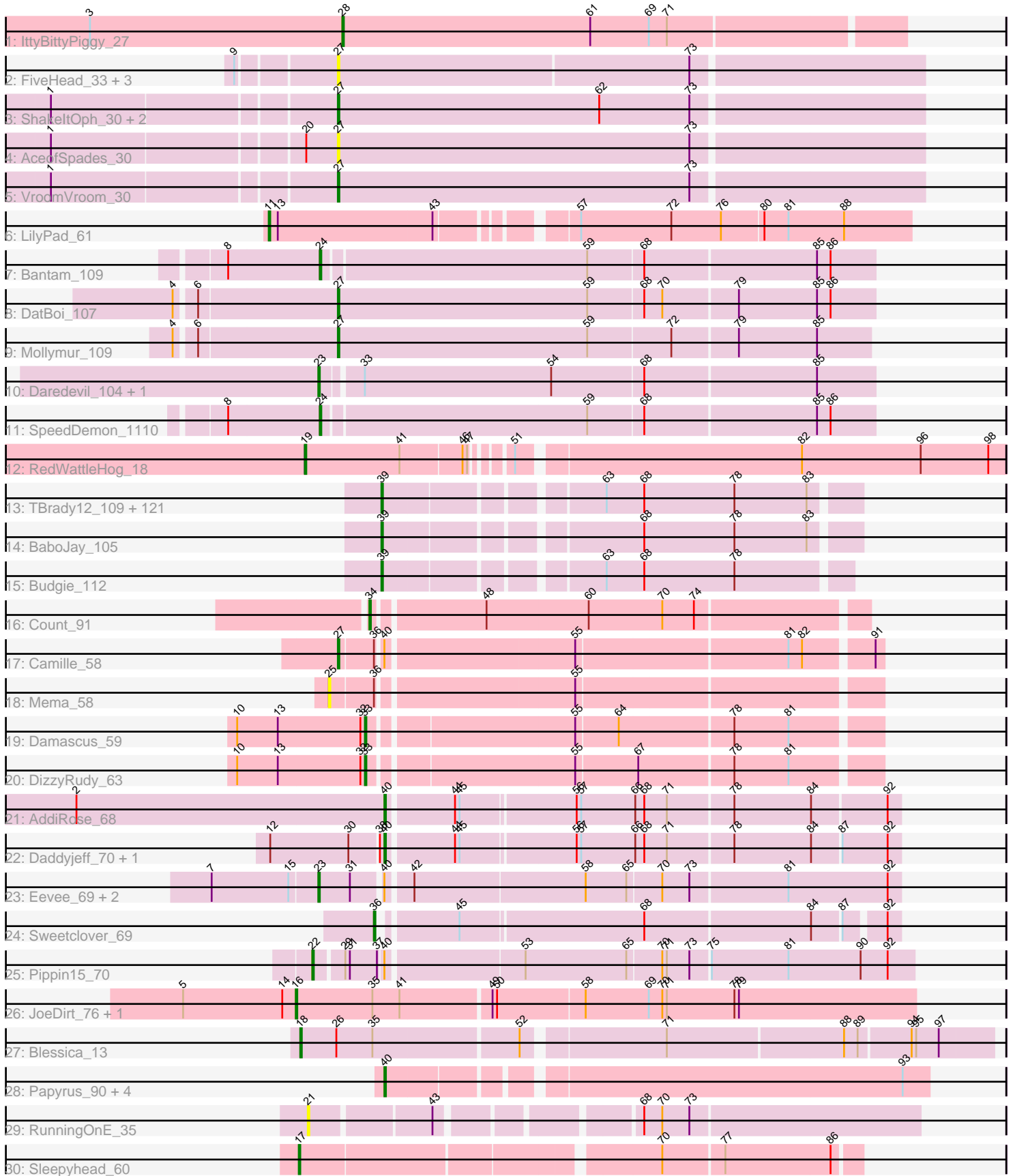


Pham 301113



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 301113 Report

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

Pham number 301113 has 165 members, 7 are drafts.

