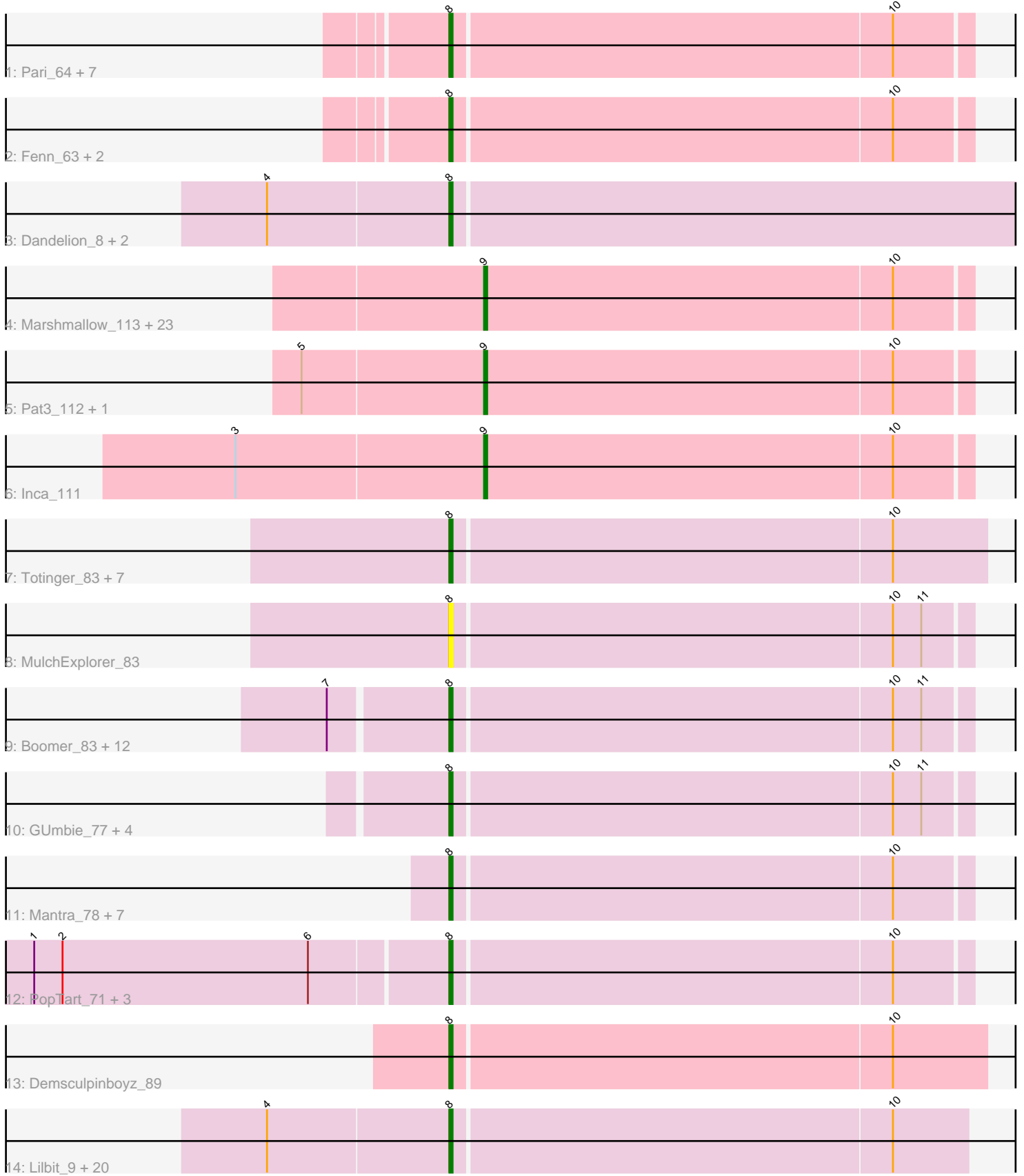


Pham 210985



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 210985 Report

This analysis was run 02/22/25 on database version 588.

