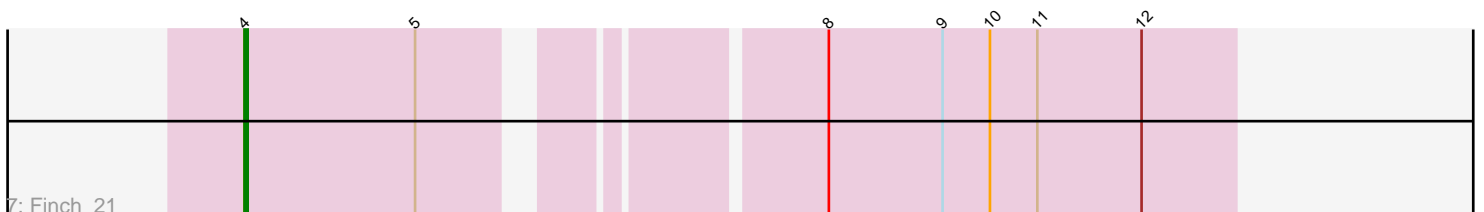
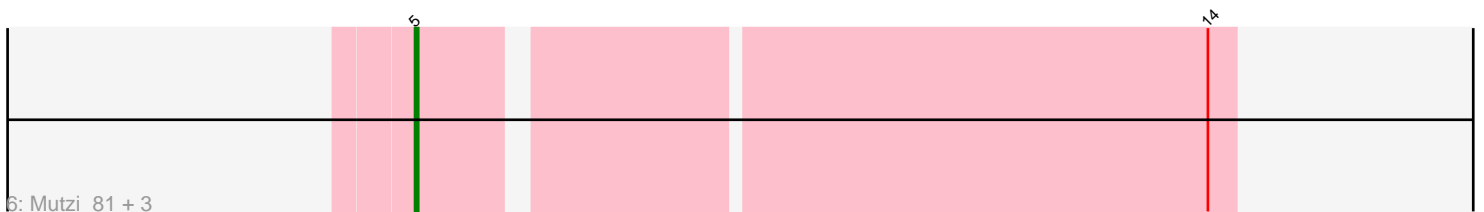
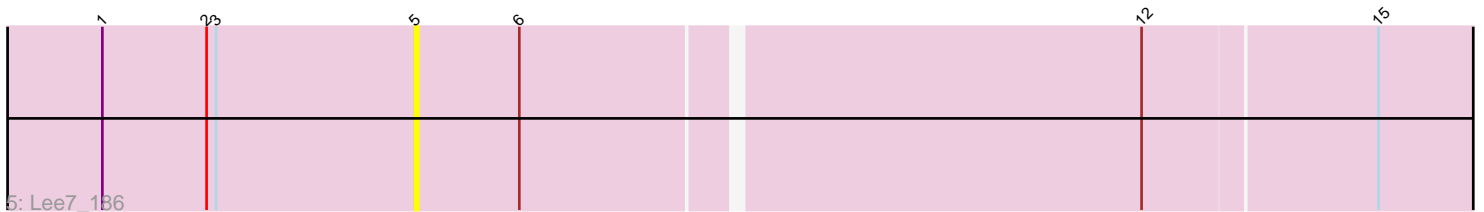
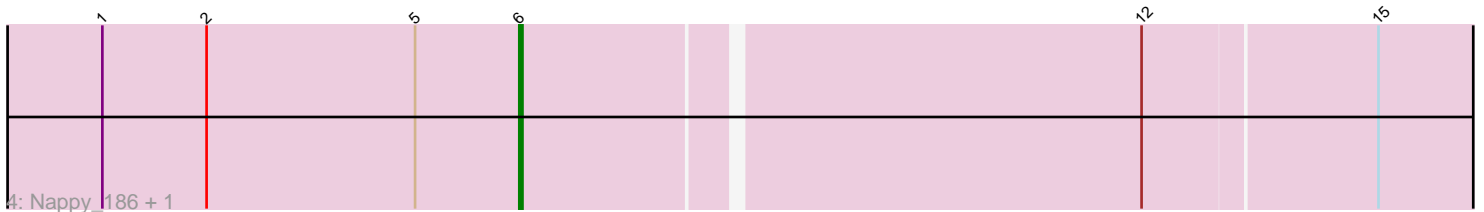
