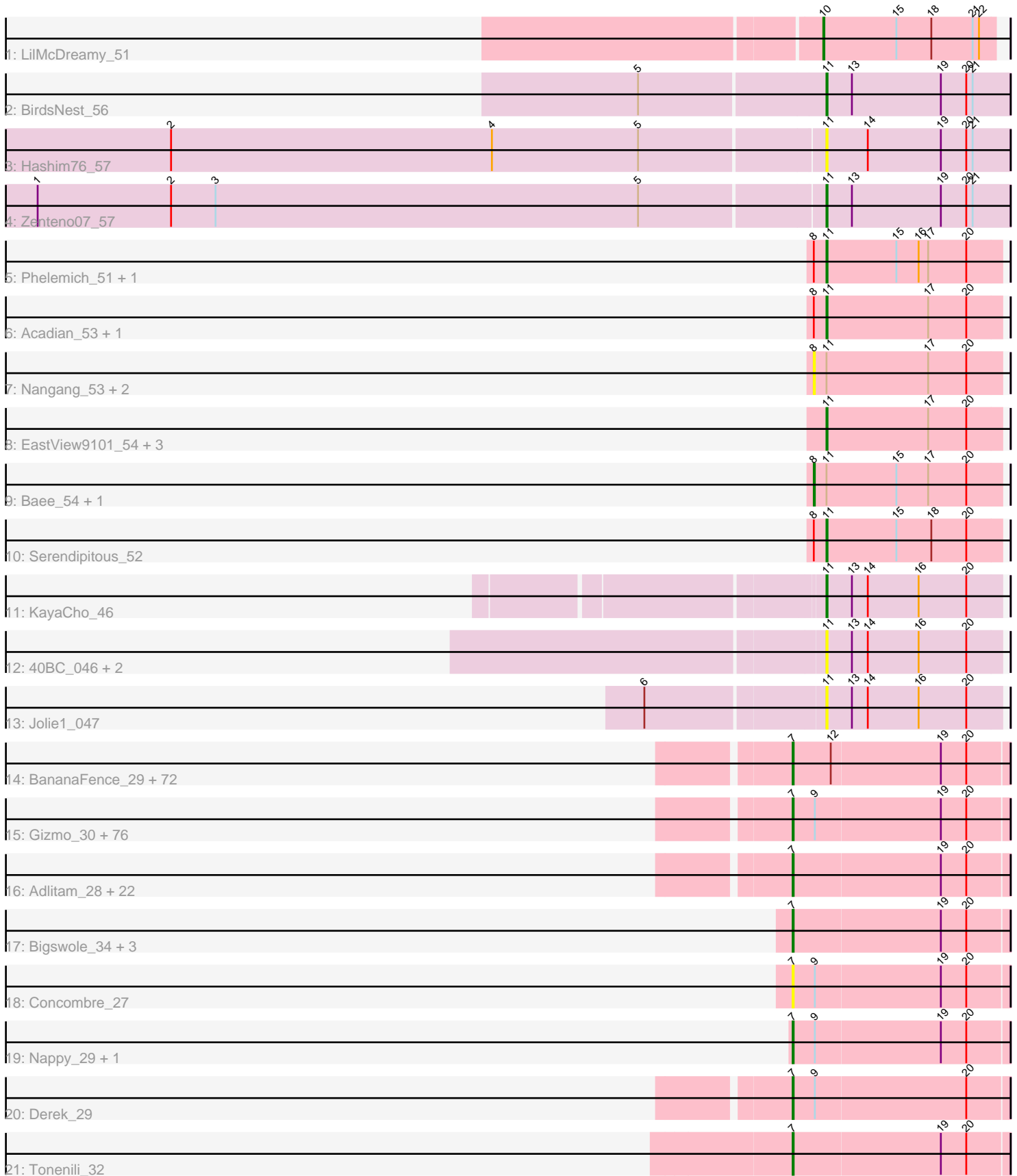


# Pham 157590



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 157590 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157590 has 205 members, 26 are drafts.

Phages represented in each track:

- Track 1 : LilMcDreamy\_51
- Track 2 : BirdsNest\_56
- Track 3 : Hashim76\_57
- Track 4 : Zenteno07\_57
- Track 5 : Phelemich\_51, Reprobate\_52
- Track 6 : Acadian\_53, StinkyVeggy\_53
- Track 7 : Nangang\_53, DigitDog\_53, Mysterious\_53
- Track 8 : EastView9101\_54, Suigeneris\_54, SirJeffery\_52, Donny\_54
- Track 9 : Bae\_54, Rich\_53
- Track 10 : Serendipitous\_52
- Track 11 : KayaCho\_46
- Track 12 : 40BC\_046, 39HC\_046, Hosp\_045
- Track 13 : Jolie1\_047
- Track 14 : BananaFence\_29, Kboogie\_28, McGee\_27, MoMoMixon\_29, Asterius\_26, Babyland\_27, IkeLoa\_24, Grungle\_21, Mangeria\_31, LordLeafolot\_33, Shnickers\_28, Jessibeth14\_27, LinStu\_28, Blackbrain\_26, Astraea\_29, ET08\_23, Koguma\_24, Drazdys\_28, FrayBell\_34, Ading\_28, ChickenPhender\_27, Khaleesi\_27, Sprinklers\_28, Alice\_23, Stubby\_26, BadAgartude\_29, Basquiat\_27, ScottMcG\_28, Darko\_27, Gabriel\_28, Rabinovish\_27, Jedediah\_28, Phox\_27, Shaqnato\_24, Cactojaque\_25, Sauce\_29, StubbySaigey\_27, JulietS\_23, HyRo\_27, ErnieJ\_29, Sebata\_28, Pinkcreek\_20, Colt\_21, Chomp\_26, Littleton\_28, Delylah\_29, RoMag\_23, ChaylaJr\_27, QBert\_26, EmmaElysia\_26, Fludd\_27, Cali\_28, Flabslab\_29, StephanieG\_28, Chargie21\_27, Spec\_26, Trinitium\_27, Yassified\_25, Turret\_26, LRRHood\_25, Shelob\_30, Issimir\_27, NuevoMundo\_31, Cane17\_21, Lukilu\_21, Essence\_27, JPickles\_26, Jaygup\_28, JayJay\_29, McWolfish\_27, Shifa\_25, Dietrick\_23, Bonray\_28
- Track 15 : Gizmo\_30, Ava3\_29, Pio\_31, Matsumoto\_27, Izajani\_29, Rizal\_26, Specks\_33, Pleione\_30, LifeSavor\_29, CharlieB\_28, NedWong\_29, Pier\_30, EmToTheThree\_31, InterFolia\_35, SrishMeg2525\_27, PurduePete\_27, FoxtrotP1\_28, Phusco\_28, Bangla1971\_27, Bread\_29, Lee7\_27, Shrimp\_28, Morizzled23\_27, Tyke\_30, I3\_30, Yucca\_28, Zalkecks\_30, Iota\_25, Norm\_28, ParkTD\_27, Daffodil\_30, Burrough\_28, JustHall\_27, Loanshark\_28, EggyFarm\_32, Spud\_30, ZygoTaiga\_28, Bxz1\_28, Breeniome\_28, Ronan\_23, LolaVinca\_31, FudgeTart\_29, Delilah\_28, BigCity\_32, Zeenon\_30, Nidhogg\_29, Guwapp\_28, Melpomini\_27, DrPhinkDaddy\_28, Salacia\_30, Willis\_28, Teardrop\_27, ShiaLabeouf\_28, Bipolarisk\_27, TinyTim\_28, YemiJoy2021\_29, Blubba\_21, Mikro\_26, BackyardAgain\_25, Erdmann\_29, Naval22\_30, Grasshills\_32,

Roots515\_28, DirtMonster\_27, EasyJones\_27, DTDevon\_29, Tortoise16\_27, Maby2021\_29, MikeLiesIn\_28, Rahel\_28, Catera\_26, Wally\_27, Ewok\_28, SmallFry\_28, Megamind\_28, Naija\_28, Napoleon13\_27