Phages represented in each track:

- Track 1 : IttyBittyPiggy\_27
- Track 2 : FiveHead\_33, LadyAstra\_31, Origami\_31, JohnThicc\_32
- Track 3 : ShakeltOph\_30, JasmineDragon\_30, MiniMommy\_30
- Track 4 : AceofSpades\_30
- Track 5 : VroomVroom\_30
- Track 6 : LilyPad\_61
- Track 7 : Bantam\_109
- Track 8 : DatBoi\_107
- Track 9 : Mollymur\_109
- Track 10 : Daredevil\_104, Towmatter\_103
- Track 11 : SpeedDemon\_1110
- Track 12 : RedWattleHog\_18
- Track 13 : TBrady12\_109, Lilizi\_106, Glexan\_105, Bench\_108, Inca\_103, JeTaimé\_104, Lilpickle\_105, Nimrod\_106, Hopey\_106, Murphy\_105, Paperbeatsrock\_105, DrDrey\_106, Stark\_106, Nala\_108, Moldemort\_108, ShamWow\_106, Kimchi\_110, Emmina\_106, Traaww1\_102, RiverMonster\_105, Contagion\_102, Adnama\_110, Pumpkin\_107, Cjw1\_106, Pat3\_103, Misfit\_107, Teaspoon\_106, Henry\_103, Murica\_109, Phaja\_104, Cookies\_103, Kanye\_103, HanKaySha\_106, StolenFromERC\_108, Bruin\_103, Bask21\_106, PhatBacter\_109, Buck\_107, Elite2014\_105, Manda\_107, GoldenSpark\_110, Argent26\_110, Phaux\_108, ChosenOne\_106, Miniwave\_101, Harella\_106, Kostya\_106, NelitzaMV\_103, Dumbo\_105, Mindy\_105, Gage\_108, CrystalP\_105, ChotaBhai\_106, Wiggin\_108, Tarkin\_105, Ukulele\_100, Barbarian\_105, DoctorDiddles\_105, 244\_106, Gator\_104, Hoonter\_109, Easy2Say\_106, TeardropMSU\_102, Flypotenuse\_102, ABCat\_103, Saints25\_102, FireRed\_109, Lilac\_107, Brewer\_102, Thresher\_107, YassJohnny\_103, xkcd\_109, Sassay\_101, Cactus\_110, Sotrice96\_107, Gemini\_111, Goldilocks\_109, SirDuracell\_106, SophKB\_104, Dusk\_103, Icee\_107, Balomoji\_106, BadStone\_103, Asriel\_104, Thimble\_108, Youngblood\_109, Tuco\_107, Rimmer\_104, Terminus\_109, Phrux\_102, Pharsalus\_103, Elph10\_105, HuffyPuff\_108, Command613\_108, Highbury\_102, Czyszczon1\_106, Filch\_107, ShereKhan\_104, Willez\_101, MISSy\_107, BigBubba\_106, Goku\_105, Mosby\_102, Stank\_108, Myrale\_106, Marshmallow\_103, Amao\_106, MadamMonkfish\_105, Eureka\_105, StellaBean\_105, OrionPax\_104, NoSleep\_106, GooberAzure\_109, MPhalcon\_107, Toto\_104, Porky\_104, Tomaszewski\_101, Rakim\_107, Holt\_111, Simpliphy\_104, Maxxinista\_107, IHOP\_104
- Track 14 : BaboJay\_105
- Track 15 : Budgie\_112

- Track 16 : Count\_91
- Track 17 : Camille\_58
- Track 18 : Mema\_58
- Track 19 : Damascus\_59
- Track 20 : DizzyRudy\_63
- Track 21 : AddiRose\_68
- Track 22 : Daddyjeff\_70, Serenabean\_69
- Track 23 : Eevee\_69, Yotsuba\_69, JoyLin\_69
- Track 24 : Sweetclover\_69
- Track 25 : Pippin15\_70
- Track 26 : JoeDirt\_76, OhShagHennessey\_74
- Track 27 : Blessica\_13
- Track 28 : Papyrus\_90, Nilo\_93, Riparian\_92, Weiss13\_90, Zenon\_92
- Track 29 : RunningOnE\_35
- Track 30 : Sleepyhead\_60

