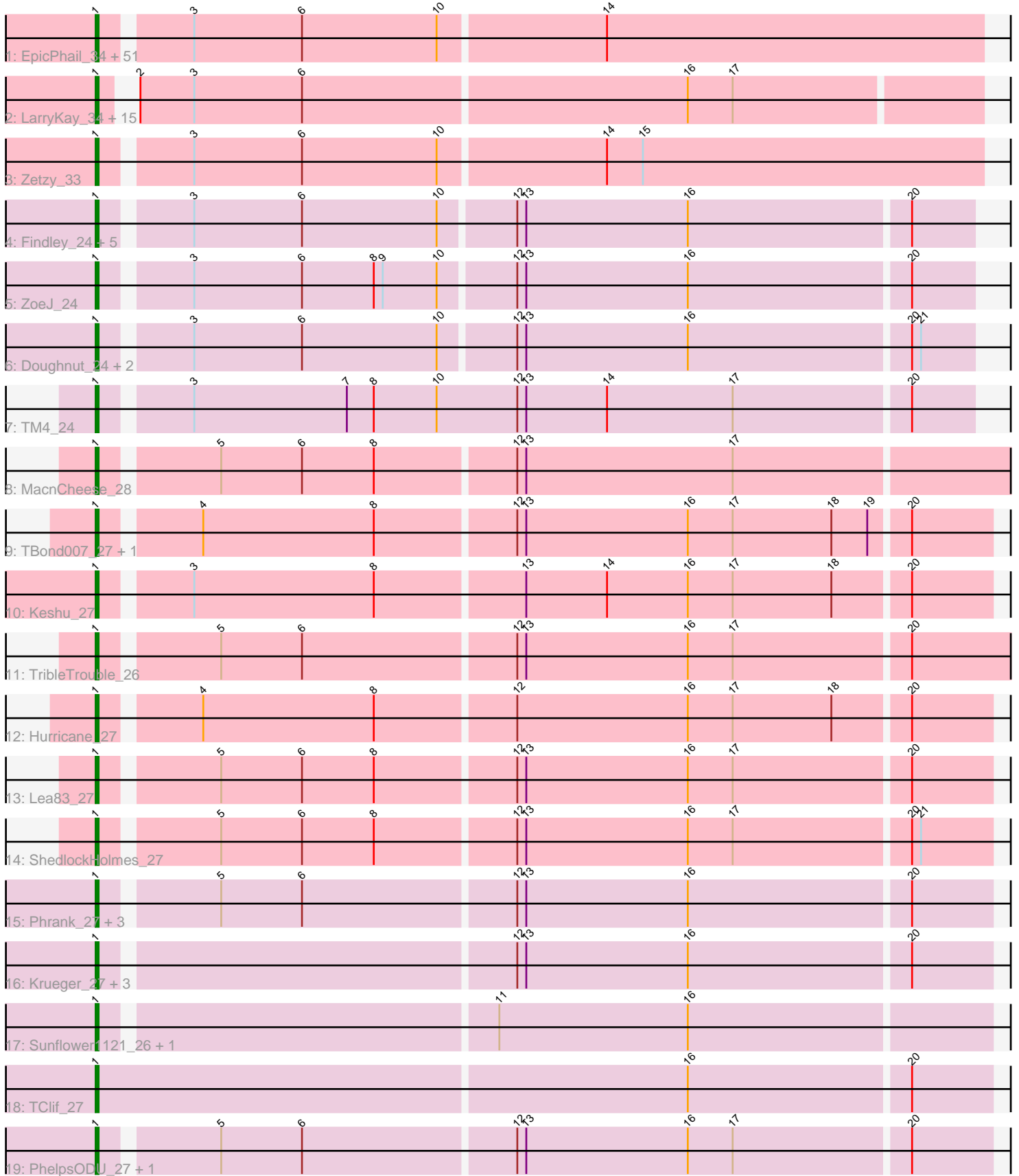


Pham 311425



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 311425 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311425 has 101 members, 5 are drafts.

Phages represented in each track:

- Track 1 : EpicPhail\_34, Vix\_34, Microwolf\_34, Taurus\_34, Grub\_34, Dieselweasel\_34, Watson\_34, LBerry\_34, StepMih\_34, PGHhamlin\_36, MuchMore\_36, Croquant\_35, Iowa\_34, PotatoSplit\_35, Bigflo\_34, Montavir\_33, Malinsilva\_36, Aglet\_34, Wooldri\_36, MarQuardt\_34, DaHudson\_34, Anubis\_36, Colbster\_34, Phoebe\_34, P28Green\_34, Grum1\_34, AugsMagnumOpus\_36, Gwennie\_33, Sabia\_34, JenCasNa\_34, GingkoMaracino\_34, SoYo\_34, Snickers\_34, Mainiac\_34, Pembroke\_34, Ollie\_34, BreSam8\_34, Cullens\_34, JHC117\_34, Farber\_34, Beauxregard13\_34, MoneyMay\_34, GtownJaz\_34, Marie\_34, Stagni\_34, Sabinator\_34, MadMarie\_34, Fernando\_34, Hercules11\_34, LugYA\_36, Lilith\_34, Penny1\_34
- Track 2 : LarryKay\_34, TinyPebbles\_34, Misomonster\_36, KADY\_35, Phoxy\_34, Tiffany\_34, Rummer\_34, Spike509\_34, Daishi\_33, Methuselah\_33, Soshari\_36, BuzzBuzz\_33, Grif\_34, HashRod\_35, Louie6\_34, AgronaGT15\_34
- Track 3 : Zetzy\_33
- Track 4 : Findley\_24, Strobilo\_24, DismalStressor\_24, DismalFunk\_24, Marcoliusprime\_24, Milly\_24
- Track 5 : ZoeJ\_24
- Track 6 : Doughnut\_24, Mufasa\_24, BoostSeason\_24
- Track 7 : TM4\_24
- Track 8 : MacnCheese\_28
- Track 9 : TBond007\_27, Pixie\_27
- Track 10 : Keshu\_27
- Track 11 : TribbleTrouble\_26
- Track 12 : Hurricane\_27
- Track 13 : Lea83\_27
- Track 14 : ShedlockHolmes\_27
- Track 15 : Phrank\_27, Bryler\_27, Tierra\_27, Cain\_27
- Track 16 : Krueger\_27, Syra333\_27, Tigress9\_27, Ximenita\_28
- Track 17 : Sunflower1121\_26, Shadow1\_26
- Track 18 : TClif\_27
- Track 19 : PhelpsODU\_27, Unicorn\_27

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

The start number called the most often in the published annotations is 1, it was called in 96 of the 96 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aglet\_34, AgronaGT15\_34, Anubis\_36, AugsMagnumOpus\_36, Beauxregard13\_34, Bigflo\_34, BoostSeason\_24, BreSam8\_34, Bryler\_27, BuzzBuzz\_33, Cain\_27, Colbster\_34, Croquant\_35, Cullens\_34, DaHudson\_34, Daishi\_33, Dieselweasel\_34, DismalFunk\_24, DismalStressor\_24, Doughnut\_24, EpicPhail\_34, Farber\_34, Fernando\_34, Findley\_24, GingkoMaracino\_34, Grif\_34, Grub\_34, Grum1\_34, GtownJaz\_34, Gwennie\_33, HashRod\_35, Hercules11\_34, Hurricane\_27, JHC117\_34, JenCasNa\_34, KADY\_35, Keshu\_27, Krueger\_27, LBerry\_34, LarryKay\_34, Lea83\_27, Lilith\_34, Louie6\_34, Lowa\_34, LugYA\_36, MacnCheese\_28, MadMarie\_34, Mainiac\_34, Malinsilva\_36, MarQuardt\_34, Marcoliusprime\_24, Marie\_34, Methuselah\_33, Microwolf\_34, Milly\_24, Misomonster\_36, MoneyMay\_34, Montavir\_33, MuchMore\_36, Mufasa\_24, Ollie\_34, P28Green\_34, PGHhamlin\_36, Pembroke\_34, Penny1\_34, PhelpsODU\_27, Phoebe\_34, Phoxy\_34, Phrank\_27, Pixie\_27, PotatoSplit\_35, Rummer\_34, Sabia\_34, Sabinator\_34, Shadow1\_26, ShedlockHolmes\_27, Snickers\_34, SoYo\_34, Soshari\_36, Spike509\_34, Stagni\_34, StepMih\_34, Strobilo\_24, Sunflower1121\_26, Syra333\_27, TBond007\_27, TClif\_27, TM4\_24, Taurus\_34, Tierra\_27, Tiffany\_34, Tigress9\_27, TinyPebbles\_34, TripleTrouble\_26, Unicorn\_27, Vix\_34, Watson\_34, Wooldri\_36, Ximenita\_28, Zetzy\_33, ZoeJ\_24,

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

- 

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

- 

### Summary by start number:

Start 1:

- Found in 101 of 101 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 96 of 96
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aglet\_34 (A3), AgronaGT15\_34 (A3), Anubis\_36 (A3), AugsMagnumOpus\_36 (A3), Beauxregard13\_34 (A3), Bigflo\_34 (A3), BoostSeason\_24 (K2), BreSam8\_34 (A3), Bryler\_27 (K6), BuzzBuzz\_33 (A3), Cain\_27 (K6), Colbster\_34 (A3), Croquant\_35 (A3), Cullens\_34 (A3), DaHudson\_34 (A3), Daishi\_33 (A3), Dieselweasel\_34 (A3), DismalFunk\_24 (K2), DismalStressor\_24 (K2), Doughnut\_24 (K2), EpicPhail\_34 (A3), Farber\_34 (A3), Fernando\_34 (A3), Findley\_24 (K2), GingkoMaracino\_34 (A3), Grif\_34 (A3), Grub\_34 (A3), Grum1\_34 (A3), GtownJaz\_34 (A3), Gwennie\_33 (A3), HashRod\_35 (A3), Hercules11\_34 (A3), Hurricane\_27 (K3), JHC117\_34 (A3), JenCasNa\_34 (A3), KADY\_35 (A3), Keshu\_27 (K3), Krueger\_27 (K6), LBerry\_34 (A3), LarryKay\_34 (A3), Lea83\_27 (K3), Lilith\_34 (A3), Louie6\_34 (A3), Lowa\_34 (A3), LugYA\_36 (A3), MacnCheese\_28 (K3), MadMarie\_34 (A3), Mainiac\_34 (A3), Malinsilva\_36 (A3), MarQuardt\_34 (A3), Marcoliusprime\_24 (K2), Marie\_34 (A3), Methuselah\_33 (A3), Microwolf\_34 (A3), Milly\_24 (K2), Misomonster\_36 (A3), MoneyMay\_34 (A3), Montavir\_33 (A3), MuchMore\_36 (A3), Mufasa\_24 (K2), Ollie\_34 (A3), P28Green\_34 (A3), PGHhamlin\_36 (A3), Pembroke\_34 (A3), Penny1\_34 (A3), PhelpsODU\_27 (K6), Phoebe\_34 (A3), Phoxy\_34 (A3), Phrank\_27 (K6), Pixie\_27 (K3), PotatoSplit\_35 (A3), Rummer\_34 (A3), Sabia\_34 (A3), Sabinator\_34 (A3), Shadow1\_26 (K6),

ShedlockHolmes\_27 (K3), Snickers\_34 (A3), SoYo\_34 (A3), Soshari\_36 (A3), Spike509\_34 (A3), Stagni\_34 (A3), StepMih\_34 (A3), Strobilo\_24 (K2), Sunflower1121\_26 (K6), Syra333\_27 (K6), TBond007\_27 (K3), TClif\_27 (K6), TM4\_24 (K2), Taurus\_34 (A3), Tierra\_27 (K6), Tiffany\_34 (A3), Tigress9\_27 (K6), TinyPebbles\_34 (A3), TripleTrouble\_26 (K3), Unicorn\_27 (K6), Vix\_34 (A3), Watson\_34 (A3), Wooldri\_36 (A3), Ximenita\_28 (K6), Zetzy\_33 (A3), ZoeJ\_24 (K2),

### **Summary by clusters:**

There are 4 clusters represented in this pham: K3, K2, A3, K6,

Info for manual annotations of cluster A3:

- Start number 1 was manually annotated 64 times for cluster A3.

Info for manual annotations of cluster K2:

- Start number 1 was manually annotated 11 times for cluster K2.

Info for manual annotations of cluster K3:

- Start number 1 was manually annotated 8 times for cluster K3.

Info for manual annotations of cluster K6:

- Start number 1 was manually annotated 13 times for cluster K6.

### **Gene Information:**

Gene: Aglet\_34 Start: 25035, Stop: 25322, Start Num: 1

Candidate Starts for Aglet\_34:

(Start: 1 @25035 has 96 MA's), (3, 25062), (6, 25098), (10, 25143), (14, 25197),

Gene: AgronaGT15\_34 Start: 24936, Stop: 25217, Start Num: 1

Candidate Starts for AgronaGT15\_34:

(Start: 1 @24936 has 96 MA's), (2, 24942), (3, 24960), (6, 24996), (16, 25122), (17, 25137),

Gene: Anubis\_36 Start: 24920, Stop: 25207, Start Num: 1

Candidate Starts for Anubis\_36:

(Start: 1 @24920 has 96 MA's), (3, 24947), (6, 24983), (10, 25028), (14, 25082),

Gene: AugsMagnumOpus\_36 Start: 25026, Stop: 25313, Start Num: 1

Candidate Starts for AugsMagnumOpus\_36:

(Start: 1 @25026 has 96 MA's), (3, 25053), (6, 25089), (10, 25134), (14, 25188),

Gene: Beauxregard13\_34 Start: 25034, Stop: 25321, Start Num: 1

Candidate Starts for Beauxregard13\_34:

(Start: 1 @25034 has 96 MA's), (3, 25061), (6, 25097), (10, 25142), (14, 25196),

Gene: Bigflo\_34 Start: 25033, Stop: 25320, Start Num: 1

Candidate Starts for Bigflo\_34:

(Start: 1 @25033 has 96 MA's), (3, 25060), (6, 25096), (10, 25141), (14, 25195),

Gene: BoostSeason\_24 Start: 21027, Stop: 21308, Start Num: 1

Candidate Starts for BoostSeason\_24:

(Start: 1 @21027 has 96 MA's), (3, 21054), (6, 21090), (10, 21135), (12, 21159), (13, 21162), (16, 21216), (20, 21288), (21, 21291),

Gene: BreSam8\_34 Start: 25027, Stop: 25314, Start Num: 1

Candidate Starts for BreSam8\_34:

(Start: 1 @25027 has 96 MA's), (3, 25054), (6, 25090), (10, 25135), (14, 25189),

Gene: Bryler\_27 Start: 22407, Stop: 22694, Start Num: 1

Candidate Starts for Bryler\_27:

(Start: 1 @22407 has 96 MA's), (5, 22443), (6, 22470), (12, 22539), (13, 22542), (16, 22596), (20, 22668),

Gene: BuzzBuzz\_33 Start: 25115, Stop: 25396, Start Num: 1

Candidate Starts for BuzzBuzz\_33:

(Start: 1 @25115 has 96 MA's), (2, 25121), (3, 25139), (6, 25175), (16, 25301), (17, 25316),

Gene: Cain\_27 Start: 22395, Stop: 22682, Start Num: 1

Candidate Starts for Cain\_27:

(Start: 1 @22395 has 96 MA's), (5, 22431), (6, 22458), (12, 22527), (13, 22530), (16, 22584), (20, 22656),

Gene: Colbster\_34 Start: 25034, Stop: 25321, Start Num: 1

Candidate Starts for Colbster\_34:

(Start: 1 @25034 has 96 MA's), (3, 25061), (6, 25097), (10, 25142), (14, 25196),

Gene: Croquant\_35 Start: 25032, Stop: 25319, Start Num: 1

Candidate Starts for Croquant\_35:

(Start: 1 @25032 has 96 MA's), (3, 25059), (6, 25095), (10, 25140), (14, 25194),

Gene: Cullens\_34 Start: 25033, Stop: 25320, Start Num: 1

Candidate Starts for Cullens\_34:

(Start: 1 @25033 has 96 MA's), (3, 25060), (6, 25096), (10, 25141), (14, 25195),

Gene: DaHudson\_34 Start: 25026, Stop: 25313, Start Num: 1

Candidate Starts for DaHudson\_34:

(Start: 1 @25026 has 96 MA's), (3, 25053), (6, 25089), (10, 25134), (14, 25188),

Gene: Daishi\_33 Start: 23956, Stop: 24237, Start Num: 1

Candidate Starts for Daishi\_33:

(Start: 1 @23956 has 96 MA's), (2, 23962), (3, 23980), (6, 24016), (16, 24142), (17, 24157),

Gene: Dieselweasel\_34 Start: 25035, Stop: 25322, Start Num: 1

Candidate Starts for Dieselweasel\_34:

(Start: 1 @25035 has 96 MA's), (3, 25062), (6, 25098), (10, 25143), (14, 25197),

Gene: DismalFunk\_24 Start: 21001, Stop: 21282, Start Num: 1

Candidate Starts for DismalFunk\_24:

(Start: 1 @21001 has 96 MA's), (3, 21028), (6, 21064), (10, 21109), (12, 21133), (13, 21136), (16, 21190), (20, 21262),

Gene: DismalStressor\_24 Start: 21001, Stop: 21282, Start Num: 1

Candidate Starts for DismalStressor\_24:

(Start: 1 @21001 has 96 MA's), (3, 21028), (6, 21064), (10, 21109), (12, 21133), (13, 21136), (16, 21190), (20, 21262),

Gene: Doughnut\_24 Start: 21021, Stop: 21302, Start Num: 1

Candidate Starts for Doughnut\_24:

(Start: 1 @21021 has 96 MA's), (3, 21048), (6, 21084), (10, 21129), (12, 21153), (13, 21156), (16, 21210), (20, 21282), (21, 21285),

Gene: EpicPhail\_34 Start: 25034, Stop: 25321, Start Num: 1

Candidate Starts for EpicPhail\_34:

(Start: 1 @25034 has 96 MA's), (3, 25061), (6, 25097), (10, 25142), (14, 25196),

Gene: Farber\_34 Start: 25027, Stop: 25314, Start Num: 1

Candidate Starts for Farber\_34:

(Start: 1 @25027 has 96 MA's), (3, 25054), (6, 25090), (10, 25135), (14, 25189),

Gene: Fernando\_34 Start: 25033, Stop: 25320, Start Num: 1

Candidate Starts for Fernando\_34:

(Start: 1 @25033 has 96 MA's), (3, 25060), (6, 25096), (10, 25141), (14, 25195),

Gene: Findley\_24 Start: 21001, Stop: 21282, Start Num: 1

Candidate Starts for Findley\_24:

(Start: 1 @21001 has 96 MA's), (3, 21028), (6, 21064), (10, 21109), (12, 21133), (13, 21136), (16, 21190), (20, 21262),

Gene: GingkoMaracino\_34 Start: 24920, Stop: 25207, Start Num: 1

Candidate Starts for GingkoMaracino\_34:

(Start: 1 @24920 has 96 MA's), (3, 24947), (6, 24983), (10, 25028), (14, 25082),

Gene: Grif\_34 Start: 25111, Stop: 25395, Start Num: 1

Candidate Starts for Grif\_34:

(Start: 1 @25111 has 96 MA's), (2, 25120), (3, 25138), (6, 25174), (16, 25300), (17, 25315),

Gene: Grub\_34 Start: 25026, Stop: 25313, Start Num: 1

Candidate Starts for Grub\_34:

(Start: 1 @25026 has 96 MA's), (3, 25053), (6, 25089), (10, 25134), (14, 25188),

Gene: Grum1\_34 Start: 25033, Stop: 25320, Start Num: 1

Candidate Starts for Grum1\_34:

(Start: 1 @25033 has 96 MA's), (3, 25060), (6, 25096), (10, 25141), (14, 25195),

Gene: GtownJaz\_34 Start: 25035, Stop: 25322, Start Num: 1

Candidate Starts for GtownJaz\_34:

(Start: 1 @25035 has 96 MA's), (3, 25062), (6, 25098), (10, 25143), (14, 25197),

Gene: Gwennie\_33 Start: 25034, Stop: 25321, Start Num: 1

Candidate Starts for Gwennie\_33:

(Start: 1 @25034 has 96 MA's), (3, 25061), (6, 25097), (10, 25142), (14, 25196),

Gene: HashRod\_35 Start: 25115, Stop: 25396, Start Num: 1

Candidate Starts for HashRod\_35:

(Start: 1 @25115 has 96 MA's), (2, 25121), (3, 25139), (6, 25175), (16, 25301), (17, 25316),

Gene: Hercules11\_34 Start: 25041, Stop: 25328, Start Num: 1  
Candidate Starts for Hercules11\_34:  
(Start: 1 @25041 has 96 MA's), (3, 25068), (6, 25104), (10, 25149), (14, 25203),

Gene: Hurricane\_27 Start: 23663, Stop: 23950, Start Num: 1  
Candidate Starts for Hurricane\_27:  
(Start: 1 @23663 has 96 MA's), (4, 23693), (8, 23750), (12, 23795), (16, 23852), (17, 23867), (18, 23900), (20, 23924),

Gene: JHC117\_34 Start: 25032, Stop: 25319, Start Num: 1  
Candidate Starts for JHC117\_34:  
(Start: 1 @25032 has 96 MA's), (3, 25059), (6, 25095), (10, 25140), (14, 25194),

Gene: JenCasNa\_34 Start: 25033, Stop: 25320, Start Num: 1  
Candidate Starts for JenCasNa\_34:  
(Start: 1 @25033 has 96 MA's), (3, 25060), (6, 25096), (10, 25141), (14, 25195),

Gene: KADY\_35 Start: 25115, Stop: 25396, Start Num: 1  
Candidate Starts for KADY\_35:  
(Start: 1 @25115 has 96 MA's), (2, 25121), (3, 25139), (6, 25175), (16, 25301), (17, 25316),

Gene: Keshu\_27 Start: 23655, Stop: 23942, Start Num: 1  
Candidate Starts for Keshu\_27:  
(Start: 1 @23655 has 96 MA's), (3, 23682), (8, 23742), (13, 23790), (14, 23817), (16, 23844), (17, 23859), (18, 23892), (20, 23916),

Gene: Krueger\_27 Start: 22351, Stop: 22638, Start Num: 1  
Candidate Starts for Krueger\_27:  
(Start: 1 @22351 has 96 MA's), (12, 22483), (13, 22486), (16, 22540), (20, 22612),

Gene: LBerry\_34 Start: 25034, Stop: 25321, Start Num: 1  
Candidate Starts for LBerry\_34:  
(Start: 1 @25034 has 96 MA's), (3, 25061), (6, 25097), (10, 25142), (14, 25196),

Gene: LarryKay\_34 Start: 25117, Stop: 25398, Start Num: 1  
Candidate Starts for LarryKay\_34:  
(Start: 1 @25117 has 96 MA's), (2, 25123), (3, 25141), (6, 25177), (16, 25303), (17, 25318),

Gene: Lea83\_27 Start: 23643, Stop: 23930, Start Num: 1  
Candidate Starts for Lea83\_27:  
(Start: 1 @23643 has 96 MA's), (5, 23679), (6, 23706), (8, 23730), (12, 23775), (13, 23778), (16, 23832), (17, 23847), (20, 23904),

Gene: Lilith\_34 Start: 25027, Stop: 25314, Start Num: 1  
Candidate Starts for Lilith\_34:  
(Start: 1 @25027 has 96 MA's), (3, 25054), (6, 25090), (10, 25135), (14, 25189),

Gene: Louie6\_34 Start: 25115, Stop: 25396, Start Num: 1  
Candidate Starts for Louie6\_34:  
(Start: 1 @25115 has 96 MA's), (2, 25121), (3, 25139), (6, 25175), (16, 25301), (17, 25316),

Gene: Lowa\_34 Start: 25026, Stop: 25313, Start Num: 1  
Candidate Starts for Lowa\_34:

(Start: 1 @25026 has 96 MA's), (3, 25053), (6, 25089), (10, 25134), (14, 25188),

Gene: LugYA\_36 Start: 25034, Stop: 25321, Start Num: 1

Candidate Starts for LugYA\_36:

(Start: 1 @25034 has 96 MA's), (3, 25061), (6, 25097), (10, 25142), (14, 25196),

Gene: MacnCheese\_28 Start: 24002, Stop: 24319, Start Num: 1

Candidate Starts for MacnCheese\_28:

(Start: 1 @24002 has 96 MA's), (5, 24038), (6, 24065), (8, 24089), (12, 24134), (13, 24137), (17, 24206),

