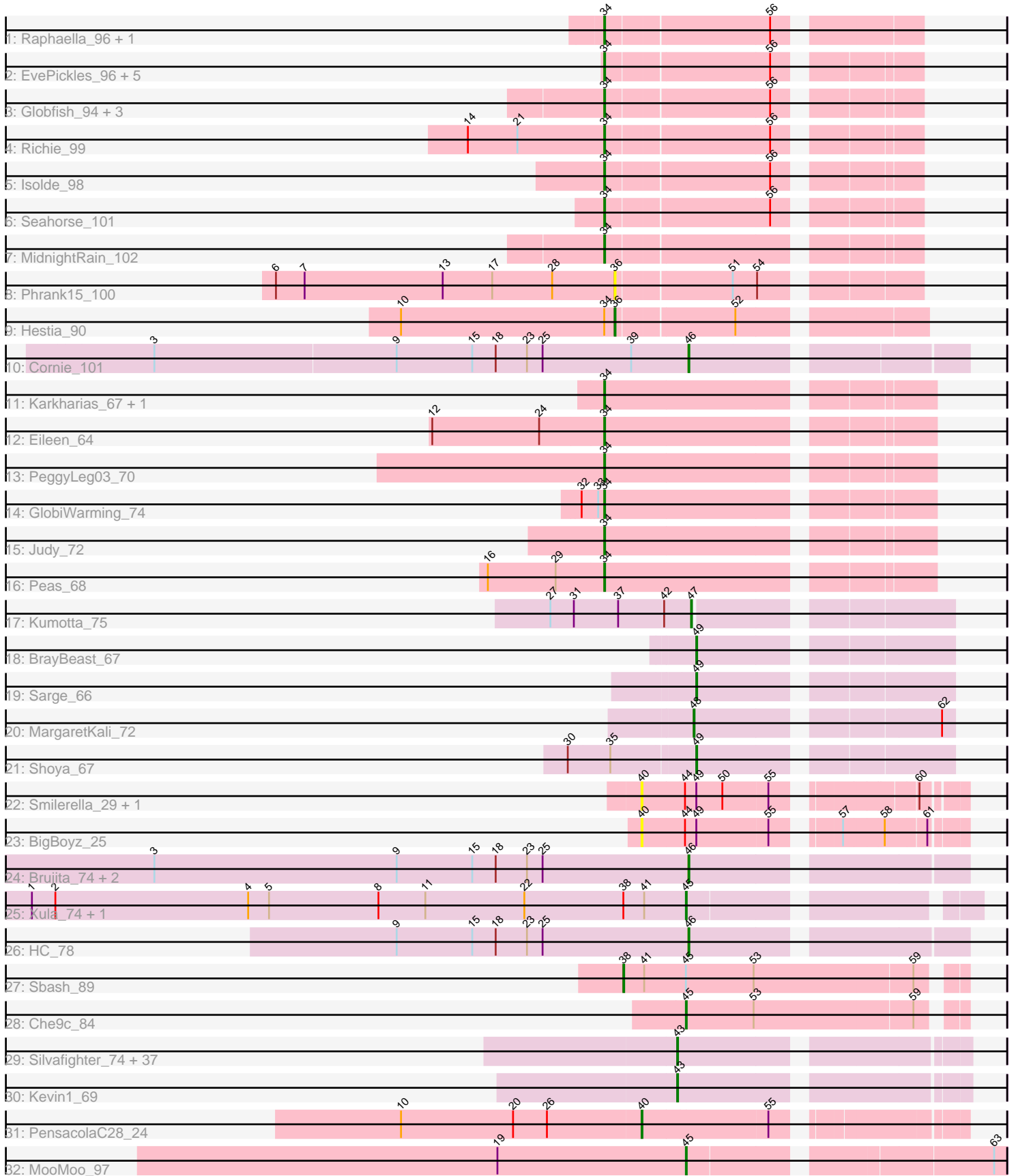


Pham 168164



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 168164 Report

This analysis was run 07/09/24 on database version 566.