- Track 16 : Adlitam\_28, Amataga\_28, Phlegm\_30, Patter\_28, ArcherS7\_27, Ghost\_28, Jemmno\_28, InigoMontoya\_29, Janiyra\_28, Latch\_28, Pivoine\_28, Gamgam\_28, Kamryn\_28, Quasimodo\_28, Capablanca\_30, CindyLou\_28, ValleyTerrace\_28, Audrick\_30, YoungMoneyMata\_28, Ngannou\_26, SilverDipper\_29, Atlantean\_28, Momo\_27
- Track 17 : Bigswole\_34, Caravan\_26, NoodleTree\_27, BeanWater\_24
- Track 18 : Concombre\_27
- Track 19 : Nappy\_29, Dandelion\_32
- Track 20 : Derek\_29
- Track 21 : Tonenili\_32

**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 167 of the 179 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Ading\_28, Adlitam\_28, Alice\_23, Amataga\_28, ArcherS7\_27, Asterius\_26, Astraea\_29, Atlantean\_28, Audrick\_30, Ava3\_29, Babyland\_27, BackyardAgain\_25, BadAgartude\_29, BananaFence\_29, Bangla1971\_27, Basquiat\_27, BeanWater\_24, BigCity\_32, Bigswole\_34, Bipolarisk\_27, Blackbrain\_26, Blubba\_21, Bonray\_28, Bread\_29, Breeniome\_28, Burrough\_28, Bxz1\_28, Cactojaque\_25, Cali\_28, Cane17\_21, Capablanca\_30, Caravan\_26, Catera\_26, Chargie21\_27, CharlieB\_28, ChaylaJr\_27, ChickenPhender\_27, Chomp\_26, CindyLou\_28, Colt\_21, Concombre\_27, DTDevon\_29, Daffodil\_30, Dandelion\_32, Darko\_27, Delilah\_28, Delylah\_29, Derek\_29, Dietrick\_23, DirtMonster\_27, DrPhinkDaddy\_28, Drazdys\_28, ET08\_23, EasyJones\_27, EggyFarm\_32, EmToTheThree\_31, EmmaElysia\_26, Erdmann\_29, ErnieJ\_29, Essence\_27, Ewok\_28, Flabslab\_29, Fludd\_27, FoxtrotP1\_28, FrayBell\_34, FudgeTart\_29, Gabriel\_28, Gamgam\_28, Ghost\_28, Gizmo\_30, Grasshills\_32, Grungle\_21, Guwapp\_28, HyRo\_27, I3\_30, IkeLoa\_24, InigoMontoya\_29, InterFolia\_35, Iota\_25, Issimir\_27, Izajani\_29, JPickles\_26, Janiyra\_28, JayJay\_29, Jaygup\_28, Jedediah\_28, Jemmno\_28, Jessibeth14\_27, JulietS\_23, JustHall\_27, Kamryn\_28, Kboogie\_28, Khaleesi\_27, Koguma\_24, LRRHood\_25, Latch\_28, Lee7\_27, LifeSavor\_29, LinStu\_28, Littleton\_28, Loanshark\_28, LolaVinca\_31, LordLeafolot\_33, Lukilu\_21, Maby2021\_29, Mangeria\_31, Matsumoto\_27, McGee\_27, McWolfish\_27, Megamind\_28, Melpomini\_27, MikeLiesIn\_28, Mikro\_26, MoMoMixon\_29, Momo\_27, Morizzled23\_27, Naija\_28, Napoleon13\_27, Nappy\_29, Naval22\_30, NedWong\_29, Ngannou\_26, Nidhogg\_29, NoodleTree\_27, Norm\_28, NuevoMundo\_31, ParkTD\_27, Patter\_28, Phlegm\_30, Phox\_27, Phusco\_28, Pier\_30, Pinkcreek\_20, Pio\_31, Pivoine\_28, Pleione\_30, PurduePete\_27, QBert\_26, Quasimodo\_28, Rabinovish\_27, Rahel\_28, Rizal\_26, RoMag\_23, Ronan\_23, Roots515\_28, Salacia\_30, Sauce\_29, ScottMcG\_28, Sebata\_28, Shaqato\_24, Shelob\_30, ShiaLabeouf\_28, Shifa\_25, Shnickers\_28, Shrimp\_28, SilverDipper\_29, SmallFry\_28, Spec\_26, Specks\_33, Sprinklers\_28, Spud\_30, SrishMeg2525\_27, StephanieG\_28, StubbySaigey\_27, Stubby\_26, Teardrop\_27, TinyTim\_28, Tonenili\_32, Tortoise16\_27, Trinitium\_27, Turret\_26, Tyke\_30, ValleyTerrace\_28, Wally\_27, Willis\_28, Yassified\_25,

YemiJoy2021\_29, YoungMoneyMata\_28, Yucca\_28, Zalkecks\_30, Zeenon\_30, ZygoTaiga\_28,

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

- 

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

- 39HC\_046, 40BC\_046, Acadian\_53, Bae\_54, BirdsNest\_56, DigitDog\_53, Donny\_54, EastView9101\_54, Hashim76\_57, Hosp\_045, Jolie1\_047, KayaCho\_46, LilMcDreamy\_51, Mysterious\_53, Nangang\_53, Phelemich\_51, Reprobate\_52, Rich\_53, Serendipitous\_52, SirJeffery\_52, StinkyVeggy\_53, Suigeneris\_54, Zenteno07\_57,

### Summary by start number:

Start 7:

- Found in 182 of 205 ( 88.8% ) of genes in pham
- Manual Annotations of this start: 167 of 179
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ading\_28 (C1), Adlitam\_28 (C1), Alice\_23 (C1), Amataga\_28 (C1), ArcherS7\_27 (C1), Asterius\_26 (C1), Astraea\_29 (C1), Atlantean\_28 (C1), Audrick\_30 (C1), Ava3\_29 (C1), Babyland\_27 (C1), BackyardAgain\_25 (C1), BadAgartude\_29 (C1), BananaFence\_29 (C1), Bangla1971\_27 (C1), Basquiat\_27 (C1), BeanWater\_24 (C1), BigCity\_32 (C1), Bigswole\_34 (C1), Bipolarisk\_27 (C1), Blackbrain\_26 (C1), Blubba\_21 (C1), Bonray\_28 (C1), Bread\_29 (C1), Breeniome\_28 (C1), Burrough\_28 (C1), Bxz1\_28 (C1), Cactojaque\_25 (C1), Cali\_28 (C1), Cane17\_21 (C1), Capablanca\_30 (C1), Caravan\_26 (C1), Catera\_26 (C1), Chargie21\_27 (C1), CharlieB\_28 (C1), ChaylaJr\_27 (C1), ChickenPhender\_27 (C1), Chomp\_26 (C1), CindyLou\_28 (C1), Colt\_21 (C1), Concombre\_27 (C1), DTDevon\_29 (C1), Daffodil\_30 (C1), Dandelion\_32 (C1), Darko\_27 (C1), Delilah\_28 (C1), Delylah\_29 (C1), Derek\_29 (C1), Dietrick\_23 (C1), DirtMonster\_27 (C1), DrPhinkDaddy\_28 (C1), Drazdys\_28 (C1), ET08\_23 (C1), EasyJones\_27 (C1), EggyFarm\_32 (C1), EmToTheThree\_31 (C1), EmmaElysia\_26 (C1), Erdmann\_29 (C1), ErnieJ\_29 (C1), Essence\_27 (C1), Ewok\_28 (C1), Flabslab\_29 (C1), Fludd\_27 (C1), FoxtrotP1\_28 (C1), FrayBell\_34 (C1), FudgeTart\_29 (C1), Gabriel\_28 (C1), Gamgam\_28 (C1), Ghost\_28 (C1), Gizmo\_30 (C1), Grasshills\_32 (C1), Grungle\_21 (C1), Guwapp\_28 (C1), HyRo\_27 (C1), I3\_30 (C1), IkeLoa\_24 (C1), InigoMontoya\_29 (C1), InterFolia\_35 (C1), Iota\_25 (C1), Issimir\_27 (C1), Izajani\_29 (C1), JPickles\_26 (C1), Janiyra\_28 (C1), JayJay\_29 (C1), Jaygup\_28 (C1), Jedediah\_28 (C1), Jemmno\_28 (C1), Jessibeth14\_27 (C1), JulietS\_23 (C1), JustHall\_27 (C1), Kamryn\_28 (C1), Kboogie\_28 (C1), Khaleesi\_27 (C1), Koguma\_24 (C1), LRRHood\_25 (C1), Latch\_28 (C1), Lee7\_27 (C1), LifeSavor\_29 (C1), LinStu\_28 (C1), Littleton\_28 (C1), Loanshark\_28 (C1), LolaVinca\_31 (C1), LordLeafolot\_33 (C1), Lukilu\_21 (C1), Maby2021\_29 (C1), Mangeria\_31 (C1), Matsumoto\_27 (C1), McGee\_27 (C1), McWolfish\_27 (C1), Megamind\_28 (C1), Melpomini\_27 (C1), MikeLiesIn\_28 (C1), Mikro\_26 (C1), MoMoMixon\_29 (C1), Momo\_27 (C1), Morizzled23\_27 (C1), Naija\_28 (C1), Napoleon13\_27 (C1), Nappy\_29 (C1), Naval22\_30 (C1), NedWong\_29 (C1), Ngannou\_26 (C1), Nidhogg\_29 (C1), NoodleTree\_27 (C1), Norm\_28 (C1), NuevoMundo\_31 (C1), ParkTD\_27 (C1), Patter\_28 (C1), Phlegm\_30 (C1), Phox\_27 (C1), Phusco\_28 (C1), Pier\_30 (C1), Pinkcreek\_20 (C1), Pio\_31 (C1), Pivoine\_28 (C1), Pleione\_30 (C1), PurduePete\_27 (C1), QBert\_26 (C1), Quasimodo\_28 (C1), Rabinovish\_27 (C1), Rahel\_28 (C1), Rizal\_26 (C1), RoMag\_23 (C1), Ronan\_23 (C1),