Pham number 210985 has 102 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Pari\_64, Bethlehem\_60, Arlo\_59, Moose\_62, Switzer\_62, SwissCheese\_64, Forsytheast\_62, Bruns\_62
- Track 2 : Fenn\_63, Squee\_62, Naira\_63
- Track 3 : Dandelion\_8, Pier\_8, Astraea\_7
- Track 4 : Marshmallow\_113, Phaja\_113, Bask21\_115, Henry\_113, Cookies\_112, Glexan\_114, Harella\_116, Kostya\_115, Sotrice96\_116, Mindy\_114, TeardropMSU\_111, Icee\_116, BadStone\_112, Gator\_113, Cactus\_119, ABCat\_112, Pharsalus\_111, IHOP\_113, Dusk\_112, Amao\_115, Tuco\_116, FoghornLeghorn\_108, SirDuracell\_115, DrDrey\_115
- Track 5 : Pat3\_112, ChotaBhai\_115
- Track 6 : Inca\_111
- Track 7 : Totinger\_83, LittleShirley\_87, Argie\_64, GigiOuiOui\_75, Starcevich\_81, Vivum\_83, GodPhather\_64, JigglyPuff\_7
- Track 8 : MulchExplorer\_83
- Track 9 : Boomer\_83, DirtMcgirt\_78, UncleRicky\_78, Llij\_75, Enby\_80, Cornie\_76, Drago\_76, Lorde\_79, Rockne\_80, Phatniss\_76, PMC\_76, Klein\_76, Wanda\_80
- Track 10 : GUmbie\_77, Alexphander\_83, Polo2Bam\_87, NewHope4\_81, Kimberlium\_81
- Track 11 : Mantra\_78, SiSi\_77, MisterCuddles\_78, Girr\_77, Fastidio\_81, Ruby\_75, Veteran\_73, Emma\_84
- Track 12 : PopTart\_71, Ovechkin\_87, Fancypants\_87, SassyB\_71
- Track 13 : Demsculpinboyz\_89
- Track 14 : Lilbit\_9, Beelzebub\_10, Huphlepuuff\_8, Tainan\_9, Sebata\_8, InterFolia\_9, Pringar\_8, JoieB\_9, LordLeafolot\_9, LittleLaf\_8, FeliMaine\_9, Corazon\_8, DirtMonster\_7, Specks\_9, LolaVinca\_9, JayJay\_8, Concombre\_7, Demodog\_6, FrayBell\_9, Clarkson\_9, LinStu\_8

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

The start number called the most often in the published annotations is 8, it was called in 65 of the 90 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander\_83, Argie\_64, Arlo\_59, Astraea\_7, Beelzebub\_10, Bethlehem\_60, Boomer\_83, Bruns\_62, Clarkson\_9, Concombre\_7, Corazon\_8, Cornie\_76, Dandelion\_8, Demodog\_6, Demsculpinboyz\_89, DirtMcgirt\_78, DirtMonster\_7, Drago\_76, Emma\_84, Enby\_80, Fancypants\_87, Fastidio\_81, FeliMaine\_9, Fenn\_63, Forsytheast\_62, FrayBell\_9, GUmbie\_77, GigiOuiOui\_75, Girr\_77, GodPhather\_64, Huphlepuuff\_8, InterFolia\_9, JayJay\_8, JigglyPuff\_7, JoieB\_9, Kimberlium\_81, Klein\_76, Lilbit\_9, LinStu\_8, LittleLaf\_8, LittleShirley\_87, Llij\_75, LolaVinca\_9, LordLeafolot\_9, Lorde\_79, Mantra\_78, MisterCuddles\_78, Moose\_62, MulchExplorer\_83, Naira\_63, NewHope4\_81, Ovechkin\_87, PMC\_76, Pari\_64, Phatniss\_76, Pier\_8, Polo2Bam\_87, PopTart\_71, Pringar\_8, Rockne\_80, Ruby\_75, SassyB\_71, Sebata\_8, SiSi\_77, Specks\_9, Squee\_62, Starcevich\_81, SwissCheese\_64, Switzer\_62, Tainan\_9, Totinger\_83, UncleRicky\_78, Veteran\_73, Vivum\_83, Wanda\_80,

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

- 

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

- ABCat\_112, Amao\_115, BadStone\_112, Bask21\_115, Cactus\_119, ChotaBhai\_115, Cookies\_112, DrDrey\_115, Dusk\_112, FoghornLeghorn\_108, Gator\_113, Glexan\_114, Harella\_116, Henry\_113, IHOP\_113, Icee\_116, Inca\_111, Kostya\_115, Marshmallow\_113, Mindy\_114, Pat3\_112, Phaja\_113, Pharsalus\_111, SirDuracell\_115, Sotrice96\_116, TeardropMSU\_111, Tuco\_116,