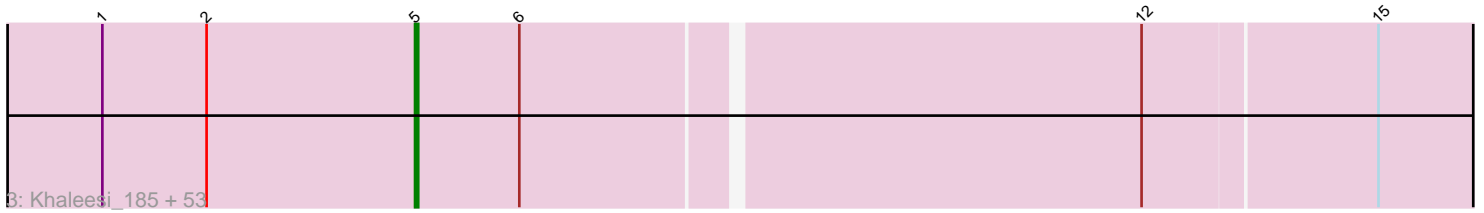
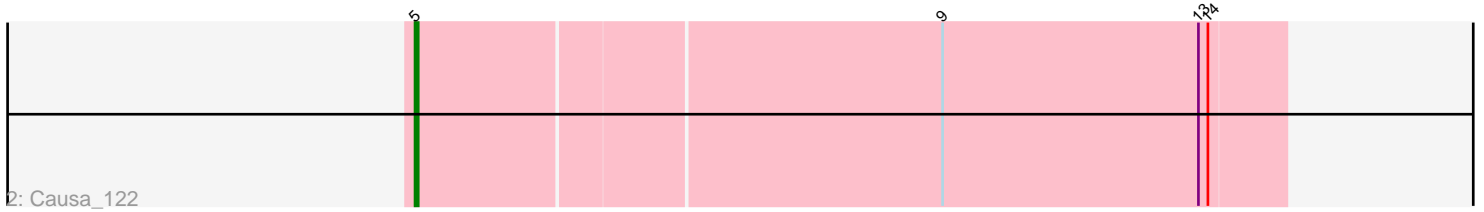
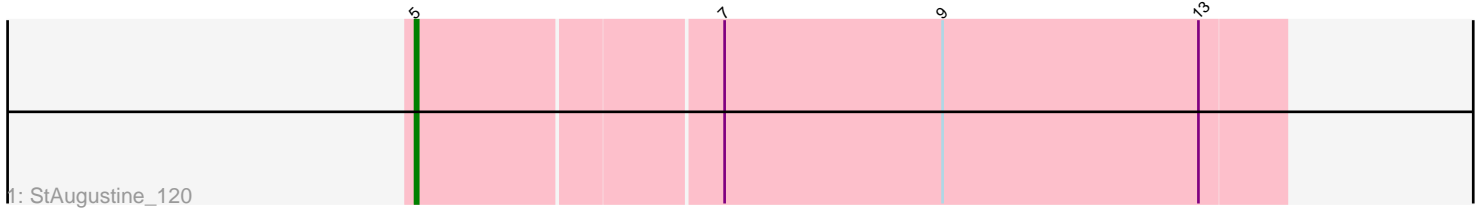