Roots515\_28 (C1), Salacia\_30 (C1), Sauce\_29 (C1), ScottMcG\_28 (C1), Sebata\_28 (C1), Shaqato\_24 (C1), Shelob\_30 (C1), ShiaLabeouf\_28 (C1), Shifa\_25 (C1), Shnickers\_28 (C1), Shrimp\_28 (C1), SilverDipper\_29 (C1), SmallFry\_28 (C1), Spec\_26 (C1), Specks\_33 (C1), Sprinklers\_28 (C1), Spud\_30 (C1), SrishMeg2525\_27 (C1), StephanieG\_28 (C1), StubbySaigey\_27 (C1), Stubby\_26 (C1), Teardrop\_27 (C1), TinyTim\_28 (C1), Tonenili\_32 (C1), Tortoise16\_27 (C1), Trinitium\_27 (C1), Turret\_26 (C1), Tyke\_30 (C1), ValleyTerrace\_28 (C1), Wally\_27 (C1), Willis\_28 (C1), Yassified\_25 (C1), YemiJoy2021\_29 (C1), YoungMoneyMata\_28 (C1), Yucca\_28 (C1), Zalkecks\_30 (C1), Zeenon\_30 (C1), ZygoTaiga\_28 (C1),

Start 8:

- Found in 10 of 205 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 2 of 179
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Bae\_54 (B5), DigitDog\_53 (B5), Mysterious\_53 (B5), Nangang\_53 (B5), Rich\_53 (B5),

Start 10:

- Found in 1 of 205 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 179
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilMcDreamy\_51 (B12),

Start 11:

- Found in 22 of 205 ( 10.7% ) of genes in pham
- Manual Annotations of this start: 9 of 179
- Called 77.3% of time when present
- Phage (with cluster) where this start called: 39HC\_046 (B6), 40BC\_046 (B6), Acadian\_53 (B5), BirdsNest\_56 (B13), Donny\_54 (B5), EastView9101\_54 (B5), Hashim76\_57 (B13), Hosp\_045 (B6), Jolie1\_047 (B6), KayaCho\_46 (B6), Phelemich\_51 (B5), Reprobate\_52 (B5), Serendipitous\_52 (B5), SirJeffery\_52 (B5), StinkyVeggy\_53 (B5), Suigeneris\_54 (B5), Zenteno07\_57 (B13),

### Summary by clusters:

There are 5 clusters represented in this pham: B5, C1, B12, B6, B13,

Info for manual annotations of cluster B12:

- Start number 10 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 11 was manually annotated 2 times for cluster B13.

Info for manual annotations of cluster B5:

- Start number 8 was manually annotated 2 times for cluster B5.
- Start number 11 was manually annotated 6 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 11 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster C1:

- Start number 7 was manually annotated 167 times for cluster C1.

**Gene Information:**

Gene: 39HC\_046 Start: 45589, Stop: 45425, Start Num: 11

Candidate Starts for 39HC\_046:

(Start: 11 @45589 has 9 MA's), (13, 45565), (14, 45550), (16, 45502), (20, 45457),

Gene: 40BC\_046 Start: 45589, Stop: 45425, Start Num: 11

Candidate Starts for 40BC\_046:

(Start: 11 @45589 has 9 MA's), (13, 45565), (14, 45550), (16, 45502), (20, 45457),

Gene: Acadian\_53 Start: 48105, Stop: 47941, Start Num: 11

Candidate Starts for Acadian\_53:

(Start: 8 @48117 has 2 MA's), (Start: 11 @48105 has 9 MA's), (17, 48009), (20, 47973),

Gene: Ading\_28 Start: 8607, Stop: 8807, Start Num: 7

Candidate Starts for Ading\_28:

(Start: 7 @8607 has 167 MA's), (12, 8643), (19, 8745), (20, 8769),

Gene: Adlitam\_28 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for Adlitam\_28:

(Start: 7 @8624 has 167 MA's), (19, 8762), (20, 8786),

Gene: Alice\_23 Start: 7705, Stop: 7905, Start Num: 7

Candidate Starts for Alice\_23:

(Start: 7 @7705 has 167 MA's), (12, 7741), (19, 7843), (20, 7867),

Gene: Amataga\_28 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for Amataga\_28:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: ArcherS7\_27 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for ArcherS7\_27:

(Start: 7 @8624 has 167 MA's), (19, 8762), (20, 8786),

Gene: Asterius\_26 Start: 8896, Stop: 9096, Start Num: 7

Candidate Starts for Asterius\_26:

(Start: 7 @8896 has 167 MA's), (12, 8932), (19, 9034), (20, 9058),

Gene: Astraea\_29 Start: 8801, Stop: 9001, Start Num: 7

Candidate Starts for Astraea\_29:

(Start: 7 @8801 has 167 MA's), (12, 8837), (19, 8939), (20, 8963),

Gene: Atlantean\_28 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for Atlantean\_28:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: Audrick\_30 Start: 8607, Stop: 8807, Start Num: 7

Candidate Starts for Audrick\_30:

(Start: 7 @8607 has 167 MA's), (19, 8745), (20, 8769),

Gene: Ava3\_29 Start: 9173, Stop: 9373, Start Num: 7

Candidate Starts for Ava3\_29:

(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Babyland\_27 Start: 8069, Stop: 8269, Start Num: 7

Candidate Starts for Babyland\_27:

(Start: 7 @8069 has 167 MA's), (12, 8105), (19, 8207), (20, 8231),

Gene: BackyardAgain\_25 Start: 8053, Stop: 8253, Start Num: 7

Candidate Starts for BackyardAgain\_25:

(Start: 7 @8053 has 167 MA's), (9, 8074), (19, 8191), (20, 8215),

Gene: BadAgartude\_29 Start: 9263, Stop: 9463, Start Num: 7

Candidate Starts for BadAgartude\_29:

(Start: 7 @9263 has 167 MA's), (12, 9299), (19, 9401), (20, 9425),

Gene: Bae\_54 Start: 49393, Stop: 49217, Start Num: 8

Candidate Starts for Bae\_54:

(Start: 8 @49393 has 2 MA's), (Start: 11 @49381 has 9 MA's), (15, 49315), (17, 49285), (20, 49249),

Gene: BananaFence\_29 Start: 9060, Stop: 9260, Start Num: 7

Candidate Starts for BananaFence\_29:

(Start: 7 @9060 has 167 MA's), (12, 9096), (19, 9198), (20, 9222),

Gene: Bangla1971\_27 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for Bangla1971\_27:

(Start: 7 @8624 has 167 MA's), (9, 8645), (19, 8762), (20, 8786),

Gene: Basquiat\_27 Start: 8050, Stop: 8250, Start Num: 7

Candidate Starts for Basquiat\_27:

(Start: 7 @8050 has 167 MA's), (12, 8086), (19, 8188), (20, 8212),

Gene: BeanWater\_24 Start: 9017, Stop: 9217, Start Num: 7

Candidate Starts for BeanWater\_24:

(Start: 7 @9017 has 167 MA's), (19, 9155), (20, 9179),

Gene: BigCity\_32 Start: 10153, Stop: 10353, Start Num: 7

Candidate Starts for BigCity\_32:

(Start: 7 @10153 has 167 MA's), (9, 10174), (19, 10291), (20, 10315),

Gene: Bigswole\_34 Start: 10967, Stop: 11167, Start Num: 7

Candidate Starts for Bigswole\_34:

(Start: 7 @10967 has 167 MA's), (19, 11105), (20, 11129),

Gene: Bipolarisk\_27 Start: 8890, Stop: 9090, Start Num: 7

Candidate Starts for Bipolarisk\_27:

(Start: 7 @8890 has 167 MA's), (9, 8911), (19, 9028), (20, 9052),

Gene: BirdsNest\_56 Start: 47002, Stop: 46829, Start Num: 11

Candidate Starts for BirdsNest\_56:

(5, 47173), (Start: 11 @47002 has 9 MA's), (13, 46978), (19, 46894), (20, 46870), (21, 46864),

Gene: Blackbrain\_26 Start: 7866, Stop: 8066, Start Num: 7

Candidate Starts for Blackbrain\_26:  
(Start: 7 @7866 has 167 MA's), (12, 7902), (19, 8004), (20, 8028),

Gene: Blubba\_21 Start: 7354, Stop: 7554, Start Num: 7  
Candidate Starts for Blubba\_21:  
(Start: 7 @7354 has 167 MA's), (9, 7375), (19, 7492), (20, 7516),

Gene: Bonray\_28 Start: 9164, Stop: 9364, Start Num: 7  
Candidate Starts for Bonray\_28:  
(Start: 7 @9164 has 167 MA's), (12, 9200), (19, 9302), (20, 9326),

Gene: Bread\_29 Start: 9173, Stop: 9373, Start Num: 7  
Candidate Starts for Bread\_29:  
(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Breeniome\_28 Start: 8047, Stop: 8247, Start Num: 7  
Candidate Starts for Breeniome\_28:  
(Start: 7 @8047 has 167 MA's), (9, 8068), (19, 8185), (20, 8209),

Gene: Burrough\_28 Start: 8890, Stop: 9090, Start Num: 7  
Candidate Starts for Burrough\_28:  
(Start: 7 @8890 has 167 MA's), (9, 8911), (19, 9028), (20, 9052),

Gene: Bxz1\_28 Start: 9633, Stop: 9833, Start Num: 7  
Candidate Starts for Bxz1\_28:  
(Start: 7 @9633 has 167 MA's), (9, 9654), (19, 9771), (20, 9795),

Gene: Cactojaque\_25 Start: 7755, Stop: 7955, Start Num: 7  
Candidate Starts for Cactojaque\_25:  
(Start: 7 @7755 has 167 MA's), (12, 7791), (19, 7893), (20, 7917),

Gene: Cali\_28 Start: 10197, Stop: 10397, Start Num: 7  
Candidate Starts for Cali\_28:  
(Start: 7 @10197 has 167 MA's), (12, 10233), (19, 10335), (20, 10359),

Gene: Cane17\_21 Start: 7226, Stop: 7426, Start Num: 7  
Candidate Starts for Cane17\_21:  
(Start: 7 @7226 has 167 MA's), (12, 7262), (19, 7364), (20, 7388),

Gene: Capablanca\_30 Start: 9753, Stop: 9953, Start Num: 7  
Candidate Starts for Capablanca\_30:  
(Start: 7 @9753 has 167 MA's), (19, 9891), (20, 9915),

Gene: Caravan\_26 Start: 8443, Stop: 8643, Start Num: 7  
Candidate Starts for Caravan\_26:  
(Start: 7 @8443 has 167 MA's), (19, 8581), (20, 8605),

Gene: Catera\_26 Start: 8051, Stop: 8251, Start Num: 7  
Candidate Starts for Catera\_26:  
(Start: 7 @8051 has 167 MA's), (9, 8072), (19, 8189), (20, 8213),

Gene: Chargie21\_27 Start: 8050, Stop: 8250, Start Num: 7  
Candidate Starts for Chargie21\_27:



(Start: 7 @8050 has 167 MA's), (12, 8086), (19, 8188), (20, 8212),

Gene: CharlieB\_28 Start: 8204, Stop: 8404, Start Num: 7

Candidate Starts for CharlieB\_28:

(Start: 7 @8204 has 167 MA's), (9, 8225), (19, 8342), (20, 8366),

Gene: ChaylaJr\_27 Start: 8137, Stop: 8337, Start Num: 7

Candidate Starts for ChaylaJr\_27:

(Start: 7 @8137 has 167 MA's), (12, 8173), (19, 8275), (20, 8299),

Gene: ChickenPhender\_27 Start: 8095, Stop: 8295, Start Num: 7

Candidate Starts for ChickenPhender\_27:

(Start: 7 @8095 has 167 MA's), (12, 8131), (19, 8233), (20, 8257),

Gene: Chomp\_26 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for Chomp\_26:

(Start: 7 @8628 has 167 MA's), (12, 8664), (19, 8766), (20, 8790),

Gene: CindyLou\_28 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for CindyLou\_28:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: Colt\_21 Start: 7232, Stop: 7432, Start Num: 7

Candidate Starts for Colt\_21:

(Start: 7 @7232 has 167 MA's), (12, 7268), (19, 7370), (20, 7394),

Gene: Concombres\_27 Start: 9399, Stop: 9599, Start Num: 7

Candidate Starts for Concombres\_27:

(Start: 7 @9399 has 167 MA's), (9, 9420), (19, 9537), (20, 9561),

Gene: DTDevon\_29 Start: 9792, Stop: 9992, Start Num: 7

Candidate Starts for DTDevon\_29:

(Start: 7 @9792 has 167 MA's), (9, 9813), (19, 9930), (20, 9954),

Gene: Daffodil\_30 Start: 9173, Stop: 9373, Start Num: 7

Candidate Starts for Daffodil\_30:

(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Dandelion\_32 Start: 10487, Stop: 10687, Start Num: 7

Candidate Starts for Dandelion\_32:

(Start: 7 @10487 has 167 MA's), (9, 10508), (19, 10625), (20, 10649),

Gene: Darko\_27 Start: 9029, Stop: 9229, Start Num: 7

Candidate Starts for Darko\_27:

(Start: 7 @9029 has 167 MA's), (12, 9065), (19, 9167), (20, 9191),

Gene: Delilah\_28 Start: 9173, Stop: 9373, Start Num: 7

Candidate Starts for Delilah\_28:

(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Delylah\_29 Start: 8956, Stop: 9156, Start Num: 7

Candidate Starts for Delylah\_29:

(Start: 7 @8956 has 167 MA's), (12, 8992), (19, 9094), (20, 9118),

Gene: Derek\_29 Start: 8585, Stop: 8785, Start Num: 7  
Candidate Starts for Derek\_29:  
(Start: 7 @8585 has 167 MA's), (9, 8606), (20, 8747),

Gene: Dietrick\_23 Start: 7823, Stop: 8023, Start Num: 7  
Candidate Starts for Dietrick\_23:  
(Start: 7 @7823 has 167 MA's), (12, 7859), (19, 7961), (20, 7985),

Gene: DigitDog\_53 Start: 48113, Stop: 47937, Start Num: 8  
Candidate Starts for DigitDog\_53:  
(Start: 8 @48113 has 2 MA's), (Start: 11 @48101 has 9 MA's), (17, 48005), (20, 47969),