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

The start number called the most often in the published annotations is 39, it was called in 124 of the 158 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_106, ABCat\_103, Adnama\_110, Amao\_106, Argent26\_110, Asriel\_104, BaboJay\_105, BadStone\_103, Balomoji\_106, Barbarian\_105, Bask21\_106, Bench\_108, BigBubba\_106, Brewer\_102, Bruin\_103, Buck\_107, Budgie\_112, Cactus\_110, ChosenOne\_106, ChotaBhai\_106, Cjw1\_106, Command613\_108, Contagion\_102, Cookies\_103, CrystalP\_105, Czyszczonek\_106, DoctorDiddles\_105, DrDrey\_106, Dumbo\_105, Dusk\_103, Easy2Say\_106, Elite2014\_105, Elph10\_105, Emmina\_106, Eureka\_105, Filch\_107, FireRed\_109, Flypotenuse\_102, Gage\_108, Gator\_104, Gemini\_111, Glexan\_105, Goku\_105, GoldenSpark\_110, Goldilocks\_109, GooberAzure\_109, HanKaySha\_106, Harella\_106, Henry\_103, Highbury\_102, Holt\_111, Hoonter\_109, Hopey\_106, HufflyPuff\_108, IHOP\_104, Icee\_107, Inca\_103, JeTaime\_104, Kanye\_103, Kimchi\_110, Kostya\_106, Lilac\_107, Lilizi\_106, Lilpickle\_105, MISSy\_107, MPhalcon\_107, MadamMonkfish\_105, Manda\_107, Marshmallow\_103, Maxxinista\_107, Mindy\_105, Miniwave\_101, Misfit\_107, Moldemort\_108, Mosby\_102, Murica\_109, Murphy\_105, Myrale\_106, Nala\_108, NelitzaMV\_103, Nimrod\_106, NoSleep\_106, OrionPax\_104, Paperbeatsrock\_105, Pat3\_103, Phaja\_104, Pharsalus\_103, PhatBacter\_109, Phaux\_108, Phrux\_102, Porky\_104, Pumpkin\_107, Rakim\_107, Rimmer\_104, RiverMonster\_105, Saints25\_102, Sassay\_101, ShamWow\_106, ShereKhan\_104, Simpliphy\_104, SirDuracell\_106, SophKB\_104, Sotrice96\_107, Stank\_108, Stark\_106, StellaBean\_105, StolenFromERC\_108, TBrady12\_109, Tarkin\_105, TeardropMSU\_102, Teaspoon\_106, Terminus\_109, Thimble\_108, Thresher\_107, Tomaszewski\_101, Toto\_104, Traaww1\_102, Tuco\_107, Ukulele\_100, Wiggin\_108, Willez\_101, YassJohnny\_103, Youngblood\_109, xkcd\_109,

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

- 

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

- AceofSpades\_30, AddiRose\_68, Bantam\_109, Blessica\_13, Camille\_58, Count\_91, Daddyjeff\_70, Damascus\_59, Daredevil\_104, DatBoi\_107, DizzyRudy\_63, Eevee\_69, FiveHead\_33, IttyBittyPiggy\_27, JasmineDragon\_30, JoeDirt\_76, JohnThicc\_32, JoyLin\_69, LadyAstra\_31, LilyPad\_61, Mema\_58, MiniMommy\_30, Mollymur\_109, Nilo\_93, OhShagHennessy\_74, Origami\_31, Papyrus\_90, Pippin15\_70, RedWattleHog\_18, Riparian\_92, RunningOnE\_35, Serenabean\_69, ShakeltOph\_30, Sleepyhead\_60, SpeedDemon\_1110, Sweetclover\_69, Towmatter\_103, VroomVroom\_30, Weiss13\_90, Yotsuba\_69, Zenon\_92,

### Summary by start number:

#### Start 11:

- Found in 1 of 165 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilyPad\_61 (DG1),

#### Start 16:

- Found in 2 of 165 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 2 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JoeDirt\_76 (L1), OhShagHennessy\_74 (L1),

#### Start 17:

- Found in 1 of 165 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sleepyhead\_60 (singleton),

#### Start 18:

- Found in 1 of 165 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blessica\_13 (O),

#### Start 19:

- Found in 1 of 165 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RedWattleHog\_18 (DX),

#### Start 21:

- Found in 1 of 165 ( 0.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RunningOnE\_35 (UNK),

#### Start 22:

- Found in 1 of 165 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pippin15\_70 (JA),

Start 23:

- Found in 5 of 165 ( 3.0% ) of genes in pham
- Manual Annotations of this start: 5 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Daredevil\_104 (DL), Eevee\_69 (JA), JoyLin\_69 (JA), Towmatter\_103 (DL), Yotsuba\_69 (JA),

Start 24:

- Found in 2 of 165 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 2 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bantam\_109 (DL), SpeedDemon\_1110 (DL),

Start 25:

- Found in 1 of 165 ( 0.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mema\_58 (EL),

Start 27:

- Found in 12 of 165 ( 7.3% ) of genes in pham
- Manual Annotations of this start: 7 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AceofSpades\_30 (AZ4), Camille\_58 (EL), DatBoi\_107 (DL), FiveHead\_33 (AZ4), JasmineDragon\_30 (AZ4), JohnThicc\_32 (AZ4), LadyAstra\_31 (AZ4), MiniMommy\_30 (AZ4), Mollymur\_109 (DL), Origami\_31 (AZ4), ShakeltOph\_30 (AZ4), VroomVroom\_30 (AZ4),

Start 28:

- Found in 1 of 165 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: IttyBittyPiggy\_27 (AZ1),

Start 33:

- Found in 4 of 165 ( 2.4% ) of genes in pham
- Manual Annotations of this start: 2 of 158
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Damascus\_59 (EL), DizzyRudy\_63 (EL),

Start 34:

- Found in 1 of 165 ( 0.6% ) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Count\_91 (EL),

Start 36:

- Found in 3 of 165 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Sweetclover\_69 (JA),

Start 39:

- Found in 124 of 165 ( 75.2% ) of genes in pham
- Manual Annotations of this start: 124 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 244\_106 (E), ABCat\_103 (E), Adnama\_110 (E), Amao\_106 (E), Argent26\_110 (E), Asriel\_104 (E), BaboJay\_105 (E), BadStone\_103 (E), Balomoji\_106 (E), Barbarian\_105 (E), Bask21\_106 (E), Bench\_108 (E), BigBubba\_106 (E), Brewer\_102 (E), Bruin\_103 (E), Buck\_107 (E), Budgie\_112 (E), Cactus\_110 (E), ChosenOne\_106 (E), ChotaBhai\_106 (E), Cjw1\_106 (E), Command613\_108 (E), Contagion\_102 (E), Cookies\_103 (E), CrystalP\_105 (E), Czyszczonek\_106 (E), DoctorDiddles\_105 (E), DrDrey\_106 (E), Dumbo\_105 (E), Dusk\_103 (E), Easy2Say\_106 (E), Elite2014\_105 (E), Elph10\_105 (E), Emmina\_106 (E), Eureka\_105 (E), Filch\_107 (E), FireRed\_109 (E), Flypotenuse\_102 (E), Gage\_108 (E), Gator\_104 (E), Gemini\_111 (E), Glexan\_105 (E), Goku\_105 (E), GoldenSpark\_110 (E), Goldilocks\_109 (E), GooberAzure\_109 (E), HanKaySha\_106 (E), Harella\_106 (E), Henry\_103 (E), Highbury\_102 (E), Holt\_111 (E), Hoonter\_109 (E), Hopey\_106 (E), HufflyPuff\_108 (E), IHOP\_104 (E), Icee\_107 (E), Inca\_103 (E), JeTaime\_104 (E), Kanye\_103 (E), Kimchi\_110 (E), Kostya\_106 (E), Lilac\_107 (E), Lilizi\_106 (E), Lilpickle\_105 (E), MISSy\_107 (E), MPhalcon\_107 (E), MadamMonkfish\_105 (E), Manda\_107 (E), Marshmallow\_103 (E), Maxxinista\_107 (E), Mindy\_105 (E), Miniwave\_101 (E), Misfit\_107 (E), Moldemort\_108 (E), Mosby\_102 (E), Murica\_109 (E), Murphy\_105 (E), Myrale\_106 (E), Nala\_108 (E), NelitzaMV\_103 (E), Nimrod\_106 (E), NoSleep\_106 (E), OrionPax\_104 (E), Paperbeatsrock\_105 (E), Pat3\_103 (E), Phaja\_104 (E), Pharsalus\_103 (E), PhatBacter\_109 (E), Phaux\_108 (E), Phrux\_102 (E), Porky\_104 (E), Pumpkin\_107 (E), Rakim\_107 (E), Rimmer\_104 (E), RiverMonster\_105 (E), Saints25\_102 (E), Sassay\_101 (E), ShamWow\_106 (E), ShereKhan\_104 (E), Simpliphy\_104 (E), SirDuracell\_106 (E), SophKB\_104 (E), Sotrice96\_107 (E), Stank\_108 (E), Stark\_106 (E), StellaBean\_105 (E), StolenFromERC\_108 (E), TBrady12\_109 (E), Tarkin\_105 (E), TeardropMSU\_102 (E), Teaspoon\_106 (E), Terminus\_109 (E), Thimble\_108 (E), Thresher\_107 (E), Tomaszewski\_101 (E), Toto\_104 (E), Traaww1\_102 (E), Tuco\_107 (E), Ukulele\_100 (E), Wiggin\_108 (E), Willez\_101 (E), YassJohnny\_103 (E), Youngblood\_109 (E), xkcd\_109 (E),