Pham 305012



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 305012 Report

This analysis was run 06/08/26 on database version 649.

Pham number 305012 has 64 members, 4 are drafts.

Phages represented in each track:

- Track 1 : StAugustine\_120
- Track 2 : Causa\_122
- Track 3 : Khaleesi\_185, Cleatunium\_179, Maby2021\_185, NedWong\_185, Naval22\_191, Catera\_181, Dietrick\_176, Delylah\_187, DrPhinkDaddy\_183, Blubba\_175, Ava3\_185, StubbySaigey\_190, Capablanca\_190, Lethe\_185, Matsumoto\_185, EasyJones\_190, Littleton\_189, YemiJoy2021\_186, PurduePete\_186, ZygoTaiga\_182, Blackbrain\_183, EmmaElysia\_189, Jessibeth14\_186, Pleione\_190, SrishMeg2525\_183, Gizmo\_191, Bonray\_188, MoMoMixon\_184, ParkTD\_184, ChaylaJr\_184, Nidhogg\_187, Melpomini\_180, Cane17\_177, Rizal\_180, MikeLiesIn\_187, Zalkecks\_185, Flabslab\_182, Shelob\_187, Zeenon\_188, I3\_194, Kboogie\_190, SilverDipper\_189, Megamind\_183, Yucca\_186, Daffodil\_190, Colt\_177, NoodleTree\_192, Izajani\_184, Napoleon13\_184, Fongie\_187, Bipolarisk\_184, Willis\_186, Delilah\_184, Caravan\_177
- Track 4 : Nappy\_186, Wally\_186
- Track 5 : Lee7\_186
- Track 6 : Mutzi\_81, Halo3\_81, YungMoney\_81, Nubi\_85
- Track 7 : Finch\_21

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

The start number called the most often in the published annotations is 5, it was called in 57 of the 60 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ava3\_185, Bipolarisk\_184, Blackbrain\_183, Blubba\_175, Bonray\_188, Cane17\_177, Capablanca\_190, Caravan\_177, Catera\_181, Causa\_122, ChaylaJr\_184, Cleatunium\_179, Colt\_177, Daffodil\_190, Delilah\_184, Delylah\_187, Dietrick\_176, DrPhinkDaddy\_183, EasyJones\_190, EmmaElysia\_189, Flabslab\_182, Fongie\_187, Gizmo\_191, Halo3\_81, I3\_194, Izajani\_184, Jessibeth14\_186, Kboogie\_190, Khaleesi\_185, Lee7\_186, Lethe\_185, Littleton\_189, Maby2021\_185, Matsumoto\_185, Megamind\_183, Melpomini\_180, MikeLiesIn\_187, MoMoMixon\_184, Mutzi\_81, Napoleon13\_184, Naval22\_191, NedWong\_185, Nidhogg\_187, NoodleTree\_192, Nubi\_85, ParkTD\_184, Pleione\_190, PurduePete\_186, Rizal\_180, Shelob\_187, SilverDipper\_189, SrishMeg2525\_183, StAugustine\_120,

StubbySaigey\_190, Willis\_186, YemiJoy2021\_186, Yucca\_186, YungMoney\_81, Zalkecks\_185, Zeenon\_188, ZygoTaiga\_182,

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

- Finch\_21, Nappy\_186, Wally\_186,

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

- 

### Summary by start number:

Start 4:

- Found in 1 of 64 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 1 of 60
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Finch\_21 (singleton),

Start 5:

- Found in 64 of 64 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 57 of 60
- Called 95.3% of time when present
- Phage (with cluster) where this start called: Ava3\_185 (C1), Bipolarisk\_184 (C1), Blackbrain\_183 (C1), Blubba\_175 (C1), Bonray\_188 (C1), Cane17\_177 (C1), Capablanca\_190 (C1), Caravan\_177 (C1), Catera\_181 (C1), Causa\_122 (AI), ChaylaJr\_184 (C1), Cleatunium\_179 (C1), Colt\_177 (C1), Daffodil\_190 (C1), Delilah\_184 (C1), Delylah\_187 (C1), Dietrick\_176 (C1), DrPhinkDaddy\_183 (C1), EasyJones\_190 (C1), EmmaElysia\_189 (C1), Flabslab\_182 (C1), Fongie\_187 (C1), Gizmo\_191 (C1), Halo3\_81 (DC1), I3\_194 (C1), Izajani\_184 (C1), Jessibeth14\_186 (C1), Kboogie\_190 (C1), Khaleesi\_185 (C1), Lee7\_186 (C1), Lethe\_185 (C1), Littleton\_189 (C1), Maby2021\_185 (C1), Matsumoto\_185 (C1), Megamind\_183 (C1), Melpomini\_180 (C1), MikeLiesIn\_187 (C1), MoMoMixon\_184 (C1), Mutzi\_81 (DC1), Napoleon13\_184 (C1), Naval22\_191 (C1), NedWong\_185 (C1), Nidhogg\_187 (C1), NoodleTree\_192 (C1), Nubi\_85 (DC1), ParkTD\_184 (C1), Pleione\_190 (C1), PurduePete\_186 (C1), Rizal\_180 (C1), Shelob\_187 (C1), SilverDipper\_189 (C1), SrishMeg2525\_183 (C1), StAugustine\_120 (AI), StubbySaigey\_190 (C1), Willis\_186 (C1), YemiJoy2021\_186 (C1), Yucca\_186 (C1), YungMoney\_81 (DC1), Zalkecks\_185 (C1), Zeenon\_188 (C1), ZygoTaiga\_182 (C1),