Pham number 168164 has 83 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Raphaella\_96, YoungHarleezy\_95
- Track 2 : EvePickles\_96, BenchScraper\_93, Tiff81\_95, Hillester\_99, RadFad\_100, Auxilium\_93
- Track 3 : Globfish\_94, Faja\_96, Sashimi\_98, CookieBear\_94
- Track 4 : Richie\_99
- Track 5 : Isolde\_98
- Track 6 : Seahorse\_101
- Track 7 : MidnightRain\_102
- Track 8 : Phrank15\_100
- Track 9 : Hestia\_90
- Track 10 : Cornie\_101
- Track 11 : Karkharias\_67, Bridgette\_71
- Track 12 : Eileen\_64
- Track 13 : PeggyLeg03\_70
- Track 14 : GlobiWarming\_74
- Track 15 : Judy\_72
- Track 16 : Peas\_68
- Track 17 : Kumotta\_75
- Track 18 : BrayBeast\_67
- Track 19 : Sarge\_66
- Track 20 : MargaretKali\_72
- Track 21 : Shoya\_67
- Track 22 : Smilerella\_29, MoRicky\_31
- Track 23 : BigBoyz\_25
- Track 24 : Brujita\_74, Babsiella\_78, Island3\_76
- Track 25 : Xula\_74, QueenHazel\_73
- Track 26 : HC\_78
- Track 27 : Sbash\_89
- Track 28 : Che9c\_84
- Track 29 : Silvafighter\_74, Rebel\_66, Charlie\_69, Phloss\_70, Tapioca\_70, Duplicity\_70, Xeno\_69, Chewbacca\_74, ShrimpFriedEgg\_70, Andies\_65, Bosection6\_70, Scitech\_67, Rubeelu\_66, Gex\_71, Raymond7\_63, SpongeBob\_65, Pipsqueaks\_73, Carcharodon\_71, Purgamenstris\_70, Panchino\_66, Fulbright\_70, Xerxes\_72, Magsby\_71, Nenae\_70, BabeRuth\_70, Jamie19\_65, Schnauzer\_74, Shweta\_66, Phrann\_67, Butters\_66, Philonius\_72, Aggie\_67, PhancyPhin\_69, Silvy\_68, Parmesanjohn\_72, Redi\_70, MichelleMyBell\_70, Smurph\_72
- Track 30 : Kevin1\_69

- Track 31 : PensacolaC28\_24
- Track 32 : MooMoo\_97

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

The start number called the most often in the published annotations is 43, it was called in 37 of the 69 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aggie\_67, Andies\_65, BabeRuth\_70, Bosection6\_70, Butters\_66, Carcharodon\_71, Charlie\_69, Chewbacca\_74, Duplicity\_70, Fulbright\_70, Gex\_71, Jamie19\_65, Kevin1\_69, Magsby\_71, MichelleMyBell\_70, Nenae\_70, Panchino\_66, ParmesanJohn\_72, PhancyPhin\_69, Philonius\_72, Phloss\_70, Phrann\_67, Pipsqueaks\_73, Purgamenstris\_70, Raymond7\_63, Rebel\_66, Redi\_70, Rubeelu\_66, Schnauzer\_74, Scitech\_67, ShrimpFriedEgg\_70, Shweta\_66, Silvafighter\_74, Silvy\_68, Smurph\_72, SpongeBob\_65, Tapioca\_70, Xeno\_69, Xerxes\_72,