Gene: MadMarie\_34 Start: 25036, Stop: 25323, Start Num: 1

Candidate Starts for MadMarie\_34:

(Start: 1 @25036 has 96 MA's), (3, 25063), (6, 25099), (10, 25144), (14, 25198),

Gene: Mainiac\_34 Start: 25027, Stop: 25314, Start Num: 1

Candidate Starts for Mainiac\_34:

(Start: 1 @25027 has 96 MA's), (3, 25054), (6, 25090), (10, 25135), (14, 25189),

Gene: Malinsilva\_36 Start: 25026, Stop: 25313, Start Num: 1

Candidate Starts for Malinsilva\_36:

(Start: 1 @25026 has 96 MA's), (3, 25053), (6, 25089), (10, 25134), (14, 25188),

Gene: MarQuardt\_34 Start: 25035, Stop: 25322, Start Num: 1

Candidate Starts for MarQuardt\_34:

(Start: 1 @25035 has 96 MA's), (3, 25062), (6, 25098), (10, 25143), (14, 25197),

Gene: Marcoliusprime\_24 Start: 21001, Stop: 21282, Start Num: 1

Candidate Starts for Marcoliusprime\_24:

(Start: 1 @21001 has 96 MA's), (3, 21028), (6, 21064), (10, 21109), (12, 21133), (13, 21136), (16, 21190), (20, 21262),

Gene: Marie\_34 Start: 25033, Stop: 25320, Start Num: 1

Candidate Starts for Marie\_34:

(Start: 1 @25033 has 96 MA's), (3, 25060), (6, 25096), (10, 25141), (14, 25195),

Gene: Methuselah\_33 Start: 25111, Stop: 25392, Start Num: 1

Candidate Starts for Methuselah\_33:

(Start: 1 @25111 has 96 MA's), (2, 25117), (3, 25135), (6, 25171), (16, 25297), (17, 25312),

Gene: Microwolf\_34 Start: 25035, Stop: 25322, Start Num: 1

Candidate Starts for Microwolf\_34:

(Start: 1 @25035 has 96 MA's), (3, 25062), (6, 25098), (10, 25143), (14, 25197),

Gene: Milly\_24 Start: 21001, Stop: 21282, Start Num: 1

Candidate Starts for Milly\_24:

(Start: 1 @21001 has 96 MA's), (3, 21028), (6, 21064), (10, 21109), (12, 21133), (13, 21136), (16, 21190), (20, 21262),

Gene: Misomonster\_36 Start: 25114, Stop: 25395, Start Num: 1

Candidate Starts for Misomonster\_36:

(Start: 1 @25114 has 96 MA's), (2, 25120), (3, 25138), (6, 25174), (16, 25300), (17, 25315),

Gene: MoneyMay\_34 Start: 25033, Stop: 25320, Start Num: 1  
Candidate Starts for MoneyMay\_34:  
(Start: 1 @25033 has 96 MA's), (3, 25060), (6, 25096), (10, 25141), (14, 25195),

Gene: Montavir\_33 Start: 25034, Stop: 25321, Start Num: 1  
Candidate Starts for Montavir\_33:  
(Start: 1 @25034 has 96 MA's), (3, 25061), (6, 25097), (10, 25142), (14, 25196),

Gene: MuchMore\_36 Start: 25026, Stop: 25313, Start Num: 1  
Candidate Starts for MuchMore\_36:  
(Start: 1 @25026 has 96 MA's), (3, 25053), (6, 25089), (10, 25134), (14, 25188),

Gene: Mufasa\_24 Start: 21021, Stop: 21302, Start Num: 1  
Candidate Starts for Mufasa\_24:  
(Start: 1 @21021 has 96 MA's), (3, 21048), (6, 21084), (10, 21129), (12, 21153), (13, 21156), (16, 21210), (20, 21282), (21, 21285),

Gene: Ollie\_34 Start: 24904, Stop: 25191, Start Num: 1  
Candidate Starts for Ollie\_34:  
(Start: 1 @24904 has 96 MA's), (3, 24931), (6, 24967), (10, 25012), (14, 25066),

Gene: P28Green\_34 Start: 25035, Stop: 25322, Start Num: 1  
Candidate Starts for P28Green\_34:  
(Start: 1 @25035 has 96 MA's), (3, 25062), (6, 25098), (10, 25143), (14, 25197),

Gene: PGHhamlin\_36 Start: 25026, Stop: 25313, Start Num: 1  
Candidate Starts for PGHhamlin\_36:  
(Start: 1 @25026 has 96 MA's), (3, 25053), (6, 25089), (10, 25134), (14, 25188),

Gene: Pembroke\_34 Start: 25035, Stop: 25322, Start Num: 1  
Candidate Starts for Pembroke\_34:  
(Start: 1 @25035 has 96 MA's), (3, 25062), (6, 25098), (10, 25143), (14, 25197),

Gene: Penny1\_34 Start: 25034, Stop: 25321, Start Num: 1  
Candidate Starts for Penny1\_34:  
(Start: 1 @25034 has 96 MA's), (3, 25061), (6, 25097), (10, 25142), (14, 25196),