Start 6:

- Found in 57 of 64 ( 89.1% ) of genes in pham
- Manual Annotations of this start: 2 of 60
- Called 3.5% of time when present
- Phage (with cluster) where this start called: Nappy\_186 (C1), Wally\_186 (C1),

### Summary by clusters:

There are 4 clusters represented in this pham: AI, C1, singleton, DC1,

Info for manual annotations of cluster AI:

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

Info for manual annotations of cluster C1:

- Start number 5 was manually annotated 51 times for cluster C1.

- Start number 6 was manually annotated 2 times for cluster C1.

Info for manual annotations of cluster DC1:

- Start number 5 was manually annotated 4 times for cluster DC1.

### **Gene Information:**

Gene: Ava3\_185 Start: 97682, Stop: 98035, Start Num: 5

Candidate Starts for Ava3\_185:

(1, 97583), (2, 97616), (Start: 5 @97682 has 57 MA's), (Start: 6 @97715 has 2 MA's), (12, 97904), (15, 97976),

Gene: Bipolarisk\_184 Start: 97950, Stop: 98303, Start Num: 5

Candidate Starts for Bipolarisk\_184:

(1, 97851), (2, 97884), (Start: 5 @97950 has 57 MA's), (Start: 6 @97983 has 2 MA's), (12, 98172), (15, 98244),

Gene: Blackbrain\_183 Start: 97845, Stop: 98198, Start Num: 5

Candidate Starts for Blackbrain\_183:

(1, 97746), (2, 97779), (Start: 5 @97845 has 57 MA's), (Start: 6 @97878 has 2 MA's), (12, 98067), (15, 98139),

Gene: Blubba\_175 Start: 99745, Stop: 100098, Start Num: 5

Candidate Starts for Blubba\_175:

(1, 99646), (2, 99679), (Start: 5 @99745 has 57 MA's), (Start: 6 @99778 has 2 MA's), (12, 99967), (15, 100039),

Gene: Bonray\_188 Start: 99353, Stop: 99706, Start Num: 5

Candidate Starts for Bonray\_188:

(1, 99254), (2, 99287), (Start: 5 @99353 has 57 MA's), (Start: 6 @99386 has 2 MA's), (12, 99575), (15, 99647),

Gene: Cane17\_177 Start: 100154, Stop: 100507, Start Num: 5

Candidate Starts for Cane17\_177:

(1, 100055), (2, 100088), (Start: 5 @100154 has 57 MA's), (Start: 6 @100187 has 2 MA's), (12, 100376), (15, 100448),

Gene: Capablanca\_190 Start: 99948, Stop: 100301, Start Num: 5

Candidate Starts for Capablanca\_190:

(1, 99849), (2, 99882), (Start: 5 @99948 has 57 MA's), (Start: 6 @99981 has 2 MA's), (12, 100170), (15, 100242),

Gene: Caravan\_177 Start: 97657, Stop: 98010, Start Num: 5

Candidate Starts for Caravan\_177:

(1, 97558), (2, 97591), (Start: 5 @97657 has 57 MA's), (Start: 6 @97690 has 2 MA's), (12, 97879), (15, 97951),

Gene: Catera\_181 Start: 96943, Stop: 97296, Start Num: 5

Candidate Starts for Catera\_181:

(1, 96844), (2, 96877), (Start: 5 @96943 has 57 MA's), (Start: 6 @96976 has 2 MA's), (12, 97165), (15, 97237),

Gene: Causa\_122 Start: 79309, Stop: 79040, Start Num: 5  
Candidate Starts for Causa\_122:  
(Start: 5 @79309 has 57 MA's), (9, 79147), (13, 79066), (14, 79063),

Gene: ChaylaJr\_184 Start: 97671, Stop: 98024, Start Num: 5  
Candidate Starts for ChaylaJr\_184:  
(1, 97572), (2, 97605), (Start: 5 @97671 has 57 MA's), (Start: 6 @97704 has 2 MA's), (12, 97893), (15, 97965),

Gene: Cleatunium\_179 Start: 97180, Stop: 97533, Start Num: 5  
Candidate Starts for Cleatunium\_179:  
(1, 97081), (2, 97114), (Start: 5 @97180 has 57 MA's), (Start: 6 @97213 has 2 MA's), (12, 97402), (15, 97474),

Gene: Colt\_177 Start: 99385, Stop: 99738, Start Num: 5  
Candidate Starts for Colt\_177:  
(1, 99286), (2, 99319), (Start: 5 @99385 has 57 MA's), (Start: 6 @99418 has 2 MA's), (12, 99607), (15, 99679),

Gene: Daffodil\_190 Start: 98250, Stop: 98603, Start Num: 5  
Candidate Starts for Daffodil\_190:  
(1, 98151), (2, 98184), (Start: 5 @98250 has 57 MA's), (Start: 6 @98283 has 2 MA's), (12, 98472), (15, 98544),

Gene: Delilah\_184 Start: 98368, Stop: 98721, Start Num: 5  
Candidate Starts for Delilah\_184:  
(1, 98269), (2, 98302), (Start: 5 @98368 has 57 MA's), (Start: 6 @98401 has 2 MA's), (12, 98590), (15, 98662),

Gene: Delylah\_187 Start: 98348, Stop: 98701, Start Num: 5  
Candidate Starts for Delylah\_187:  
(1, 98249), (2, 98282), (Start: 5 @98348 has 57 MA's), (Start: 6 @98381 has 2 MA's), (12, 98570), (15, 98642),

Gene: Dietrick\_176 Start: 96973, Stop: 97326, Start Num: 5  
Candidate Starts for Dietrick\_176:  
(1, 96874), (2, 96907), (Start: 5 @96973 has 57 MA's), (Start: 6 @97006 has 2 MA's), (12, 97195), (15, 97267),

Gene: DrPhinkDaddy\_183 Start: 99029, Stop: 99382, Start Num: 5  
Candidate Starts for DrPhinkDaddy\_183:  
(1, 98930), (2, 98963), (Start: 5 @99029 has 57 MA's), (Start: 6 @99062 has 2 MA's), (12, 99251), (15, 99323),

Gene: EasyJones\_190 Start: 98485, Stop: 98838, Start Num: 5  
Candidate Starts for EasyJones\_190:  
(1, 98386), (2, 98419), (Start: 5 @98485 has 57 MA's), (Start: 6 @98518 has 2 MA's), (12, 98707), (15, 98779),

Gene: EmmaElysia\_189 Start: 98496, Stop: 98849, Start Num: 5  
Candidate Starts for EmmaElysia\_189:

(1, 98397), (2, 98430), (Start: 5 @98496 has 57 MA's), (Start: 6 @98529 has 2 MA's), (12, 98718), (15, 98790),

Gene: Finch\_21 Start: 20195, Stop: 20485, Start Num: 4

Candidate Starts for Finch\_21:

(Start: 4 @20195 has 1 MA's), (Start: 5 @20249 has 57 MA's), (8, 20357), (9, 20393), (10, 20408), (11, 20423), (12, 20456),

Gene: Flabslab\_182 Start: 96807, Stop: 97160, Start Num: 5

Candidate Starts for Flabslab\_182:

(1, 96708), (2, 96741), (Start: 5 @96807 has 57 MA's), (Start: 6 @96840 has 2 MA's), (12, 97029), (15, 97101),