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

- 

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

- Auxilium\_93, Babsiella\_78, BenchScraper\_93, BigBoyz\_25, BrayBeast\_67, Bridgette\_71, Brujita\_74, Che9c\_84, CookieBear\_94, Cornie\_101, Eileen\_64, EvePickles\_96, Faja\_96, Globfish\_94, GlobiWarming\_74, HC\_78, Hestia\_90, Hillester\_99, Island3\_76, Isolde\_98, Judy\_72, Karkharias\_67, Kumotta\_75, MargaretKali\_72, MidnightRain\_102, MoRicky\_31, MooMoo\_97, Peas\_68, PeggyLeg03\_70, PensacolaC28\_24, Phrank15\_100, QueenHazel\_73, RadFad\_100, Raphaella\_96, Richie\_99, Sarge\_66, Sashimi\_98, Sbash\_89, Seahorse\_101, Shoya\_67, Smilerella\_29, Tiff81\_95, Xula\_74, YoungHarleezy\_95,

### **Summary by start number:**

Start 34:

- Found in 24 of 83 ( 28.9% ) of genes in pham
- Manual Annotations of this start: 15 of 69
- Called 95.8% of time when present
- Phage (with cluster) where this start called: Auxilium\_93 (AY), BenchScraper\_93 (AY), Bridgette\_71 (FA), CookieBear\_94 (AY), Eileen\_64 (FA), EvePickles\_96 (AY), Faja\_96 (AY), Globfish\_94 (AY), GlobiWarming\_74 (FA), Hillester\_99 (AY), Isolde\_98 (AY), Judy\_72 (FA), Karkharias\_67 (FA), MidnightRain\_102 (AY), Peas\_68 (FA), PeggyLeg03\_70 (FA), RadFad\_100 (AY), Raphaella\_96 (AY), Richie\_99 (AY), Sashimi\_98 (AY), Seahorse\_101 (AY), Tiff81\_95 (AY), YoungHarleezy\_95 (AY),

Start 36:

- Found in 2 of 83 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hestia\_90 (AY), Phrank15\_100 (AY),

Start 38:

- Found in 3 of 83 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Sbash\_89 (I2),

#### Start 40:

- Found in 4 of 83 ( 4.8% ) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigBoyz\_25 (GH), MoRicky\_31 (GH), PensacolaC28\_24 (singleton), Smilerella\_29 (GH),

#### Start 43:

- Found in 39 of 83 ( 47.0% ) of genes in pham
- Manual Annotations of this start: 37 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aggie\_67 (N), Andies\_65 (N), BabeRuth\_70 (N), Bosection6\_70 (N), Butters\_66 (N), Carcharodon\_71 (N), Charlie\_69 (N), Chewbacca\_74 (N), Duplicity\_70 (N), Fulbright\_70 (N), Gex\_71 (N), Jamie19\_65 (N), Kevin1\_69 (N), Magsby\_71 (N), MichelleMyBell\_70 (N), Nenae\_70 (N), Panchino\_66 (N), Parmesanjohn\_72 (N), PhancyPhin\_69 (N), Philonius\_72 (N), Phloss\_70 (N), Phrann\_67 (N), Pipsqueaks\_73 (N), Purgamenstris\_70 (N), Raymond7\_63 (N), Rebel\_66 (N), Redi\_70 (N), Rubeelu\_66 (N), Schnauzer\_74 (N), Scitech\_67 (N), ShrimpFriedEgg\_70 (N), Shweta\_66 (N), Silvafighter\_74 (N), Silvy\_68 (N), Smurph\_72 (N), SpongeBob\_65 (N), Tapioca\_70 (N), Xeno\_69 (N), Xerxes\_72 (N),

#### Start 45:

- Found in 5 of 83 ( 6.0% ) of genes in pham
- Manual Annotations of this start: 4 of 69
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Che9c\_84 (I2), MooMoo\_97 (singleton), QueenHazel\_73 (I1), Xula\_74 (I1),

#### Start 46:

- Found in 5 of 83 ( 6.0% ) of genes in pham
- Manual Annotations of this start: 5 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Babsiella\_78 (I1), Brujita\_74 (I1), Cornie\_101 (F5), HC\_78 (I1), Island3\_76 (I1),