Gene: PhelpsODU\_27 Start: 22433, Stop: 22720, Start Num: 1  
Candidate Starts for PhelpsODU\_27:  
(Start: 1 @22433 has 96 MA's), (5, 22469), (6, 22496), (12, 22565), (13, 22568), (16, 22622), (17, 22637), (20, 22694),

Gene: Phoebe\_34 Start: 25032, Stop: 25319, Start Num: 1  
Candidate Starts for Phoebe\_34:  
(Start: 1 @25032 has 96 MA's), (3, 25059), (6, 25095), (10, 25140), (14, 25194),

Gene: Phoxy\_34 Start: 25112, Stop: 25393, Start Num: 1  
Candidate Starts for Phoxy\_34:  
(Start: 1 @25112 has 96 MA's), (2, 25118), (3, 25136), (6, 25172), (16, 25298), (17, 25313),

Gene: Phrank\_27 Start: 22383, Stop: 22670, Start Num: 1  
Candidate Starts for Phrank\_27:

(Start: 1 @22383 has 96 MA's), (5, 22419), (6, 22446), (12, 22515), (13, 22518), (16, 22572), (20, 22644),

Gene: Pixie\_27 Start: 23437, Stop: 23724, Start Num: 1

Candidate Starts for Pixie\_27:

(Start: 1 @23437 has 96 MA's), (4, 23467), (8, 23524), (12, 23569), (13, 23572), (16, 23626), (17, 23641), (18, 23674), (19, 23686), (20, 23698),

Gene: PotatoSplit\_35 Start: 25034, Stop: 25321, Start Num: 1

Candidate Starts for PotatoSplit\_35:

(Start: 1 @25034 has 96 MA's), (3, 25061), (6, 25097), (10, 25142), (14, 25196),

Gene: Rummer\_34 Start: 25112, Stop: 25393, Start Num: 1

Candidate Starts for Rummer\_34:

(Start: 1 @25112 has 96 MA's), (2, 25118), (3, 25136), (6, 25172), (16, 25298), (17, 25313),

Gene: Sabia\_34 Start: 25027, Stop: 25314, Start Num: 1

Candidate Starts for Sabia\_34:

(Start: 1 @25027 has 96 MA's), (3, 25054), (6, 25090), (10, 25135), (14, 25189),

Gene: Sabinator\_34 Start: 25032, Stop: 25319, Start Num: 1

Candidate Starts for Sabinator\_34:

(Start: 1 @25032 has 96 MA's), (3, 25059), (6, 25095), (10, 25140), (14, 25194),

Gene: Shadow1\_26 Start: 22256, Stop: 22543, Start Num: 1

Candidate Starts for Shadow1\_26:

(Start: 1 @22256 has 96 MA's), (11, 22382), (16, 22445),

Gene: ShedlockHolmes\_27 Start: 23643, Stop: 23930, Start Num: 1

Candidate Starts for ShedlockHolmes\_27:

(Start: 1 @23643 has 96 MA's), (5, 23679), (6, 23706), (8, 23730), (12, 23775), (13, 23778), (16, 23832), (17, 23847), (20, 23904), (21, 23907),

Gene: Snickers\_34 Start: 25008, Stop: 25295, Start Num: 1

Candidate Starts for Snickers\_34:

(Start: 1 @25008 has 96 MA's), (3, 25035), (6, 25071), (10, 25116), (14, 25170),

Gene: SoYo\_34 Start: 24945, Stop: 25232, Start Num: 1

Candidate Starts for SoYo\_34:

(Start: 1 @24945 has 96 MA's), (3, 24972), (6, 25008), (10, 25053), (14, 25107),

Gene: Soshari\_36 Start: 25111, Stop: 25392, Start Num: 1

Candidate Starts for Soshari\_36:

(Start: 1 @25111 has 96 MA's), (2, 25117), (3, 25135), (6, 25171), (16, 25297), (17, 25312),

Gene: Spike509\_34 Start: 25112, Stop: 25393, Start Num: 1

Candidate Starts for Spike509\_34:

(Start: 1 @25112 has 96 MA's), (2, 25118), (3, 25136), (6, 25172), (16, 25298), (17, 25313),

Gene: Stagni\_34 Start: 25036, Stop: 25323, Start Num: 1

Candidate Starts for Stagni\_34:

(Start: 1 @25036 has 96 MA's), (3, 25063), (6, 25099), (10, 25144), (14, 25198),

Gene: StepMih\_34 Start: 25027, Stop: 25314, Start Num: 1  
Candidate Starts for StepMih\_34:  
(Start: 1 @25027 has 96 MA's), (3, 25054), (6, 25090), (10, 25135), (14, 25189),

Gene: Strobilo\_24 Start: 21001, Stop: 21282, Start Num: 1  
Candidate Starts for Strobilo\_24:  
(Start: 1 @21001 has 96 MA's), (3, 21028), (6, 21064), (10, 21109), (12, 21133), (13, 21136), (16, 21190), (20, 21262),

