 7 @11464 has 106 MA's), (Start: 8 @11494 has 3 MA's), (9, 11536), (10, 11587), (11, 11608),

Gene: Rizal\_34 Start: 10930, Stop: 11091, Start Num: 7  
Candidate Starts for Rizal\_34:  
(Start: 7 @10930 has 106 MA's), (Start: 8 @10960 has 3 MA's), (9, 11002), (10, 11053), (11, 11074),

Gene: RoMag\_31 Start: 11262, Stop: 11423, Start Num: 7  
Candidate Starts for RoMag\_31:  
(Start: 7 @11262 has 106 MA's), (Start: 8 @11292 has 3 MA's), (9, 11334), (10, 11385), (11, 11406),

Gene: Rocha\_34 Start: 10958, Stop: 11119, Start Num: 7  
Candidate Starts for Rocha\_34:  
(Start: 7 @10958 has 106 MA's), (Start: 8 @10988 has 3 MA's), (9, 11030), (10, 11081), (11, 11102),

Gene: SVoro\_35 Start: 12007, Stop: 12168, Start Num: 7  
Candidate Starts for SVoro\_35:  
(Start: 7 @12007 has 106 MA's), (Start: 8 @12037 has 3 MA's), (9, 12079), (10, 12130), (11, 12151),

Gene: Salacia\_38 Start: 12013, Stop: 12174, Start Num: 7  
Candidate Starts for Salacia\_38:  
(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: ScottMcG\_35 Start: 12102, Stop: 12263, Start Num: 7  
Candidate Starts for ScottMcG\_35:  
(3, 11976), (5, 12087), (Start: 7 @12102 has 106 MA's), (Start: 8 @12132 has 3 MA's), (9, 12174), (10, 12225), (11, 12246),

Gene: Shaqnato\_32 Start: 10575, Stop: 10736, Start Num: 7  
Candidate Starts for Shaqnato\_32:  
(Start: 7 @10575 has 106 MA's), (Start: 8 @10605 has 3 MA's), (9, 10647), (10, 10698), (11, 10719),

Gene: Shrimp\_36 Start: 12017, Stop: 12178, Start Num: 7  
Candidate Starts for Shrimp\_36:  
(Start: 7 @12017 has 106 MA's), (Start: 8 @12047 has 3 MA's), (9, 12089), (10, 12140), (11, 12161),

Gene: Specks\_40 Start: 13084, Stop: 13245, Start Num: 7  
Candidate Starts for Specks\_40:  
(3, 12958), (5, 13069), (Start: 7 @13084 has 106 MA's), (Start: 8 @13114 has 3 MA's), (9, 13156), (10, 13207), (11, 13228),

Gene: Sprinklers\_36 Start: 11502, Stop: 11663, Start Num: 7  
Candidate Starts for Sprinklers\_36:  
(Start: 7 @11502 has 106 MA's), (Start: 8 @11532 has 3 MA's), (9, 11574), (10, 11625), (11, 11646),

Gene: Spud\_37 Start: 12641, Stop: 12802, Start Num: 7  
Candidate Starts for Spud\_37:  
(3, 12515), (5, 12626), (Start: 7 @12641 has 106 MA's), (Start: 8 @12671 has 3 MA's), (9, 12713), (10, 12764), (11, 12785),

Gene: SrishMeg2525\_35 Start: 11724, Stop: 11885, Start Num: 7  
Candidate Starts for SrishMeg2525\_35:  
(Start: 7 @11724 has 106 MA's), (Start: 8 @11754 has 3 MA's), (9, 11796), (10, 11847), (11, 11868),

Gene: StubbySaigey\_35 Start: 10653, Stop: 10814, Start Num: 7  
Candidate Starts for StubbySaigey\_35:  
(Start: 7 @10653 has 106 MA's), (Start: 8 @10683 has 3 MA's), (9, 10725), (10, 10776), (11, 10797),

Gene: Teardrop\_35 Start: 10929, Stop: 11090, Start Num: 7  
Candidate Starts for Teardrop\_35:  
(Start: 7 @10929 has 106 MA's), (Start: 8 @10959 has 3 MA's), (9, 11001), (10, 11052), (11, 11073),

Gene: TinyTim\_36 Start: 12013, Stop: 12174, Start Num: 7  
Candidate Starts for TinyTim\_36:  
(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Tonenili\_41 Start: 13559, Stop: 13720, Start Num: 7  
Candidate Starts for Tonenili\_41:

(6, 13556), (Start: 7 @13559 has 106 MA's), (Start: 8 @13589 has 3 MA's), (9, 13631), (10, 13682), (11, 13703),

Gene: Trinitium\_34 Start: 10700, Stop: 10861, Start Num: 7

Candidate Starts for Trinitium\_34:

(3, 10574), (5, 10685), (Start: 7 @10700 has 106 MA's), (Start: 8 @10730 has 3 MA's), (9, 10772), (10, 10823), (11, 10844),

Gene: Turret\_33 Start: 10423, Stop: 10584, Start Num: 7

Candidate Starts for Turret\_33:

(3, 10297), (5, 10408), (Start: 7 @10423 has 106 MA's), (Start: 8 @10453 has 3 MA's), (9, 10495), (10, 10546), (11, 10567),

Gene: Vortrix\_41 Start: 13510, Stop: 13671, Start Num: 7

Candidate Starts for Vortrix\_41:

(3, 13384), (5, 13495), (Start: 7 @13510 has 106 MA's), (Start: 8 @13540 has 3 MA's), (9, 13582), (10, 13633), (11, 13654),

Gene: Wally\_35 Start: 10885, Stop: 11046, Start Num: 7

Candidate Starts for Wally\_35:

(Start: 7 @10885 has 106 MA's), (Start: 8 @10915 has 3 MA's), (9, 10957), (10, 11008), (11, 11029),

Gene: Willis\_36 Start: 11908, Stop: 12069, Start Num: 7

Candidate Starts for Willis\_36:

(Start: 7 @11908 has 106 MA's), (Start: 8 @11938 has 3 MA's), (9, 11980), (10, 12031), (11, 12052),

Gene: Yassified\_33 Start: 10665, Stop: 10826, Start Num: 7

Candidate Starts for Yassified\_33:

(Start: 7 @10665 has 106 MA's), (Start: 8 @10695 has 3 MA's), (9, 10737), (10, 10788), (11, 10809),

Gene: YemiJoy2021\_37 Start: 12013, Stop: 12174, Start Num: 7

Candidate Starts for YemiJoy2021\_37:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),

Gene: Yucca\_36 Start: 11935, Stop: 12096, Start Num: 7

Candidate Starts for Yucca\_36:

(Start: 7 @11935 has 106 MA's), (Start: 8 @11965 has 3 MA's), (9, 12007), (10, 12058), (11, 12079),

Gene: Zalkecks\_38 Start: 12017, Stop: 12178, Start Num: 7

Candidate Starts for Zalkecks\_38:

(Start: 7 @12017 has 106 MA's), (Start: 8 @12047 has 3 MA's), (9, 12089), (10, 12140), (11, 12161),

Gene: Zeenon\_38 Start: 11999, Stop: 12160, Start Num: 7

Candidate Starts for Zeenon\_38:

(Start: 7 @11999 has 106 MA's), (Start: 8 @12029 has 3 MA's), (9, 12071), (10, 12122), (11, 12143),

Gene: ZygoTaiga\_36 Start: 12013, Stop: 12174, Start Num: 7

Candidate Starts for ZygoTaiga\_36:

(Start: 7 @12013 has 106 MA's), (Start: 8 @12043 has 3 MA's), (9, 12085), (10, 12136), (11, 12157),