#### Start 47:

- Found in 1 of 83 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumotta\_75 (FB),

#### Start 48:

- Found in 1 of 83 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MargaretKali\_72 (FB),

Start 49:

- Found in 6 of 83 ( 7.2% ) of genes in pham
- Manual Annotations of this start: 3 of 69
- Called 50.0% of time when present
- Phage (with cluster) where this start called: BrayBeast\_67 (FB), Sarge\_66 (FB), Shoya\_67 (FB),

### **Summary by clusters:**

There are 9 clusters represented in this pham: singleton, F5, I1, I2, N, FA, FB, AY, GH,

Info for manual annotations of cluster AY:

- Start number 34 was manually annotated 9 times for cluster AY.
- Start number 36 was manually annotated 1 time for cluster AY.

Info for manual annotations of cluster F5:

- Start number 46 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster FA:

- Start number 34 was manually annotated 6 times for cluster FA.

Info for manual annotations of cluster FB:

- Start number 47 was manually annotated 1 time for cluster FB.
- Start number 48 was manually annotated 1 time for cluster FB.
- Start number 49 was manually annotated 3 times for cluster FB.

Info for manual annotations of cluster I1:

- Start number 45 was manually annotated 2 times for cluster I1.
- Start number 46 was manually annotated 4 times for cluster I1.

Info for manual annotations of cluster I2:

- Start number 38 was manually annotated 1 time for cluster I2.
- Start number 45 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster N:

- Start number 43 was manually annotated 37 times for cluster N.

### **Gene Information:**

Gene: Aggie\_67 Start: 43847, Stop: 44146, Start Num: 43

Candidate Starts for Aggie\_67:

(Start: 43 @43847 has 37 MA's),

Gene: Andies\_65 Start: 43293, Stop: 43592, Start Num: 43

Candidate Starts for Andies\_65:

(Start: 43 @43293 has 37 MA's),

Gene: Auxilium\_93 Start: 49043, Stop: 49363, Start Num: 34

Candidate Starts for Auxilium\_93:

(Start: 34 @49043 has 15 MA's), (56, 49223),

Gene: BabeRuth\_70 Start: 42101, Stop: 42409, Start Num: 43

Candidate Starts for BabeRuth\_70:

(Start: 43 @42101 has 37 MA's),

Gene: Babsiella\_78 Start: 47992, Stop: 48282, Start Num: 46

Candidate Starts for Babsiella\_78:

(3, 47377), (9, 47656), (15, 47743), (18, 47770), (23, 47806), (25, 47824), (Start: 46 @47992 has 5 MA's),

Gene: BenchScraper\_93 Start: 50794, Stop: 51114, Start Num: 34

Candidate Starts for BenchScraper\_93:

(Start: 34 @50794 has 15 MA's), (56, 50974),

Gene: BigBoyz\_25 Start: 16651, Stop: 16974, Start Num: 40

Candidate Starts for BigBoyz\_25:

(Start: 40 @16651 has 1 MA's), (44, 16699), (Start: 49 @16711 has 3 MA's), (55, 16792), (57, 16849), (58, 16891), (61, 16936),

Gene: Bosection6\_70 Start: 42917, Stop: 43225, Start Num: 43

Candidate Starts for Bosection6\_70:

(Start: 43 @42917 has 37 MA's),

Gene: BrayBeast\_67 Start: 37446, Stop: 37709, Start Num: 49

Candidate Starts for BrayBeast\_67:

(Start: 49 @37446 has 3 MA's),

Gene: Bridgette\_71 Start: 42699, Stop: 43043, Start Num: 34

Candidate Starts for Bridgette\_71:

(Start: 34 @42699 has 15 MA's),

Gene: Brujita\_74 Start: 46629, Stop: 46919, Start Num: 46

Candidate Starts for Brujita\_74:

(3, 46014), (9, 46293), (15, 46380), (18, 46407), (23, 46443), (25, 46461), (Start: 46 @46629 has 5 MA's),