Gene: Fongie\_187 Start: 98377, Stop: 98730, Start Num: 5

Candidate Starts for Fongie\_187:

(1, 98278), (2, 98311), (Start: 5 @98377 has 57 MA's), (Start: 6 @98410 has 2 MA's), (12, 98599), (15, 98671),

Gene: Gizmo\_191 Start: 100277, Stop: 100630, Start Num: 5

Candidate Starts for Gizmo\_191:

(1, 100178), (2, 100211), (Start: 5 @100277 has 57 MA's), (Start: 6 @100310 has 2 MA's), (12, 100499), (15, 100571),

Gene: Halo3\_81 Start: 55261, Stop: 55506, Start Num: 5

Candidate Starts for Halo3\_81:

(Start: 5 @55261 has 57 MA's), (14, 55498),

Gene: I3\_194 Start: 99623, Stop: 99976, Start Num: 5

Candidate Starts for I3\_194:

(1, 99524), (2, 99557), (Start: 5 @99623 has 57 MA's), (Start: 6 @99656 has 2 MA's), (12, 99845), (15, 99917),

Gene: Izajani\_184 Start: 98419, Stop: 98772, Start Num: 5

Candidate Starts for Izajani\_184:

(1, 98320), (2, 98353), (Start: 5 @98419 has 57 MA's), (Start: 6 @98452 has 2 MA's), (12, 98641), (15, 98713),

Gene: Jessibeth14\_186 Start: 99028, Stop: 99381, Start Num: 5

Candidate Starts for Jessibeth14\_186:

(1, 98929), (2, 98962), (Start: 5 @99028 has 57 MA's), (Start: 6 @99061 has 2 MA's), (12, 99250), (15, 99322),

Gene: Kboogie\_190 Start: 98185, Stop: 98538, Start Num: 5

Candidate Starts for Kboogie\_190:

(1, 98086), (2, 98119), (Start: 5 @98185 has 57 MA's), (Start: 6 @98218 has 2 MA's), (12, 98407), (15, 98479),

Gene: Khaleesi\_185 Start: 98495, Stop: 98848, Start Num: 5

Candidate Starts for Khaleesi\_185:

(1, 98396), (2, 98429), (Start: 5 @98495 has 57 MA's), (Start: 6 @98528 has 2 MA's), (12, 98717), (15, 98789),

Gene: Lee7\_186 Start: 99875, Stop: 100228, Start Num: 5

Candidate Starts for Lee7\_186:

(1, 99776), (2, 99809), (3, 99812), (Start: 5 @99875 has 57 MA's), (Start: 6 @99908 has 2 MA's), (12, 100097), (15, 100169),

Gene: Lethe\_185 Start: 98807, Stop: 99160, Start Num: 5

Candidate Starts for Lethe\_185:

(1, 98708), (2, 98741), (Start: 5 @98807 has 57 MA's), (Start: 6 @98840 has 2 MA's), (12, 99029), (15, 99101),

Gene: Littleton\_189 Start: 98659, Stop: 99012, Start Num: 5

Candidate Starts for Littleton\_189:

(1, 98560), (2, 98593), (Start: 5 @98659 has 57 MA's), (Start: 6 @98692 has 2 MA's), (12, 98881), (15, 98953),

Gene: Maby2021\_185 Start: 98939, Stop: 99292, Start Num: 5

Candidate Starts for Maby2021\_185:

(1, 98840), (2, 98873), (Start: 5 @98939 has 57 MA's), (Start: 6 @98972 has 2 MA's), (12, 99161), (15, 99233),

Gene: Matsumoto\_185 Start: 98173, Stop: 98526, Start Num: 5

Candidate Starts for Matsumoto\_185:

(1, 98074), (2, 98107), (Start: 5 @98173 has 57 MA's), (Start: 6 @98206 has 2 MA's), (12, 98395), (15, 98467),

Gene: Megamind\_183 Start: 97997, Stop: 98350, Start Num: 5

Candidate Starts for Megamind\_183:

(1, 97898), (2, 97931), (Start: 5 @97997 has 57 MA's), (Start: 6 @98030 has 2 MA's), (12, 98219), (15, 98291),