### Summary by start number:

Start 8:

- Found in 75 of 102 ( 73.5% ) of genes in pham
- Manual Annotations of this start: 65 of 90
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alexphander\_83 (F1), Argie\_64 (W), Arlo\_59 (A1), Astraea\_7 (C1), Beelzebub\_10 (S), Bethlehem\_60 (A1), Boomer\_83 (F1), Bruns\_62 (A1), Clarkson\_9 (S), Concombre\_7 (C1), Corazon\_8 (S), Cornie\_76 (F5), Dandelion\_8 (C1), Demodog\_6 (C1), Demsculpinboyz\_89 (F2), DirtMcgirt\_78 (F1), DirtMonster\_7 (C1), Drago\_76 (F1), Emma\_84 (F1), Enby\_80 (F1), Fancypants\_87 (F1), Fastidio\_81 (F1), FeliMaine\_9 (S), Fenn\_63 (A1), Forsytheast\_62 (A1), FrayBell\_9 (C1), GUmbie\_77 (F1), GigiOuiOui\_75 (F1), Girr\_77 (F1), GodPhather\_64 (W), Huphlepuuff\_8 (S), InterFolia\_9 (C1), JayJay\_8 (C1), JigglyPuff\_7 (C1), JoieB\_9 (S), Kimberlium\_81 (F1), Klein\_76 (J), Lilbit\_9 (S), LinStu\_8 (C1), LittleLaf\_8 (S), LittleShirley\_87 (F1), Llij\_75 (F1), LolaVinca\_9 (C1), LordLeafolot\_9 (C1), Lorde\_79 (F1), Mantra\_78 (F1), MisterCuddles\_78 (F1), Moose\_62 (A1), MulchExplorer\_83 (F1), Naira\_63 (A1), NewHope4\_81 (F1), Ovechkin\_87 (F1), PMC\_76 (F1), Pari\_64 (A1), Phatniss\_76 (F1), Pier\_8 (C1), Polo2Bam\_87 (F1), PopTart\_71 (F1), Pringar\_8 (S), Rockne\_80 (F1), Ruby\_75 (F1), SassyB\_71 (F1), Sebata\_8 (C1), SiSi\_77 (F1), Specks\_9 (C1), Squee\_62 (A1), Starcevich\_81 (F1), SwissCheese\_64 (A1), Switzer\_62 (A1), Tainan\_9 (C1), Totinger\_83 (F1), UncleRicky\_78 (F1), Veteran\_73 (F1), Vivum\_83 (F1), Wanda\_80 (J),

Start 9:

- Found in 27 of 102 ( 26.5% ) of genes in pham
- Manual Annotations of this start: 25 of 90
- Called 100.0% of time when present

- Phage (with cluster) where this start called: ABCat\_112 (E), Amao\_115 (E), BadStone\_112 (E), Bask21\_115 (E), Cactus\_119 (E), ChotaBhai\_115 (E), Cookies\_112 (E), DrDrey\_115 (E), Dusk\_112 (E), FoghornLeghorn\_108 (E), Gator\_113 (E), Glexan\_114 (E), Harella\_116 (E), Henry\_113 (E), IHOP\_113 (E), Icee\_116 (E), Inca\_111 (E), Kostya\_115 (E), Marshmallow\_113 (E), Mindy\_114 (E), Pat3\_112 (E), Phaja\_113 (E), Pharsalus\_111 (E), SirDuracell\_115 (E), Sotrice96\_116 (E), TeardropMSU\_111 (E), Tuco\_116 (E),

### **Summary by clusters:**

There are 9 clusters represented in this pham: F1, F2, E, F5, J, A1, S, W, C1,

Info for manual annotations of cluster A1:

- Start number 8 was manually annotated 11 times for cluster A1.

Info for manual annotations of cluster C1:

- Start number 8 was manually annotated 11 times for cluster C1.

Info for manual annotations of cluster E:

- Start number 9 was manually annotated 25 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 8 was manually annotated 29 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 8 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F5:

- Start number 8 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster J:

- Start number 8 was manually annotated 2 times for cluster J.

Info for manual annotations of cluster S:

- Start number 8 was manually annotated 8 times for cluster S.

Info for manual annotations of cluster W:

- Start number 8 was manually annotated 2 times for cluster W.