Gene: Sunflower1121\_26 Start: 22268, Stop: 22555, Start Num: 1  
Candidate Starts for Sunflower1121\_26:  
(Start: 1 @22268 has 96 MA's), (11, 22394), (16, 22457),

Gene: Syra333\_27 Start: 22358, Stop: 22645, Start Num: 1  
Candidate Starts for Syra333\_27:  
(Start: 1 @22358 has 96 MA's), (12, 22490), (13, 22493), (16, 22547), (20, 22619),

Gene: TBond007\_27 Start: 23436, Stop: 23723, Start Num: 1  
Candidate Starts for TBond007\_27:  
(Start: 1 @23436 has 96 MA's), (4, 23466), (8, 23523), (12, 23568), (13, 23571), (16, 23625), (17, 23640), (18, 23673), (19, 23685), (20, 23697),

Gene: TClif\_27 Start: 22421, Stop: 22714, Start Num: 1  
Candidate Starts for TClif\_27:  
(Start: 1 @22421 has 96 MA's), (16, 22616), (20, 22688),

Gene: TM4\_24 Start: 21138, Stop: 21422, Start Num: 1  
Candidate Starts for TM4\_24:  
(Start: 1 @21138 has 96 MA's), (3, 21165), (7, 21216), (8, 21225), (10, 21246), (12, 21273), (13, 21276), (14, 21303), (17, 21345), (20, 21402),

Gene: Taurus\_34 Start: 25033, Stop: 25320, Start Num: 1  
Candidate Starts for Taurus\_34:  
(Start: 1 @25033 has 96 MA's), (3, 25060), (6, 25096), (10, 25141), (14, 25195),

Gene: Tierra\_27 Start: 23104, Stop: 23391, Start Num: 1  
Candidate Starts for Tierra\_27:  
(Start: 1 @23104 has 96 MA's), (5, 23140), (6, 23167), (12, 23236), (13, 23239), (16, 23293), (20, 23365),

Gene: Tiffany\_34 Start: 24922, Stop: 25206, Start Num: 1  
Candidate Starts for Tiffany\_34:  
(Start: 1 @24922 has 96 MA's), (2, 24931), (3, 24949), (6, 24985), (16, 25111), (17, 25126),

Gene: Tigress9\_27 Start: 22351, Stop: 22638, Start Num: 1  
Candidate Starts for Tigress9\_27:  
(Start: 1 @22351 has 96 MA's), (12, 22483), (13, 22486), (16, 22540), (20, 22612),

Gene: TinyPebbles\_34 Start: 25117, Stop: 25398, Start Num: 1  
Candidate Starts for TinyPebbles\_34:  
(Start: 1 @25117 has 96 MA's), (2, 25123), (3, 25141), (6, 25177), (16, 25303), (17, 25318),

Gene: TribelTrouble\_26 Start: 23572, Stop: 23874, Start Num: 1

Candidate Starts for TribbleTrouble\_26:

(Start: 1 @23572 has 96 MA's), (5, 23608), (6, 23635), (12, 23704), (13, 23707), (16, 23761), (17, 23776), (20, 23833),

Gene: Unicorn\_27 Start: 22433, Stop: 22720, Start Num: 1

Candidate Starts for Unicorn\_27:

(Start: 1 @22433 has 96 MA's), (5, 22469), (6, 22496), (12, 22565), (13, 22568), (16, 22622), (17, 22637), (20, 22694),

Gene: Vix\_34 Start: 25116, Stop: 25403, Start Num: 1

Candidate Starts for Vix\_34:

(Start: 1 @25116 has 96 MA's), (3, 25143), (6, 25179), (10, 25224), (14, 25278),

Gene: Watson\_34 Start: 25026, Stop: 25313, Start Num: 1

Candidate Starts for Watson\_34:

(Start: 1 @25026 has 96 MA's), (3, 25053), (6, 25089), (10, 25134), (14, 25188),

Gene: Wooldri\_36 Start: 24945, Stop: 25232, Start Num: 1

Candidate Starts for Wooldri\_36:

(Start: 1 @24945 has 96 MA's), (3, 24972), (6, 25008), (10, 25053), (14, 25107),

Gene: Ximenita\_28 Start: 22536, Stop: 22823, Start Num: 1

Candidate Starts for Ximenita\_28:

(Start: 1 @22536 has 96 MA's), (12, 22668), (13, 22671), (16, 22725), (20, 22797),

Gene: Zetzy\_33 Start: 24574, Stop: 24861, Start Num: 1

Candidate Starts for Zetzy\_33:

(Start: 1 @24574 has 96 MA's), (3, 24601), (6, 24637), (10, 24682), (14, 24736), (15, 24748),

Gene: ZoeJ\_24 Start: 20942, Stop: 21223, Start Num: 1

Candidate Starts for ZoeJ\_24:

(Start: 1 @20942 has 96 MA's), (3, 20969), (6, 21005), (8, 21029), (9, 21032), (10, 21050), (12, 21074), (13, 21077), (16, 21131), (20, 21203),