Gene: Melpomini\_180 Start: 96473, Stop: 96826, Start Num: 5

Candidate Starts for Melpomini\_180:

(1, 96374), (2, 96407), (Start: 5 @96473 has 57 MA's), (Start: 6 @96506 has 2 MA's), (12, 96695), (15, 96767),

Gene: MikeLiesIn\_187 Start: 99133, Stop: 99486, Start Num: 5

Candidate Starts for MikeLiesIn\_187:

(1, 99034), (2, 99067), (Start: 5 @99133 has 57 MA's), (Start: 6 @99166 has 2 MA's), (12, 99355), (15, 99427),

Gene: MoMoMixon\_184 Start: 97761, Stop: 98114, Start Num: 5

Candidate Starts for MoMoMixon\_184:

(1, 97662), (2, 97695), (Start: 5 @97761 has 57 MA's), (Start: 6 @97794 has 2 MA's), (12, 97983), (15, 98055),

Gene: Mutzi\_81 Start: 55396, Stop: 55641, Start Num: 5

Candidate Starts for Mutzi\_81:

(Start: 5 @55396 has 57 MA's), (14, 55633),

Gene: Napoleon13\_184 Start: 97462, Stop: 97815, Start Num: 5

Candidate Starts for Napoleon13\_184:

(1, 97363), (2, 97396), (Start: 5 @97462 has 57 MA's), (Start: 6 @97495 has 2 MA's), (12, 97684), (15, 97756),

Gene: Nappy\_186 Start: 99377, Stop: 99697, Start Num: 6

Candidate Starts for Nappy\_186:

(1, 99245), (2, 99278), (Start: 5 @99344 has 57 MA's), (Start: 6 @99377 has 2 MA's), (12, 99566), (15, 99638),

Gene: Naval22\_191 Start: 99728, Stop: 100081, Start Num: 5

Candidate Starts for Naval22\_191:

(1, 99629), (2, 99662), (Start: 5 @99728 has 57 MA's), (Start: 6 @99761 has 2 MA's), (12, 99950), (15, 100022),

Gene: NedWong\_185 Start: 98384, Stop: 98737, Start Num: 5

Candidate Starts for NedWong\_185:

(1, 98285), (2, 98318), (Start: 5 @98384 has 57 MA's), (Start: 6 @98417 has 2 MA's), (12, 98606), (15, 98678),

Gene: Nidhogg\_187 Start: 98777, Stop: 99130, Start Num: 5

Candidate Starts for Nidhogg\_187:

(1, 98678), (2, 98711), (Start: 5 @98777 has 57 MA's), (Start: 6 @98810 has 2 MA's), (12, 98999), (15, 99071),

Gene: NoodleTree\_192 Start: 98684, Stop: 99037, Start Num: 5

Candidate Starts for NoodleTree\_192:

(1, 98585), (2, 98618), (Start: 5 @98684 has 57 MA's), (Start: 6 @98717 has 2 MA's), (12, 98906), (15, 98978),

Gene: Nubi\_85 Start: 54707, Stop: 54955, Start Num: 5

Candidate Starts for Nubi\_85:

(Start: 5 @54707 has 57 MA's), (14, 54944),

Gene: ParkTD\_184 Start: 98247, Stop: 98600, Start Num: 5

Candidate Starts for ParkTD\_184:

(1, 98148), (2, 98181), (Start: 5 @98247 has 57 MA's), (Start: 6 @98280 has 2 MA's), (12, 98469), (15, 98541),

Gene: Pleione\_190 Start: 98726, Stop: 99079, Start Num: 5

Candidate Starts for Pleione\_190:

(1, 98627), (2, 98660), (Start: 5 @98726 has 57 MA's), (Start: 6 @98759 has 2 MA's), (12, 98948), (15, 99020),

Gene: PurduePete\_186 Start: 98953, Stop: 99306, Start Num: 5

Candidate Starts for PurduePete\_186:

(1, 98854), (2, 98887), (Start: 5 @98953 has 57 MA's), (Start: 6 @98986 has 2 MA's), (12, 99175), (15, 99247),