### **Gene Information:**

Gene: ABCat\_112 Start: 66098, Stop: 66250, Start Num: 9

Candidate Starts for ABCat\_112:

(Start: 9 @66098 has 25 MA's), (10, 66227),

Gene: Alexphander\_83 Start: 49782, Stop: 49943, Start Num: 8

Candidate Starts for Alexphander\_83:

(Start: 8 @49782 has 65 MA's), (10, 49920), (11, 49929),

Gene: Amao\_115 Start: 65661, Stop: 65813, Start Num: 9

Candidate Starts for Amao\_115:

(Start: 9 @65661 has 25 MA's), (10, 65790),

Gene: Argie\_64 Start: 48501, Stop: 48668, Start Num: 8

Candidate Starts for Argie\_64:

(Start: 8 @48501 has 65 MA's), (10, 48639),

Gene: Arlo\_59 Start: 40556, Stop: 40395, Start Num: 8

Candidate Starts for Arlo\_59:

(Start: 8 @40556 has 65 MA's), (10, 40418),

Gene: Astraea\_7 Start: 2148, Stop: 2333, Start Num: 8

Candidate Starts for Astraea\_7:

(4, 2091), (Start: 8 @2148 has 65 MA's),

Gene: BadStone\_112 Start: 65646, Stop: 65798, Start Num: 9

Candidate Starts for BadStone\_112:

(Start: 9 @65646 has 25 MA's), (10, 65775),

Gene: Bask21\_115 Start: 64463, Stop: 64615, Start Num: 9

Candidate Starts for Bask21\_115:

(Start: 9 @64463 has 25 MA's), (10, 64592),

Gene: Beelzebub\_10 Start: 3178, Stop: 3339, Start Num: 8

Candidate Starts for Beelzebub\_10:

(4, 3121), (Start: 8 @3178 has 65 MA's), (10, 3316),

Gene: Bethlehem\_60 Start: 42204, Stop: 42043, Start Num: 8

Candidate Starts for Bethlehem\_60:

(Start: 8 @42204 has 65 MA's), (10, 42066),

Gene: Boomer\_83 Start: 49311, Stop: 49472, Start Num: 8

Candidate Starts for Boomer\_83:

(7, 49275), (Start: 8 @49311 has 65 MA's), (10, 49449), (11, 49458),

Gene: Bruns\_62 Start: 40130, Stop: 39969, Start Num: 8

Candidate Starts for Bruns\_62:

(Start: 8 @40130 has 65 MA's), (10, 39992),

Gene: Cactus\_119 Start: 65006, Stop: 65158, Start Num: 9

Candidate Starts for Cactus\_119:

(Start: 9 @65006 has 25 MA's), (10, 65135),

Gene: ChotaBhai\_115 Start: 65405, Stop: 65557, Start Num: 9

Candidate Starts for ChotaBhai\_115:

(5, 65348), (Start: 9 @65405 has 25 MA's), (10, 65534),

Gene: Clarkson\_9 Start: 2954, Stop: 3115, Start Num: 8

Candidate Starts for Clarkson\_9:

(4, 2897), (Start: 8 @2954 has 65 MA's), (10, 3092),

Gene: Concombre\_7 Start: 1995, Stop: 2162, Start Num: 8

Candidate Starts for Concombre\_7:

(4, 1938), (Start: 8 @1995 has 65 MA's), (10, 2133),

Gene: Cookies\_112 Start: 65391, Stop: 65543, Start Num: 9  
Candidate Starts for Cookies\_112:  
(Start: 9 @65391 has 25 MA's), (10, 65520),

Gene: Corazon\_8 Start: 2907, Stop: 3068, Start Num: 8  
Candidate Starts for Corazon\_8:  
(4, 2850), (Start: 8 @2907 has 65 MA's), (10, 3045),

Gene: Cornie\_76 Start: 47173, Stop: 47334, Start Num: 8  
Candidate Starts for Cornie\_76:  
(7, 47137), (Start: 8 @47173 has 65 MA's), (10, 47311), (11, 47320),

Gene: Dandelion\_8 Start: 2817, Stop: 3002, Start Num: 8  
Candidate Starts for Dandelion\_8:  
(4, 2760), (Start: 8 @2817 has 65 MA's),

Gene: Demodog\_6 Start: 1995, Stop: 2162, Start Num: 8  
Candidate Starts for Demodog\_6:  
(4, 1938), (Start: 8 @1995 has 65 MA's), (10, 2133),