Gene: Butters\_66 Start: 41009, Stop: 41308, Start Num: 43

Candidate Starts for Butters\_66:

(Start: 43 @41009 has 37 MA's),

Gene: Carcharodon\_71 Start: 43194, Stop: 43493, Start Num: 43

Candidate Starts for Carcharodon\_71:

(Start: 43 @43194 has 37 MA's),

Gene: Charlie\_69 Start: 42541, Stop: 42849, Start Num: 43

Candidate Starts for Charlie\_69:

(Start: 43 @42541 has 37 MA's),

Gene: Che9c\_84 Start: 56646, Stop: 56942, Start Num: 45

Candidate Starts for Che9c\_84:

(Start: 45 @56646 has 4 MA's), (53, 56724), (59, 56901),

Gene: Chewbacca\_74 Start: 43089, Stop: 43388, Start Num: 43  
Candidate Starts for Chewbacca\_74:  
(Start: 43 @43089 has 37 MA's),

Gene: CookieBear\_94 Start: 51777, Stop: 52097, Start Num: 34  
Candidate Starts for CookieBear\_94:  
(Start: 34 @51777 has 15 MA's), (56, 51957),

Gene: Cornie\_101 Start: 56005, Stop: 56292, Start Num: 46  
Candidate Starts for Cornie\_101:  
(3, 55393), (9, 55669), (15, 55756), (18, 55783), (23, 55819), (25, 55837), (39, 55939), (Start: 46 @56005 has 5 MA's),

Gene: Duplicity\_70 Start: 42451, Stop: 42750, Start Num: 43  
Candidate Starts for Duplicity\_70:  
(Start: 43 @42451 has 37 MA's),

Gene: Eileen\_64 Start: 40750, Stop: 41094, Start Num: 34  
Candidate Starts for Eileen\_64:  
(12, 40555), (24, 40678), (Start: 34 @40750 has 15 MA's),

Gene: EvePickles\_96 Start: 52994, Stop: 53314, Start Num: 34  
Candidate Starts for EvePickles\_96:  
(Start: 34 @52994 has 15 MA's), (56, 53174),

Gene: Faja\_96 Start: 52066, Stop: 52386, Start Num: 34  
Candidate Starts for Faja\_96:  
(Start: 34 @52066 has 15 MA's), (56, 52246),

Gene: Fulbright\_70 Start: 41910, Stop: 42209, Start Num: 43  
Candidate Starts for Fulbright\_70:  
(Start: 43 @41910 has 37 MA's),

Gene: Gex\_71 Start: 43210, Stop: 43509, Start Num: 43  
Candidate Starts for Gex\_71:  
(Start: 43 @43210 has 37 MA's),

Gene: Globfish\_94 Start: 50972, Stop: 51292, Start Num: 34  
Candidate Starts for Globfish\_94:  
(Start: 34 @50972 has 15 MA's), (56, 51152),

Gene: GlobiWarming\_74 Start: 42547, Stop: 42891, Start Num: 34  
Candidate Starts for GlobiWarming\_74:  
(32, 42526), (33, 42541), (Start: 34 @42547 has 15 MA's),

Gene: HC\_78 Start: 45878, Stop: 46168, Start Num: 46  
Candidate Starts for HC\_78:  
(9, 45542), (15, 45629), (18, 45656), (23, 45692), (25, 45710), (Start: 46 @45878 has 5 MA's),

Gene: Hestia\_90 Start: 50238, Stop: 50558, Start Num: 36  
Candidate Starts for Hestia\_90:  
(10, 49992), (Start: 34 @50226 has 15 MA's), (Start: 36 @50238 has 1 MA's), (52, 50367),

Gene: Hillester\_99 Start: 52313, Stop: 52633, Start Num: 34  
Candidate Starts for Hillester\_99:  
(Start: 34 @52313 has 15 MA's), (56, 52493),