Gene: DirtMonster\_27 Start: 9717, Stop: 9917, Start Num: 7  
Candidate Starts for DirtMonster\_27:  
(Start: 7 @9717 has 167 MA's), (9, 9738), (19, 9855), (20, 9879),

Gene: Donny\_54 Start: 48395, Stop: 48231, Start Num: 11  
Candidate Starts for Donny\_54:  
(Start: 11 @48395 has 9 MA's), (17, 48299), (20, 48263),

Gene: DrPhinkDaddy\_28 Start: 9170, Stop: 9370, Start Num: 7  
Candidate Starts for DrPhinkDaddy\_28:  
(Start: 7 @9170 has 167 MA's), (9, 9191), (19, 9308), (20, 9332),

Gene: Drazdys\_28 Start: 8958, Stop: 9158, Start Num: 7  
Candidate Starts for Drazdys\_28:  
(Start: 7 @8958 has 167 MA's), (12, 8994), (19, 9096), (20, 9120),

Gene: ET08\_23 Start: 8632, Stop: 8832, Start Num: 7  
Candidate Starts for ET08\_23:  
(Start: 7 @8632 has 167 MA's), (12, 8668), (19, 8770), (20, 8794),

Gene: EastView9101\_54 Start: 48042, Stop: 47878, Start Num: 11  
Candidate Starts for EastView9101\_54:  
(Start: 11 @48042 has 9 MA's), (17, 47946), (20, 47910),

Gene: EasyJones\_27 Start: 7797, Stop: 7997, Start Num: 7  
Candidate Starts for EasyJones\_27:  
(Start: 7 @7797 has 167 MA's), (9, 7818), (19, 7935), (20, 7959),

Gene: EggyFarm\_32 Start: 10153, Stop: 10353, Start Num: 7  
Candidate Starts for EggyFarm\_32:  
(Start: 7 @10153 has 167 MA's), (9, 10174), (19, 10291), (20, 10315),

Gene: EmToTheThree\_31 Start: 10587, Stop: 10787, Start Num: 7  
Candidate Starts for EmToTheThree\_31:  
(Start: 7 @10587 has 167 MA's), (9, 10608), (19, 10725), (20, 10749),

Gene: EmmaElysia\_26 Start: 7815, Stop: 8015, Start Num: 7  
Candidate Starts for EmmaElysia\_26:  
(Start: 7 @7815 has 167 MA's), (12, 7851), (19, 7953), (20, 7977),

Gene: Erdmann\_29 Start: 9173, Stop: 9373, Start Num: 7

Candidate Starts for Erdmann\_29:

(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: ErnieJ\_29 Start: 8996, Stop: 9196, Start Num: 7

Candidate Starts for ErnieJ\_29:

(Start: 7 @8996 has 167 MA's), (12, 9032), (19, 9134), (20, 9158),

Gene: Essence\_27 Start: 8350, Stop: 8550, Start Num: 7

Candidate Starts for Essence\_27:

(Start: 7 @8350 has 167 MA's), (12, 8386), (19, 8488), (20, 8512),

Gene: Ewok\_28 Start: 9176, Stop: 9376, Start Num: 7

Candidate Starts for Ewok\_28:

(Start: 7 @9176 has 167 MA's), (9, 9197), (19, 9314), (20, 9338),

Gene: Flabslab\_29 Start: 9106, Stop: 9306, Start Num: 7

Candidate Starts for Flabslab\_29:

(Start: 7 @9106 has 167 MA's), (12, 9142), (19, 9244), (20, 9268),

Gene: Fludd\_27 Start: 8051, Stop: 8251, Start Num: 7

Candidate Starts for Fludd\_27:

(Start: 7 @8051 has 167 MA's), (12, 8087), (19, 8189), (20, 8213),

Gene: FoxtrotP1\_28 Start: 9501, Stop: 9701, Start Num: 7

Candidate Starts for FoxtrotP1\_28:

(Start: 7 @9501 has 167 MA's), (9, 9522), (19, 9639), (20, 9663),

Gene: FrayBell\_34 Start: 10744, Stop: 10944, Start Num: 7

Candidate Starts for FrayBell\_34:

(Start: 7 @10744 has 167 MA's), (12, 10780), (19, 10882), (20, 10906),

Gene: FudgeTart\_29 Start: 9173, Stop: 9373, Start Num: 7

Candidate Starts for FudgeTart\_29:

(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Gabriel\_28 Start: 8047, Stop: 8247, Start Num: 7

Candidate Starts for Gabriel\_28:

(Start: 7 @8047 has 167 MA's), (12, 8083), (19, 8185), (20, 8209),

Gene: Gamgam\_28 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for Gamgam\_28:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: Ghost\_28 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for Ghost\_28:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: Gizmo\_30 Start: 9175, Stop: 9375, Start Num: 7

Candidate Starts for Gizmo\_30:

(Start: 7 @9175 has 167 MA's), (9, 9196), (19, 9313), (20, 9337),

Gene: Grasshills\_32 Start: 10153, Stop: 10353, Start Num: 7

Candidate Starts for Grasshills\_32:  
(Start: 7 @10153 has 167 MA's), (9, 10174), (19, 10291), (20, 10315),

Gene: Grungle\_21 Start: 6747, Stop: 6947, Start Num: 7  
Candidate Starts for Grungle\_21:  
(Start: 7 @6747 has 167 MA's), (12, 6783), (19, 6885), (20, 6909),

Gene: Guwapp\_28 Start: 8585, Stop: 8785, Start Num: 7  
Candidate Starts for Guwapp\_28:  
(Start: 7 @8585 has 167 MA's), (9, 8606), (19, 8723), (20, 8747),

Gene: Hashim76\_57 Start: 47575, Stop: 47402, Start Num: 11  
Candidate Starts for Hashim76\_57:  
(2, 48184), (4, 47881), (5, 47743), (Start: 11 @47575 has 9 MA's), (14, 47536), (19, 47467), (20, 47443), (21, 47437),

Gene: Hosp\_045 Start: 44019, Stop: 43855, Start Num: 11  
Candidate Starts for Hosp\_045:  
(Start: 11 @44019 has 9 MA's), (13, 43995), (14, 43980), (16, 43932), (20, 43887),

Gene: HyRo\_27 Start: 9363, Stop: 9563, Start Num: 7  
Candidate Starts for HyRo\_27:  
(Start: 7 @9363 has 167 MA's), (12, 9399), (19, 9501), (20, 9525),

Gene: I3\_30 Start: 9740, Stop: 9940, Start Num: 7  
Candidate Starts for I3\_30:  
(Start: 7 @9740 has 167 MA's), (9, 9761), (19, 9878), (20, 9902),

Gene: IkeLoa\_24 Start: 8474, Stop: 8674, Start Num: 7  
Candidate Starts for IkeLoa\_24:  
(Start: 7 @8474 has 167 MA's), (12, 8510), (19, 8612), (20, 8636),

Gene: InigoMontoya\_29 Start: 8589, Stop: 8789, Start Num: 7  
Candidate Starts for InigoMontoya\_29:  
(Start: 7 @8589 has 167 MA's), (19, 8727), (20, 8751),

Gene: InterFolia\_35 Start: 11279, Stop: 11479, Start Num: 7  
Candidate Starts for InterFolia\_35:  
(Start: 7 @11279 has 167 MA's), (9, 11300), (19, 11417), (20, 11441),

Gene: Iota\_25 Start: 8708, Stop: 8908, Start Num: 7  
Candidate Starts for Iota\_25:  
(Start: 7 @8708 has 167 MA's), (9, 8729), (19, 8846), (20, 8870),

Gene: Issimir\_27 Start: 9168, Stop: 9368, Start Num: 7  
Candidate Starts for Issimir\_27:  
(Start: 7 @9168 has 167 MA's), (12, 9204), (19, 9306), (20, 9330),

Gene: Izajani\_29 Start: 9173, Stop: 9373, Start Num: 7  
Candidate Starts for Izajani\_29:  
(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: JPickles\_26 Start: 7825, Stop: 8025, Start Num: 7

Candidate Starts for JPickles\_26:

(Start: 7 @7825 has 167 MA's), (12, 7861), (19, 7963), (20, 7987),

Gene: Janiyra\_28 Start: 8607, Stop: 8807, Start Num: 7

Candidate Starts for Janiyra\_28:

(Start: 7 @8607 has 167 MA's), (19, 8745), (20, 8769),

Gene: JayJay\_29 Start: 9141, Stop: 9341, Start Num: 7

Candidate Starts for JayJay\_29:

(Start: 7 @9141 has 167 MA's), (12, 9177), (19, 9279), (20, 9303),

Gene: Jaygup\_28 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for Jaygup\_28:

(Start: 7 @8624 has 167 MA's), (12, 8660), (19, 8762), (20, 8786),

Gene: Jedediah\_28 Start: 8093, Stop: 8293, Start Num: 7

Candidate Starts for Jedediah\_28:

(Start: 7 @8093 has 167 MA's), (12, 8129), (19, 8231), (20, 8255),

Gene: Jemmno\_28 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for Jemmno\_28:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: Jessibeth14\_27 Start: 8896, Stop: 9096, Start Num: 7

Candidate Starts for Jessibeth14\_27:

(Start: 7 @8896 has 167 MA's), (12, 8932), (19, 9034), (20, 9058),

Gene: Jolie1\_047 Start: 45807, Stop: 45643, Start Num: 11

Candidate Starts for Jolie1\_047:

(6, 45969), (Start: 11 @45807 has 9 MA's), (13, 45783), (14, 45768), (16, 45720), (20, 45675),

Gene: JulietS\_23 Start: 7050, Stop: 7250, Start Num: 7

Candidate Starts for JulietS\_23:

(Start: 7 @7050 has 167 MA's), (12, 7086), (19, 7188), (20, 7212),

Gene: JustHall\_27 Start: 9073, Stop: 9273, Start Num: 7

Candidate Starts for JustHall\_27:

(Start: 7 @9073 has 167 MA's), (9, 9094), (19, 9211), (20, 9235),

Gene: Kamryn\_28 Start: 8952, Stop: 9152, Start Num: 7

Candidate Starts for Kamryn\_28:

(Start: 7 @8952 has 167 MA's), (19, 9090), (20, 9114),

Gene: KayaCho\_46 Start: 45592, Stop: 45428, Start Num: 11

Candidate Starts for KayaCho\_46:

(Start: 11 @45592 has 9 MA's), (13, 45568), (14, 45553), (16, 45505), (20, 45460),

Gene: Kboogie\_28 Start: 8106, Stop: 8306, Start Num: 7

Candidate Starts for Kboogie\_28:

(Start: 7 @8106 has 167 MA's), (12, 8142), (19, 8244), (20, 8268),

Gene: Khaleesi\_27 Start: 8923, Stop: 9123, Start Num: 7

Candidate Starts for Khaleesi\_27:

(Start: 7 @8923 has 167 MA's), (12, 8959), (19, 9061), (20, 9085),

Gene: Koguma\_24 Start: 7393, Stop: 7593, Start Num: 7

Candidate Starts for Koguma\_24:

(Start: 7 @7393 has 167 MA's), (12, 7429), (19, 7531), (20, 7555),

Gene: LRRHood\_25 Start: 9316, Stop: 9516, Start Num: 7

Candidate Starts for LRRHood\_25:

(Start: 7 @9316 has 167 MA's), (12, 9352), (19, 9454), (20, 9478),

Gene: Latch\_28 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for Latch\_28:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: Lee7\_27 Start: 9170, Stop: 9370, Start Num: 7

Candidate Starts for Lee7\_27:

(Start: 7 @9170 has 167 MA's), (9, 9191), (19, 9308), (20, 9332),

Gene: LifeSavor\_29 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for LifeSavor\_29:

(Start: 7 @8624 has 167 MA's), (9, 8645), (19, 8762), (20, 8786),

Gene: LilMcDreamy\_51 Start: 47791, Stop: 47630, Start Num: 10

Candidate Starts for LilMcDreamy\_51:

(Start: 10 @47791 has 1 MA's), (15, 47722), (18, 47689), (21, 47650), (22, 47644),

Gene: LinStu\_28 Start: 9526, Stop: 9726, Start Num: 7

Candidate Starts for LinStu\_28:

(Start: 7 @9526 has 167 MA's), (12, 9562), (19, 9664), (20, 9688),

Gene: Littleton\_28 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for Littleton\_28:

(Start: 7 @8628 has 167 MA's), (12, 8664), (19, 8766), (20, 8790),

Gene: Loanshark\_28 Start: 9173, Stop: 9373, Start Num: 7

Candidate Starts for Loanshark\_28:

(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: LolaVinca\_31 Start: 10385, Stop: 10585, Start Num: 7

Candidate Starts for LolaVinca\_31:

(Start: 7 @10385 has 167 MA's), (9, 10406), (19, 10523), (20, 10547),

Gene: LordLeafolot\_33 Start: 10743, Stop: 10943, Start Num: 7

Candidate Starts for LordLeafolot\_33:

(Start: 7 @10743 has 167 MA's), (12, 10779), (19, 10881), (20, 10905),

Gene: Lukilu\_21 Start: 7767, Stop: 7967, Start Num: 7

Candidate Starts for Lukilu\_21:

(Start: 7 @7767 has 167 MA's), (12, 7803), (19, 7905), (20, 7929),

Gene: Maby2021\_29 Start: 9173, Stop: 9373, Start Num: 7

Candidate Starts for Maby2021\_29:

(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Mangeria\_31 Start: 9699, Stop: 9899, Start Num: 7  
Candidate Starts for Mangeria\_31:  
(Start: 7 @9699 has 167 MA's), (12, 9735), (19, 9837), (20, 9861),

Gene: Matsumoto\_27 Start: 8589, Stop: 8789, Start Num: 7  
Candidate Starts for Matsumoto\_27:  
(Start: 7 @8589 has 167 MA's), (9, 8610), (19, 8727), (20, 8751),

Gene: McGee\_27 Start: 7815, Stop: 8015, Start Num: 7  
Candidate Starts for McGee\_27:  
(Start: 7 @7815 has 167 MA's), (12, 7851), (19, 7953), (20, 7977),

Gene: McWolfish\_27 Start: 8923, Stop: 9123, Start Num: 7  
Candidate Starts for McWolfish\_27:  
(Start: 7 @8923 has 167 MA's), (12, 8959), (19, 9061), (20, 9085),

Gene: Megamind\_28 Start: 9164, Stop: 9364, Start Num: 7  
Candidate Starts for Megamind\_28:  
(Start: 7 @9164 has 167 MA's), (9, 9185), (19, 9302), (20, 9326),

Gene: Melpomini\_27 Start: 8030, Stop: 8230, Start Num: 7  
Candidate Starts for Melpomini\_27:  
(Start: 7 @8030 has 167 MA's), (9, 8051), (19, 8168), (20, 8192),

Gene: MikeLiesIn\_28 Start: 9173, Stop: 9373, Start Num: 7  
Candidate Starts for MikeLiesIn\_28:  
(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Mikro\_26 Start: 9659, Stop: 9859, Start Num: 7  
Candidate Starts for Mikro\_26:  
(Start: 7 @9659 has 167 MA's), (9, 9680), (19, 9797), (20, 9821),

Gene: MoMoMixon\_29 Start: 9490, Stop: 9690, Start Num: 7  
Candidate Starts for MoMoMixon\_29:  
(Start: 7 @9490 has 167 MA's), (12, 9526), (19, 9628), (20, 9652),

Gene: Momo\_27 Start: 8628, Stop: 8828, Start Num: 7  
Candidate Starts for Momo\_27:  
(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: Morizzled23\_27 Start: 8030, Stop: 8230, Start Num: 7  
Candidate Starts for Morizzled23\_27:  
(Start: 7 @8030 has 167 MA's), (9, 8051), (19, 8168), (20, 8192),

Gene: Mysterious\_53 Start: 48246, Stop: 48070, Start Num: 8  
Candidate Starts for Mysterious\_53:  
(Start: 8 @48246 has 2 MA's), (Start: 11 @48234 has 9 MA's), (17, 48138), (20, 48102),