Gene: Demsculpinboyz\_89 Start: 47032, Stop: 47199, Start Num: 8  
Candidate Starts for Demsculpinboyz\_89:  
(Start: 8 @47032 has 65 MA's), (10, 47170),

Gene: DirtMcgirt\_78 Start: 45921, Stop: 46082, Start Num: 8  
Candidate Starts for DirtMcgirt\_78:  
(7, 45885), (Start: 8 @45921 has 65 MA's), (10, 46059), (11, 46068),

Gene: DirtMonster\_7 Start: 3147, Stop: 3314, Start Num: 8  
Candidate Starts for DirtMonster\_7:  
(4, 3090), (Start: 8 @3147 has 65 MA's), (10, 3285),

Gene: DrDrey\_115 Start: 66784, Stop: 66936, Start Num: 9  
Candidate Starts for DrDrey\_115:  
(Start: 9 @66784 has 25 MA's), (10, 66913),

Gene: Drago\_76 Start: 45924, Stop: 46085, Start Num: 8  
Candidate Starts for Drago\_76:  
(7, 45888), (Start: 8 @45924 has 65 MA's), (10, 46062), (11, 46071),

Gene: Dusk\_112 Start: 65306, Stop: 65458, Start Num: 9  
Candidate Starts for Dusk\_112:  
(Start: 9 @65306 has 25 MA's), (10, 65435),

Gene: Emma\_84 Start: 48140, Stop: 48301, Start Num: 8  
Candidate Starts for Emma\_84:  
(Start: 8 @48140 has 65 MA's), (10, 48278),

Gene: Enby\_80 Start: 46200, Stop: 46361, Start Num: 8  
Candidate Starts for Enby\_80:  
(7, 46164), (Start: 8 @46200 has 65 MA's), (10, 46338), (11, 46347),

Gene: Fancypants\_87 Start: 50974, Stop: 51141, Start Num: 8  
Candidate Starts for Fancypants\_87:  
(1, 50845), (2, 50854), (6, 50932), (Start: 8 @50974 has 65 MA's), (10, 51112),

Gene: Fastidio\_81 Start: 46121, Stop: 46282, Start Num: 8  
Candidate Starts for Fastidio\_81:  
(Start: 8 @46121 has 65 MA's), (10, 46259),

Gene: FeliMaine\_9 Start: 2955, Stop: 3116, Start Num: 8  
Candidate Starts for FeliMaine\_9:  
(4, 2898), (Start: 8 @2955 has 65 MA's), (10, 3093),

Gene: Fenn\_63 Start: 42352, Stop: 42191, Start Num: 8  
Candidate Starts for Fenn\_63:  
(Start: 8 @42352 has 65 MA's), (10, 42214),

Gene: FoghornLeghorn\_108 Start: 63083, Stop: 63235, Start Num: 9  
Candidate Starts for FoghornLeghorn\_108:  
(Start: 9 @63083 has 25 MA's), (10, 63212),

Gene: Forsytheast\_62 Start: 40298, Stop: 40137, Start Num: 8  
Candidate Starts for Forsytheast\_62:  
(Start: 8 @40298 has 65 MA's), (10, 40160),

Gene: FrayBell\_9 Start: 2818, Stop: 2985, Start Num: 8  
Candidate Starts for FrayBell\_9:  
(4, 2761), (Start: 8 @2818 has 65 MA's), (10, 2956),

Gene: GUmbie\_77 Start: 48541, Stop: 48702, Start Num: 8  
Candidate Starts for GUmbie\_77:  
(Start: 8 @48541 has 65 MA's), (10, 48679), (11, 48688),

Gene: Gator\_113 Start: 65358, Stop: 65510, Start Num: 9  
Candidate Starts for Gator\_113:  
(Start: 9 @65358 has 25 MA's), (10, 65487),

Gene: GigiOuiOui\_75 Start: 47717, Stop: 47884, Start Num: 8  
Candidate Starts for GigiOuiOui\_75:  
(Start: 8 @47717 has 65 MA's), (10, 47855),

Gene: Girr\_77 Start: 48778, Stop: 48939, Start Num: 8  
Candidate Starts for Girr\_77:  
(Start: 8 @48778 has 65 MA's), (10, 48916),

Gene: Glexan\_114 Start: 65508, Stop: 65660, Start Num: 9  
Candidate Starts for Glexan\_114:  
(Start: 9 @65508 has 25 MA's), (10, 65637),