Gene: Island3\_76 Start: 46859, Stop: 47149, Start Num: 46  
Candidate Starts for Island3\_76:  
(3, 46244), (9, 46523), (15, 46610), (18, 46637), (23, 46673), (25, 46691), (Start: 46 @46859 has 5 MA's),

Gene: Isolde\_98 Start: 52809, Stop: 53129, Start Num: 34  
Candidate Starts for Isolde\_98:  
(Start: 34 @52809 has 15 MA's), (56, 52989),

Gene: Jamie19\_65 Start: 40783, Stop: 41091, Start Num: 43  
Candidate Starts for Jamie19\_65:  
(Start: 43 @40783 has 37 MA's),

Gene: Judy\_72 Start: 43025, Stop: 43369, Start Num: 34  
Candidate Starts for Judy\_72:  
(Start: 34 @43025 has 15 MA's),

Gene: Karkharias\_67 Start: 42195, Stop: 42539, Start Num: 34  
Candidate Starts for Karkharias\_67:  
(Start: 34 @42195 has 15 MA's),

Gene: Kevin1\_69 Start: 41506, Stop: 41805, Start Num: 43  
Candidate Starts for Kevin1\_69:  
(Start: 43 @41506 has 37 MA's),

Gene: Kumotta\_75 Start: 39866, Stop: 40129, Start Num: 47  
Candidate Starts for Kumotta\_75:  
(27, 39707), (31, 39734), (37, 39785), (42, 39836), (Start: 47 @39866 has 1 MA's),

Gene: Magsby\_71 Start: 43156, Stop: 43455, Start Num: 43  
Candidate Starts for Magsby\_71:  
(Start: 43 @43156 has 37 MA's),

Gene: MargaretKali\_72 Start: 38623, Stop: 38889, Start Num: 48  
Candidate Starts for MargaretKali\_72:  
(Start: 48 @38623 has 1 MA's), (62, 38875),

Gene: MichelleMyBell\_70 Start: 41746, Stop: 42054, Start Num: 43  
Candidate Starts for MichelleMyBell\_70:  
(Start: 43 @41746 has 37 MA's),

Gene: MidnightRain\_102 Start: 53249, Stop: 53569, Start Num: 34  
Candidate Starts for MidnightRain\_102:  
(Start: 34 @53249 has 15 MA's),

Gene: MoRicky\_31 Start: 17069, Stop: 17386, Start Num: 40  
Candidate Starts for MoRicky\_31:  
(Start: 40 @17069 has 1 MA's), (44, 17117), (Start: 49 @17129 has 3 MA's), (50, 17159), (55, 17210), (60, 17342),



Gene: MooMoo\_97 Start: 54747, Stop: 55079, Start Num: 45

Candidate Starts for MooMoo\_97:

(19, 54531), (Start: 45 @54747 has 4 MA's), (63, 55065),

Gene: Nenae\_70 Start: 42103, Stop: 42411, Start Num: 43

Candidate Starts for Nenae\_70:

(Start: 43 @42103 has 37 MA's),

Gene: Panchino\_66 Start: 43021, Stop: 43329, Start Num: 43

Candidate Starts for Panchino\_66:

(Start: 43 @43021 has 37 MA's),

Gene: Parmesanjohn\_72 Start: 43214, Stop: 43513, Start Num: 43

Candidate Starts for Parmesanjohn\_72:

(Start: 43 @43214 has 37 MA's),

Gene: Peas\_68 Start: 43688, Stop: 44032, Start Num: 34

Candidate Starts for Peas\_68:

(16, 43556), (29, 43634), (Start: 34 @43688 has 15 MA's),

Gene: PeggyLeg03\_70 Start: 42854, Stop: 43198, Start Num: 34

Candidate Starts for PeggyLeg03\_70:

(Start: 34 @42854 has 15 MA's),

Gene: PensacolaC28\_24 Start: 16361, Stop: 16687, Start Num: 40

Candidate Starts for PensacolaC28\_24:

(10, 16088), (20, 16217), (26, 16256), (Start: 40 @16361 has 1 MA's), (55, 16502),

Gene: PhancyPhin\_69 Start: 41960, Stop: 42268, Start Num: 43

Candidate Starts for PhancyPhin\_69:

(Start: 43 @41960 has 37 MA's),

Gene: Philonius\_72 Start: 43400, Stop: 43699, Start Num: 43

Candidate Starts for Philonius\_72:

(Start: 43 @43400 has 37 MA's),

Gene: Phloss\_70 Start: 42621, Stop: 42920, Start Num: 43

Candidate Starts for Phloss\_70:

(Start: 43 @42621 has 37 MA's),

Gene: Phrank15\_100 Start: 52150, Stop: 52461, Start Num: 36

Candidate Starts for Phrank15\_100:

(6, 51760), (7, 51793), (13, 51952), (17, 52009), (28, 52078), (Start: 36 @52150 has 1 MA's), (51, 52276), (54, 52303),

Gene: Phrann\_67 Start: 44377, Stop: 44685, Start Num: 43

Candidate Starts for Phrann\_67:

(Start: 43 @44377 has 37 MA's),

Gene: Pipsqueaks\_73 Start: 43192, Stop: 43491, Start Num: 43

Candidate Starts for Pipsqueaks\_73:

(Start: 43 @43192 has 37 MA's),

Gene: Purgamenstris\_70 Start: 42101, Stop: 42409, Start Num: 43  
Candidate Starts for Purgamenstris\_70:  
(Start: 43 @42101 has 37 MA's),

Gene: QueenHazel\_73 Start: 47625, Stop: 47915, Start Num: 45  
Candidate Starts for QueenHazel\_73:  
(1, 46872), (2, 46899), (4, 47121), (5, 47145), (8, 47271), (11, 47325), (22, 47439), (Start: 38 @47553 has 1 MA's), (41, 47577), (Start: 45 @47625 has 4 MA's),

Gene: RadFad\_100 Start: 52313, Stop: 52633, Start Num: 34  
Candidate Starts for RadFad\_100:  
(Start: 34 @52313 has 15 MA's), (56, 52493),

Gene: Raphaella\_96 Start: 51282, Stop: 51608, Start Num: 34  
Candidate Starts for Raphaella\_96:  
(Start: 34 @51282 has 15 MA's), (56, 51462),

Gene: Raymond7\_63 Start: 41889, Stop: 42197, Start Num: 43  
Candidate Starts for Raymond7\_63:  
(Start: 43 @41889 has 37 MA's),

Gene: Rebel\_66 Start: 40085, Stop: 40393, Start Num: 43  
Candidate Starts for Rebel\_66:  
(Start: 43 @40085 has 37 MA's),

Gene: Redi\_70 Start: 42100, Stop: 42408, Start Num: 43  
Candidate Starts for Redi\_70:  
(Start: 43 @42100 has 37 MA's),

Gene: Richie\_99 Start: 53442, Stop: 53762, Start Num: 34  
Candidate Starts for Richie\_99:  
(14, 53286), (21, 53343), (Start: 34 @53442 has 15 MA's), (56, 53622),

Gene: Rubeelu\_66 Start: 41009, Stop: 41308, Start Num: 43  
Candidate Starts for Rubeelu\_66:  
(Start: 43 @41009 has 37 MA's),

Gene: Sarge\_66 Start: 35891, Stop: 36154, Start Num: 49  
Candidate Starts for Sarge\_66:  
(Start: 49 @35891 has 3 MA's),

Gene: Sashimi\_98 Start: 51797, Stop: 52117, Start Num: 34  
Candidate Starts for Sashimi\_98:  
(Start: 34 @51797 has 15 MA's), (56, 51977),