Gene: Naija\_28 Start: 8628, Stop: 8828, Start Num: 7  
Candidate Starts for Naija\_28:  
(Start: 7 @8628 has 167 MA's), (9, 8649), (19, 8766), (20, 8790),

Gene: Nangang\_53 Start: 48478, Stop: 48302, Start Num: 8  
Candidate Starts for Nangang\_53:  
(Start: 8 @48478 has 2 MA's), (Start: 11 @48466 has 9 MA's), (17, 48370), (20, 48334),

Gene: Napoleon13\_27 Start: 8049, Stop: 8249, Start Num: 7  
Candidate Starts for Napoleon13\_27:  
(Start: 7 @8049 has 167 MA's), (9, 8070), (19, 8187), (20, 8211),

Gene: Nappy\_29 Start: 9337, Stop: 9537, Start Num: 7  
Candidate Starts for Nappy\_29:  
(Start: 7 @9337 has 167 MA's), (9, 9358), (19, 9475), (20, 9499),

Gene: Naval22\_30 Start: 9213, Stop: 9413, Start Num: 7  
Candidate Starts for Naval22\_30:  
(Start: 7 @9213 has 167 MA's), (9, 9234), (19, 9351), (20, 9375),

Gene: NedWong\_29 Start: 9173, Stop: 9373, Start Num: 7  
Candidate Starts for NedWong\_29:  
(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Ngannou\_26 Start: 7804, Stop: 8004, Start Num: 7  
Candidate Starts for Ngannou\_26:  
(Start: 7 @7804 has 167 MA's), (19, 7942), (20, 7966),

Gene: Nidhogg\_29 Start: 9243, Stop: 9443, Start Num: 7  
Candidate Starts for Nidhogg\_29:  
(Start: 7 @9243 has 167 MA's), (9, 9264), (19, 9381), (20, 9405),

Gene: NoodleTree\_27 Start: 8939, Stop: 9139, Start Num: 7  
Candidate Starts for NoodleTree\_27:  
(Start: 7 @8939 has 167 MA's), (19, 9077), (20, 9101),

Gene: Norm\_28 Start: 9173, Stop: 9373, Start Num: 7  
Candidate Starts for Norm\_28:  
(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: NuevoMundo\_31 Start: 10230, Stop: 10430, Start Num: 7  
Candidate Starts for NuevoMundo\_31:  
(Start: 7 @10230 has 167 MA's), (12, 10266), (19, 10368), (20, 10392),

Gene: ParkTD\_27 Start: 9173, Stop: 9373, Start Num: 7  
Candidate Starts for ParkTD\_27:  
(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Patter\_28 Start: 8645, Stop: 8845, Start Num: 7  
Candidate Starts for Patter\_28:  
(Start: 7 @8645 has 167 MA's), (19, 8783), (20, 8807),

Gene: Phelemich\_51 Start: 48233, Stop: 48069, Start Num: 11  
Candidate Starts for Phelemich\_51:  
(Start: 8 @48245 has 2 MA's), (Start: 11 @48233 has 9 MA's), (15, 48167), (16, 48146), (17, 48137),  
(20, 48101),



Gene: Phlegm\_30 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for Phlegm\_30:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: Phox\_27 Start: 9340, Stop: 9540, Start Num: 7

Candidate Starts for Phox\_27:

(Start: 7 @9340 has 167 MA's), (12, 9376), (19, 9478), (20, 9502),

Gene: Phusco\_28 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for Phusco\_28:

(Start: 7 @8624 has 167 MA's), (9, 8645), (19, 8762), (20, 8786),

Gene: Pier\_30 Start: 9331, Stop: 9531, Start Num: 7

Candidate Starts for Pier\_30:

(Start: 7 @9331 has 167 MA's), (9, 9352), (19, 9469), (20, 9493),

Gene: Pinkcreek\_20 Start: 7035, Stop: 7235, Start Num: 7

Candidate Starts for Pinkcreek\_20:

(Start: 7 @7035 has 167 MA's), (12, 7071), (19, 7173), (20, 7197),

Gene: Pio\_31 Start: 10022, Stop: 10222, Start Num: 7

Candidate Starts for Pio\_31:

(Start: 7 @10022 has 167 MA's), (9, 10043), (19, 10160), (20, 10184),

Gene: Pivoine\_28 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for Pivoine\_28:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: Pleione\_30 Start: 9173, Stop: 9373, Start Num: 7

Candidate Starts for Pleione\_30:

(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: PurduePete\_27 Start: 8890, Stop: 9090, Start Num: 7

Candidate Starts for PurduePete\_27:

(Start: 7 @8890 has 167 MA's), (9, 8911), (19, 9028), (20, 9052),

Gene: QBert\_26 Start: 9340, Stop: 9540, Start Num: 7

Candidate Starts for QBert\_26:

(Start: 7 @9340 has 167 MA's), (12, 9376), (19, 9478), (20, 9502),

Gene: Quasimodo\_28 Start: 9588, Stop: 9788, Start Num: 7

Candidate Starts for Quasimodo\_28:

(Start: 7 @9588 has 167 MA's), (19, 9726), (20, 9750),

Gene: Rabinovish\_27 Start: 9628, Stop: 9828, Start Num: 7

Candidate Starts for Rabinovish\_27:

(Start: 7 @9628 has 167 MA's), (12, 9664), (19, 9766), (20, 9790),

Gene: Rahel\_28 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for Rahel\_28:

(Start: 7 @8624 has 167 MA's), (9, 8645), (19, 8762), (20, 8786),

Gene: Reprobate\_52 Start: 48238, Stop: 48074, Start Num: 11

Candidate Starts for Reprobate\_52:

(Start: 8 @48250 has 2 MA's), (Start: 11 @48238 has 9 MA's), (15, 48172), (16, 48151), (17, 48142), (20, 48106),

Gene: Rich\_53 Start: 49684, Stop: 49508, Start Num: 8

Candidate Starts for Rich\_53:

(Start: 8 @49684 has 2 MA's), (Start: 11 @49672 has 9 MA's), (15, 49606), (17, 49576), (20, 49540),

Gene: Rizal\_26 Start: 8090, Stop: 8290, Start Num: 7

Candidate Starts for Rizal\_26:

(Start: 7 @8090 has 167 MA's), (9, 8111), (19, 8228), (20, 8252),

Gene: RoMag\_23 Start: 8425, Stop: 8625, Start Num: 7

Candidate Starts for RoMag\_23:

(Start: 7 @8425 has 167 MA's), (12, 8461), (19, 8563), (20, 8587),

Gene: Ronan\_23 Start: 6736, Stop: 6936, Start Num: 7

Candidate Starts for Ronan\_23:

(Start: 7 @6736 has 167 MA's), (9, 6757), (19, 6874), (20, 6898),

Gene: Roots515\_28 Start: 9172, Stop: 9372, Start Num: 7

Candidate Starts for Roots515\_28:

(Start: 7 @9172 has 167 MA's), (9, 9193), (19, 9310), (20, 9334),

Gene: Salacia\_30 Start: 9173, Stop: 9373, Start Num: 7

Candidate Starts for Salacia\_30:

(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Sauce\_29 Start: 9303, Stop: 9503, Start Num: 7

Candidate Starts for Sauce\_29:

(Start: 7 @9303 has 167 MA's), (12, 9339), (19, 9441), (20, 9465),

Gene: ScottMcG\_28 Start: 9483, Stop: 9683, Start Num: 7

Candidate Starts for ScottMcG\_28:

(Start: 7 @9483 has 167 MA's), (12, 9519), (19, 9621), (20, 9645),

Gene: Sebata\_28 Start: 9526, Stop: 9726, Start Num: 7

Candidate Starts for Sebata\_28:

(Start: 7 @9526 has 167 MA's), (12, 9562), (19, 9664), (20, 9688),

Gene: Serendipitous\_52 Start: 47955, Stop: 47791, Start Num: 11

Candidate Starts for Serendipitous\_52:

(Start: 8 @47967 has 2 MA's), (Start: 11 @47955 has 9 MA's), (15, 47889), (18, 47856), (20, 47823),

Gene: Shaqnato\_24 Start: 7750, Stop: 7950, Start Num: 7

Candidate Starts for Shaqnato\_24:

(Start: 7 @7750 has 167 MA's), (12, 7786), (19, 7888), (20, 7912),

Gene: Shelob\_30 Start: 10058, Stop: 10258, Start Num: 7

Candidate Starts for Shelob\_30:

(Start: 7 @10058 has 167 MA's), (12, 10094), (19, 10196), (20, 10220),

Gene: ShiaLabeouf\_28 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for ShiaLabeouf\_28:

(Start: 7 @8624 has 167 MA's), (9, 8645), (19, 8762), (20, 8786),

Gene: Shifa\_25 Start: 8809, Stop: 9009, Start Num: 7

Candidate Starts for Shifa\_25:

(Start: 7 @8809 has 167 MA's), (12, 8845), (19, 8947), (20, 8971),

Gene: Shnickers\_28 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for Shnickers\_28:

(Start: 7 @8624 has 167 MA's), (12, 8660), (19, 8762), (20, 8786),

Gene: Shrimp\_28 Start: 9177, Stop: 9377, Start Num: 7

Candidate Starts for Shrimp\_28:

(Start: 7 @9177 has 167 MA's), (9, 9198), (19, 9315), (20, 9339),

Gene: SilverDipper\_29 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for SilverDipper\_29:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: SirJeffery\_52 Start: 48115, Stop: 47951, Start Num: 11

Candidate Starts for SirJeffery\_52:

(Start: 11 @48115 has 9 MA's), (17, 48019), (20, 47983),

Gene: SmallFry\_28 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for SmallFry\_28:

(Start: 7 @8624 has 167 MA's), (9, 8645), (19, 8762), (20, 8786),

Gene: Spec\_26 Start: 8630, Stop: 8830, Start Num: 7

Candidate Starts for Spec\_26:

(Start: 7 @8630 has 167 MA's), (12, 8666), (19, 8768), (20, 8792),

Gene: Specks\_33 Start: 10462, Stop: 10662, Start Num: 7

Candidate Starts for Specks\_33:

(Start: 7 @10462 has 167 MA's), (9, 10483), (19, 10600), (20, 10624),

Gene: Sprinklers\_28 Start: 8665, Stop: 8865, Start Num: 7

Candidate Starts for Sprinklers\_28:

(Start: 7 @8665 has 167 MA's), (12, 8701), (19, 8803), (20, 8827),

Gene: Spud\_30 Start: 10022, Stop: 10222, Start Num: 7

Candidate Starts for Spud\_30:

(Start: 7 @10022 has 167 MA's), (9, 10043), (19, 10160), (20, 10184),

Gene: SrishMeg2525\_27 Start: 8890, Stop: 9090, Start Num: 7

Candidate Starts for SrishMeg2525\_27:

(Start: 7 @8890 has 167 MA's), (9, 8911), (19, 9028), (20, 9052),

Gene: StephanieG\_28 Start: 9356, Stop: 9556, Start Num: 7

Candidate Starts for StephanieG\_28:

(Start: 7 @9356 has 167 MA's), (12, 9392), (19, 9494), (20, 9518),

Gene: StinkyVeggy\_53 Start: 48252, Stop: 48088, Start Num: 11

Candidate Starts for StinkyVeggy\_53:

(Start: 8 @48264 has 2 MA's), (Start: 11 @48252 has 9 MA's), (17, 48156), (20, 48120),

Gene: Stubby\_26 Start: 8436, Stop: 8636, Start Num: 7

Candidate Starts for Stubby\_26:

(Start: 7 @8436 has 167 MA's), (12, 8472), (19, 8574), (20, 8598),

Gene: StubbySaigey\_27 Start: 7816, Stop: 8016, Start Num: 7

Candidate Starts for StubbySaigey\_27:

(Start: 7 @7816 has 167 MA's), (12, 7852), (19, 7954), (20, 7978),

Gene: Suigeneris\_54 Start: 48395, Stop: 48231, Start Num: 11

Candidate Starts for Suigeneris\_54:

(Start: 11 @48395 has 9 MA's), (17, 48299), (20, 48263),

Gene: Teardrop\_27 Start: 8089, Stop: 8289, Start Num: 7

Candidate Starts for Teardrop\_27:

(Start: 7 @8089 has 167 MA's), (9, 8110), (19, 8227), (20, 8251),

Gene: TinyTim\_28 Start: 9173, Stop: 9373, Start Num: 7

Candidate Starts for TinyTim\_28:

(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: Tonenili\_32 Start: 10275, Stop: 10475, Start Num: 7

Candidate Starts for Tonenili\_32:

(Start: 7 @10275 has 167 MA's), (19, 10413), (20, 10437),

Gene: Tortoise16\_27 Start: 8624, Stop: 8824, Start Num: 7

Candidate Starts for Tortoise16\_27:

(Start: 7 @8624 has 167 MA's), (9, 8645), (19, 8762), (20, 8786),

Gene: Trinitium\_27 Start: 8065, Stop: 8265, Start Num: 7

Candidate Starts for Trinitium\_27:

(Start: 7 @8065 has 167 MA's), (12, 8101), (19, 8203), (20, 8227),

Gene: Turret\_26 Start: 7804, Stop: 8004, Start Num: 7

Candidate Starts for Turret\_26:

(Start: 7 @7804 has 167 MA's), (12, 7840), (19, 7942), (20, 7966),

Gene: Tyke\_30 Start: 10036, Stop: 10236, Start Num: 7

Candidate Starts for Tyke\_30:

(Start: 7 @10036 has 167 MA's), (9, 10057), (19, 10174), (20, 10198),

Gene: ValleyTerrace\_28 Start: 8628, Stop: 8828, Start Num: 7

Candidate Starts for ValleyTerrace\_28:

(Start: 7 @8628 has 167 MA's), (19, 8766), (20, 8790),

Gene: Wally\_27 Start: 8051, Stop: 8251, Start Num: 7

Candidate Starts for Wally\_27:

(Start: 7 @8051 has 167 MA's), (9, 8072), (19, 8189), (20, 8213),

Gene: Willis\_28 Start: 9068, Stop: 9268, Start Num: 7

Candidate Starts for Willis\_28:

(Start: 7 @9068 has 167 MA's), (9, 9089), (19, 9206), (20, 9230),

Gene: Yassified\_25 Start: 7828, Stop: 8028, Start Num: 7  
Candidate Starts for Yassified\_25:  
(Start: 7 @7828 has 167 MA's), (12, 7864), (19, 7966), (20, 7990),

Gene: YemiJoy2021\_29 Start: 9173, Stop: 9373, Start Num: 7  
Candidate Starts for YemiJoy2021\_29:  
(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),

Gene: YoungMoneyMata\_28 Start: 8379, Stop: 8579, Start Num: 7  
Candidate Starts for YoungMoneyMata\_28:  
(Start: 7 @8379 has 167 MA's), (19, 8517), (20, 8541),

Gene: Yucca\_28 Start: 9095, Stop: 9295, Start Num: 7  
Candidate Starts for Yucca\_28:  
(Start: 7 @9095 has 167 MA's), (9, 9116), (19, 9233), (20, 9257),

Gene: Zalkecks\_30 Start: 9177, Stop: 9377, Start Num: 7  
Candidate Starts for Zalkecks\_30:  
(Start: 7 @9177 has 167 MA's), (9, 9198), (19, 9315), (20, 9339),

Gene: Zeenon\_30 Start: 9165, Stop: 9365, Start Num: 7  
Candidate Starts for Zeenon\_30:  
(Start: 7 @9165 has 167 MA's), (9, 9186), (19, 9303), (20, 9327),

Gene: Zenteno07\_57 Start: 47237, Stop: 47064, Start Num: 11  
Candidate Starts for Zenteno07\_57:  
(1, 47972), (2, 47846), (3, 47804), (5, 47405), (Start: 11 @47237 has 9 MA's), (13, 47213), (19, 47129), (20, 47105), (21, 47099),

Gene: ZygoTaiga\_28 Start: 9173, Stop: 9373, Start Num: 7  
Candidate Starts for ZygoTaiga\_28:  
(Start: 7 @9173 has 167 MA's), (9, 9194), (19, 9311), (20, 9335),