Gene: GodPhather\_64 Start: 49018, Stop: 49179, Start Num: 8  
Candidate Starts for GodPhather\_64:  
(Start: 8 @49018 has 65 MA's), (10, 49156),

Gene: Harella\_116 Start: 66024, Stop: 66176, Start Num: 9

Candidate Starts for Harella\_116:  
(Start: 9 @66024 has 25 MA's), (10, 66153),

Gene: Henry\_113 Start: 65309, Stop: 65461, Start Num: 9  
Candidate Starts for Henry\_113:  
(Start: 9 @65309 has 25 MA's), (10, 65438),

Gene: Huphlepuuff\_8 Start: 2684, Stop: 2845, Start Num: 8  
Candidate Starts for Huphlepuuff\_8:  
(4, 2627), (Start: 8 @2684 has 65 MA's), (10, 2822),

Gene: IHOP\_113 Start: 65027, Stop: 65179, Start Num: 9  
Candidate Starts for IHOP\_113:  
(Start: 9 @65027 has 25 MA's), (10, 65156),

Gene: Icee\_116 Start: 64997, Stop: 65149, Start Num: 9  
Candidate Starts for Icee\_116:  
(Start: 9 @64997 has 25 MA's), (10, 65126),

Gene: Inca\_111 Start: 63206, Stop: 63358, Start Num: 9  
Candidate Starts for Inca\_111:  
(3, 63128), (Start: 9 @63206 has 25 MA's), (10, 63335),

Gene: InterFolia\_9 Start: 2817, Stop: 2984, Start Num: 8  
Candidate Starts for InterFolia\_9:  
(4, 2760), (Start: 8 @2817 has 65 MA's), (10, 2955),

Gene: JayJay\_8 Start: 2346, Stop: 2513, Start Num: 8  
Candidate Starts for JayJay\_8:  
(4, 2289), (Start: 8 @2346 has 65 MA's), (10, 2484),

Gene: JigglyPuff\_7 Start: 2362, Stop: 2529, Start Num: 8  
Candidate Starts for JigglyPuff\_7:  
(Start: 8 @2362 has 65 MA's), (10, 2500),

Gene: JoieB\_9 Start: 2906, Stop: 3064, Start Num: 8  
Candidate Starts for JoieB\_9:  
(4, 2849), (Start: 8 @2906 has 65 MA's), (10, 3044),

Gene: Kimberlium\_81 Start: 48189, Stop: 48350, Start Num: 8  
Candidate Starts for Kimberlium\_81:  
(Start: 8 @48189 has 65 MA's), (10, 48327), (11, 48336),

Gene: Klein\_76 Start: 50750, Stop: 50589, Start Num: 8  
Candidate Starts for Klein\_76:  
(7, 50786), (Start: 8 @50750 has 65 MA's), (10, 50612), (11, 50603),

Gene: Kostya\_115 Start: 65129, Stop: 65281, Start Num: 9  
Candidate Starts for Kostya\_115:  
(Start: 9 @65129 has 25 MA's), (10, 65258),

Gene: Lilbit\_9 Start: 2955, Stop: 3116, Start Num: 8  
Candidate Starts for Lilbit\_9:



(4, 2898), (Start: 8 @2955 has 65 MA's), (10, 3093),

Gene: LinStu\_8 Start: 3345, Stop: 3512, Start Num: 8

Candidate Starts for LinStu\_8:

(4, 3288), (Start: 8 @3345 has 65 MA's), (10, 3483),

Gene: LittleLaf\_8 Start: 2684, Stop: 2845, Start Num: 8

Candidate Starts for LittleLaf\_8:

(4, 2627), (Start: 8 @2684 has 65 MA's), (10, 2822),

Gene: LittleShirley\_87 Start: 49794, Stop: 49961, Start Num: 8

Candidate Starts for LittleShirley\_87:

(Start: 8 @49794 has 65 MA's), (10, 49932),

Gene: Llij\_75 Start: 46078, Stop: 46239, Start Num: 8

Candidate Starts for Llij\_75:

(7, 46042), (Start: 8 @46078 has 65 MA's), (10, 46216), (11, 46225),

Gene: LolaVinca\_9 Start: 2817, Stop: 2984, Start Num: 8

Candidate Starts for LolaVinca\_9:

(4, 2760), (Start: 8 @2817 has 65 MA's), (10, 2955),

Gene: LordLeafolot\_9 Start: 2817, Stop: 2984, Start Num: 8

Candidate Starts for LordLeafolot\_9:

(4, 2760), (Start: 8 @2817 has 65 MA's), (10, 2955),

Gene: Lorde\_79 Start: 45365, Stop: 45526, Start Num: 8

Candidate Starts for Lorde\_79:

(7, 45329), (Start: 8 @45365 has 65 MA's), (10, 45503), (11, 45512),

Gene: Mantra\_78 Start: 48351, Stop: 48512, Start Num: 8

Candidate Starts for Mantra\_78:

(Start: 8 @48351 has 65 MA's), (10, 48489),

Gene: Marshmallow\_113 Start: 65811, Stop: 65963, Start Num: 9

Candidate Starts for Marshmallow\_113:

(Start: 9 @65811 has 25 MA's), (10, 65940),

Gene: Mindy\_114 Start: 64970, Stop: 65122, Start Num: 9

Candidate Starts for Mindy\_114:

(Start: 9 @64970 has 25 MA's), (10, 65099),

Gene: MisterCuddles\_78 Start: 48778, Stop: 48939, Start Num: 8

Candidate Starts for MisterCuddles\_78:

(Start: 8 @48778 has 65 MA's), (10, 48916),

Gene: Moose\_62 Start: 40298, Stop: 40137, Start Num: 8

Candidate Starts for Moose\_62:

(Start: 8 @40298 has 65 MA's), (10, 40160),

Gene: MulchExplorer\_83 Start: 47860, Stop: 48021, Start Num: 8

Candidate Starts for MulchExplorer\_83:

(Start: 8 @47860 has 65 MA's), (10, 47998), (11, 48007),

Gene: Naira\_63 Start: 42408, Stop: 42247, Start Num: 8

Candidate Starts for Naira\_63:

(Start: 8 @42408 has 65 MA's), (10, 42270),

Gene: NewHope4\_81 Start: 47202, Stop: 47363, Start Num: 8

Candidate Starts for NewHope4\_81:

(Start: 8 @47202 has 65 MA's), (10, 47340), (11, 47349),

Gene: Ovechkin\_87 Start: 50448, Stop: 50609, Start Num: 8

Candidate Starts for Ovechkin\_87:

(1, 50319), (2, 50328), (6, 50406), (Start: 8 @50448 has 65 MA's), (10, 50586),

Gene: PMC\_76 Start: 47535, Stop: 47696, Start Num: 8

Candidate Starts for PMC\_76:

(7, 47499), (Start: 8 @47535 has 65 MA's), (10, 47673), (11, 47682),

Gene: Pari\_64 Start: 40514, Stop: 40353, Start Num: 8

Candidate Starts for Pari\_64:

(Start: 8 @40514 has 65 MA's), (10, 40376),

Gene: Pat3\_112 Start: 64464, Stop: 64616, Start Num: 9

Candidate Starts for Pat3\_112:

(5, 64407), (Start: 9 @64464 has 25 MA's), (10, 64593),

Gene: Phaja\_113 Start: 65032, Stop: 65184, Start Num: 9

Candidate Starts for Phaja\_113:

(Start: 9 @65032 has 25 MA's), (10, 65161),

Gene: Pharsalus\_111 Start: 65106, Stop: 65258, Start Num: 9

Candidate Starts for Pharsalus\_111:

(Start: 9 @65106 has 25 MA's), (10, 65235),

Gene: Phatniss\_76 Start: 47173, Stop: 47334, Start Num: 8

Candidate Starts for Phatniss\_76:

(7, 47137), (Start: 8 @47173 has 65 MA's), (10, 47311), (11, 47320),

Gene: Pier\_8 Start: 2493, Stop: 2678, Start Num: 8

Candidate Starts for Pier\_8:

(4, 2436), (Start: 8 @2493 has 65 MA's),

Gene: Polo2Bam\_87 Start: 47056, Stop: 47217, Start Num: 8

Candidate Starts for Polo2Bam\_87:

(Start: 8 @47056 has 65 MA's), (10, 47194), (11, 47203),

Gene: PopTart\_71 Start: 45650, Stop: 45811, Start Num: 8

Candidate Starts for PopTart\_71:

(1, 45521), (2, 45530), (6, 45608), (Start: 8 @45650 has 65 MA's), (10, 45788),

Gene: Pringar\_8 Start: 2509, Stop: 2670, Start Num: 8

Candidate Starts for Pringar\_8:

(4, 2452), (Start: 8 @2509 has 65 MA's), (10, 2647),

Gene: Rockne\_80 Start: 47547, Stop: 47708, Start Num: 8  
Candidate Starts for Rockne\_80:  
(7, 47511), (Start: 8 @47547 has 65 MA's), (10, 47685), (11, 47694),

Gene: Ruby\_75 Start: 48779, Stop: 48940, Start Num: 8  
Candidate Starts for Ruby\_75:  
(Start: 8 @48779 has 65 MA's), (10, 48917),

Gene: SassyB\_71 Start: 45650, Stop: 45811, Start Num: 8  
Candidate Starts for SassyB\_71:  
(1, 45521), (2, 45530), (6, 45608), (Start: 8 @45650 has 65 MA's), (10, 45788),

Gene: Sebata\_8 Start: 3345, Stop: 3512, Start Num: 8  
Candidate Starts for Sebata\_8:  
(4, 3288), (Start: 8 @3345 has 65 MA's), (10, 3483),

Gene: SiSi\_77 Start: 47876, Stop: 48037, Start Num: 8  
Candidate Starts for SiSi\_77:  
(Start: 8 @47876 has 65 MA's), (10, 48014),

Gene: SirDuracell\_115 Start: 64963, Stop: 65115, Start Num: 9  
Candidate Starts for SirDuracell\_115:  
(Start: 9 @64963 has 25 MA's), (10, 65092),

Gene: Sotrice96\_116 Start: 65750, Stop: 65902, Start Num: 9  
Candidate Starts for Sotrice96\_116:  
(Start: 9 @65750 has 25 MA's), (10, 65879),

Gene: Specks\_9 Start: 2817, Stop: 2984, Start Num: 8  
Candidate Starts for Specks\_9:  
(4, 2760), (Start: 8 @2817 has 65 MA's), (10, 2955),

Gene: Squee\_62 Start: 40866, Stop: 40705, Start Num: 8  
Candidate Starts for Squee\_62:  
(Start: 8 @40866 has 65 MA's), (10, 40728),

Gene: Starcevich\_81 Start: 50075, Stop: 50242, Start Num: 8  
Candidate Starts for Starcevich\_81:  
(Start: 8 @50075 has 65 MA's), (10, 50213),

Gene: SwissCheese\_64 Start: 40798, Stop: 40637, Start Num: 8  
Candidate Starts for SwissCheese\_64:  
(Start: 8 @40798 has 65 MA's), (10, 40660),

Gene: Switzer\_62 Start: 42383, Stop: 42222, Start Num: 8  
Candidate Starts for Switzer\_62:  
(Start: 8 @42383 has 65 MA's), (10, 42245),

Gene: Tainan\_9 Start: 2817, Stop: 2984, Start Num: 8  
Candidate Starts for Tainan\_9:  
(4, 2760), (Start: 8 @2817 has 65 MA's), (10, 2955),

Gene: TeardropMSU\_111 Start: 64852, Stop: 65004, Start Num: 9

Candidate Starts for TeardropMSU\_111:  
(Start: 9 @64852 has 25 MA's), (10, 64981),

Gene: Totinger\_83 Start: 48871, Stop: 49038, Start Num: 8  
Candidate Starts for Totinger\_83:  
(Start: 8 @48871 has 65 MA's), (10, 49009),

Gene: Tuco\_116 Start: 66911, Stop: 67063, Start Num: 9  
Candidate Starts for Tuco\_116:  
(Start: 9 @66911 has 25 MA's), (10, 67040),

Gene: UncleRicky\_78 Start: 47421, Stop: 47582, Start Num: 8  
Candidate Starts for UncleRicky\_78:  
(7, 47385), (Start: 8 @47421 has 65 MA's), (10, 47559), (11, 47568),

Gene: Veteran\_73 Start: 47744, Stop: 47905, Start Num: 8  
Candidate Starts for Veteran\_73:  
(Start: 8 @47744 has 65 MA's), (10, 47882),

Gene: Vivum\_83 Start: 50761, Stop: 50928, Start Num: 8  
Candidate Starts for Vivum\_83:  
(Start: 8 @50761 has 65 MA's), (10, 50899),

Gene: Wanda\_80 Start: 51059, Stop: 50898, Start Num: 8  
Candidate Starts for Wanda\_80:  
(7, 51095), (Start: 8 @51059 has 65 MA's), (10, 50921), (11, 50912),