Gene: Sbash\_89 Start: 55345, Stop: 55713, Start Num: 38  
Candidate Starts for Sbash\_89:  
(Start: 38 @55345 has 1 MA's), (41, 55369), (Start: 45 @55417 has 4 MA's), (53, 55495), (59, 55672),

Gene: Schnauzer\_74 Start: 43214, Stop: 43513, Start Num: 43  
Candidate Starts for Schnauzer\_74:  
(Start: 43 @43214 has 37 MA's),

Gene: Scitech\_67 Start: 42617, Stop: 42916, Start Num: 43  
Candidate Starts for Scitech\_67:  
(Start: 43 @42617 has 37 MA's),

Gene: Seahorse\_101 Start: 56066, Stop: 56386, Start Num: 34  
Candidate Starts for Seahorse\_101:  
(Start: 34 @56066 has 15 MA's), (56, 56246),

Gene: Shoya\_67 Start: 37457, Stop: 37720, Start Num: 49  
Candidate Starts for Shoya\_67:  
(30, 37322), (35, 37370), (Start: 49 @37457 has 3 MA's),

Gene: ShrimpFriedEgg\_70 Start: 42100, Stop: 42408, Start Num: 43  
Candidate Starts for ShrimpFriedEgg\_70:  
(Start: 43 @42100 has 37 MA's),

Gene: Shweta\_66 Start: 42196, Stop: 42504, Start Num: 43  
Candidate Starts for Shweta\_66:  
(Start: 43 @42196 has 37 MA's),

Gene: Silvafighter\_74 Start: 42757, Stop: 43056, Start Num: 43  
Candidate Starts for Silvafighter\_74:  
(Start: 43 @42757 has 37 MA's),

Gene: Silvy\_68 Start: 43847, Stop: 44146, Start Num: 43  
Candidate Starts for Silvy\_68:  
(Start: 43 @43847 has 37 MA's),

Gene: Smilerella\_29 Start: 17159, Stop: 17476, Start Num: 40  
Candidate Starts for Smilerella\_29:  
(Start: 40 @17159 has 1 MA's), (44, 17207), (Start: 49 @17219 has 3 MA's), (50, 17249), (55, 17300),  
(60, 17432),

Gene: Smurph\_72 Start: 43214, Stop: 43513, Start Num: 43  
Candidate Starts for Smurph\_72:  
(Start: 43 @43214 has 37 MA's),

Gene: SpongeBob\_65 Start: 40783, Stop: 41091, Start Num: 43  
Candidate Starts for SpongeBob\_65:  
(Start: 43 @40783 has 37 MA's),

Gene: Tapioca\_70 Start: 43719, Stop: 44018, Start Num: 43  
Candidate Starts for Tapioca\_70:  
(Start: 43 @43719 has 37 MA's),

Gene: Tiff81\_95 Start: 50115, Stop: 50435, Start Num: 34  
Candidate Starts for Tiff81\_95:  
(Start: 34 @50115 has 15 MA's), (56, 50295),

Gene: Xeno\_69 Start: 41900, Stop: 42208, Start Num: 43  
Candidate Starts for Xeno\_69:  
(Start: 43 @41900 has 37 MA's),

Gene: Xerxes\_72 Start: 43211, Stop: 43510, Start Num: 43

Candidate Starts for Xerxes\_72:

(Start: 43 @43211 has 37 MA's),

Gene: Xula\_74 Start: 48112, Stop: 48402, Start Num: 45

Candidate Starts for Xula\_74:

(1, 47359), (2, 47386), (4, 47608), (5, 47632), (8, 47758), (11, 47812), (22, 47926), (Start: 38 @48040 has 1 MA's), (41, 48064), (Start: 45 @48112 has 4 MA's),

Gene: YoungHarleezy\_95 Start: 52603, Stop: 52923, Start Num: 34

Candidate Starts for YoungHarleezy\_95:

(Start: 34 @52603 has 15 MA's), (56, 52783),