Gene: Rizal\_180 Start: 96687, Stop: 97040, Start Num: 5

Candidate Starts for Rizal\_180:

(1, 96588), (2, 96621), (Start: 5 @96687 has 57 MA's), (Start: 6 @96720 has 2 MA's), (12, 96909), (15, 96981),

Gene: Shelob\_187 Start: 99760, Stop: 100113, Start Num: 5

Candidate Starts for Shelob\_187:

(1, 99661), (2, 99694), (Start: 5 @99760 has 57 MA's), (Start: 6 @99793 has 2 MA's), (12, 99982), (15, 100054),

Gene: SilverDipper\_189 Start: 98198, Stop: 98551, Start Num: 5

Candidate Starts for SilverDipper\_189:

(1, 98099), (2, 98132), (Start: 5 @98198 has 57 MA's), (Start: 6 @98231 has 2 MA's), (12, 98420), (15, 98492),

Gene: SrishMeg2525\_183 Start: 98486, Stop: 98839, Start Num: 5

Candidate Starts for SrishMeg2525\_183:

(1, 98387), (2, 98420), (Start: 5 @98486 has 57 MA's), (Start: 6 @98519 has 2 MA's), (12, 98708), (15, 98780),

Gene: StAugustine\_120 Start: 80511, Stop: 80242, Start Num: 5

Candidate Starts for StAugustine\_120:

(Start: 5 @80511 has 57 MA's), (7, 80418), (9, 80349), (13, 80268),

Gene: StubbySaigey\_190 Start: 97732, Stop: 98085, Start Num: 5

Candidate Starts for StubbySaigey\_190:

(1, 97633), (2, 97666), (Start: 5 @97732 has 57 MA's), (Start: 6 @97765 has 2 MA's), (12, 97954), (15, 98026),

Gene: Wally\_186 Start: 97748, Stop: 98068, Start Num: 6

Candidate Starts for Wally\_186:

(1, 97616), (2, 97649), (Start: 5 @97715 has 57 MA's), (Start: 6 @97748 has 2 MA's), (12, 97937), (15, 98009),

Gene: Willis\_186 Start: 98146, Stop: 98499, Start Num: 5

Candidate Starts for Willis\_186:

(1, 98047), (2, 98080), (Start: 5 @98146 has 57 MA's), (Start: 6 @98179 has 2 MA's), (12, 98368), (15, 98440),

Gene: YemiJoy2021\_186 Start: 98902, Stop: 99255, Start Num: 5

Candidate Starts for YemiJoy2021\_186:

(1, 98803), (2, 98836), (Start: 5 @98902 has 57 MA's), (Start: 6 @98935 has 2 MA's), (12, 99124), (15, 99196),

Gene: Yucca\_186 Start: 98893, Stop: 99246, Start Num: 5

Candidate Starts for Yucca\_186:

(1, 98794), (2, 98827), (Start: 5 @98893 has 57 MA's), (Start: 6 @98926 has 2 MA's), (12, 99115), (15, 99187),

Gene: YungMoney\_81 Start: 56236, Stop: 56481, Start Num: 5

Candidate Starts for YungMoney\_81:

(Start: 5 @56236 has 57 MA's), (14, 56473),

Gene: Zalkecks\_185 Start: 97975, Stop: 98328, Start Num: 5

Candidate Starts for Zalkecks\_185:

(1, 97876), (2, 97909), (Start: 5 @97975 has 57 MA's), (Start: 6 @98008 has 2 MA's), (12, 98197), (15, 98269),

Gene: Zeenon\_188 Start: 98545, Stop: 98898, Start Num: 5

Candidate Starts for Zeenon\_188:

(1, 98446), (2, 98479), (Start: 5 @98545 has 57 MA's), (Start: 6 @98578 has 2 MA's), (12, 98767), (15, 98839),

Gene: ZygoTaiga\_182 Start: 99166, Stop: 99519, Start Num: 5

Candidate Starts for ZygoTaiga\_182:

(1, 99067), (2, 99100), (Start: 5 @99166 has 57 MA's), (Start: 6 @99199 has 2 MA's), (12, 99388), (15, 99460),