Start 40:

- Found in 13 of 165 ( 7.9% ) of genes in pham
- Manual Annotations of this start: 8 of 158
- Called 61.5% of time when present
- Phage (with cluster) where this start called: AddiRose\_68 (JA), Daddyjeff\_70 (JA), Nilo\_93 (R), Papyrus\_90 (R), Riparian\_92 (R), Serenabean\_69 (JA), Weiss13\_90 (R), Zenon\_92 (R),

**Summary by clusters:**

There are 13 clusters represented in this pham: EL, singleton, E, DL, O, R, DX, L1, AZ1, DG1, UNK, AZ4, JA,

Info for manual annotations of cluster AZ1:

- Start number 28 was manually annotated 1 time for cluster AZ1.

Info for manual annotations of cluster AZ4:

- Start number 27 was manually annotated 4 times for cluster AZ4.

Info for manual annotations of cluster DG1:

- Start number 11 was manually annotated 1 time for cluster DG1.

Info for manual annotations of cluster DL:

- Start number 23 was manually annotated 2 times for cluster DL.
- Start number 24 was manually annotated 2 times for cluster DL.
- Start number 27 was manually annotated 2 times for cluster DL.

Info for manual annotations of cluster DX:

- Start number 19 was manually annotated 1 time for cluster DX.

Info for manual annotations of cluster E:

- Start number 39 was manually annotated 124 times for cluster E.

Info for manual annotations of cluster EL:

- Start number 27 was manually annotated 1 time for cluster EL.
- Start number 33 was manually annotated 2 times for cluster EL.
- Start number 34 was manually annotated 1 time for cluster EL.

Info for manual annotations of cluster JA:

- Start number 22 was manually annotated 1 time for cluster JA.
- Start number 23 was manually annotated 3 times for cluster JA.
- Start number 36 was manually annotated 1 time for cluster JA.
- Start number 40 was manually annotated 3 times for cluster JA.

Info for manual annotations of cluster L1:

- Start number 16 was manually annotated 2 times for cluster L1.

Info for manual annotations of cluster O:

- Start number 18 was manually annotated 1 time for cluster O.

Info for manual annotations of cluster R:

- Start number 40 was manually annotated 5 times for cluster R.

### ***Gene Information:***

Gene: 244\_106 Start: 61588, Stop: 61878, Start Num: 39

Candidate Starts for 244\_106:

(Start: 39 @61588 has 124 MA's), (63, 61717), (68, 61741), (78, 61801), (83, 61849),

Gene: ABCat\_103 Start: 62792, Stop: 63082, Start Num: 39

Candidate Starts for ABCat\_103:

(Start: 39 @62792 has 124 MA's), (63, 62921), (68, 62945), (78, 63005), (83, 63053),

Gene: AceofSpades\_30 Start: 22705, Stop: 23088, Start Num: 27

Candidate Starts for AceofSpades\_30:

(1, 22525), (20, 22684), (Start: 27 @22705 has 7 MA's), (73, 22939),

Gene: AddiRose\_68 Start: 43648, Stop: 43974, Start Num: 40

Candidate Starts for AddiRose\_68:

(2, 43444), (Start: 40 @43648 has 8 MA's), (44, 43690), (45, 43693), (56, 43765), (57, 43768), (66, 43804), (68, 43810), (71, 43825), (78, 43867), (84, 43918), (92, 43966),

Gene: Adnama\_110 Start: 62081, Stop: 62371, Start Num: 39

Candidate Starts for Adnama\_110:

(Start: 39 @62081 has 124 MA's), (63, 62210), (68, 62234), (78, 62294), (83, 62342),

Gene: Amao\_106 Start: 62234, Stop: 62521, Start Num: 39

Candidate Starts for Amao\_106:

(Start: 39 @62234 has 124 MA's), (63, 62363), (68, 62387), (78, 62447), (83, 62495),

Gene: Argent26\_110 Start: 62005, Stop: 62295, Start Num: 39

Candidate Starts for Argent26\_110:

(Start: 39 @62005 has 124 MA's), (63, 62134), (68, 62158), (78, 62218), (83, 62266),

Gene: Asriel\_104 Start: 60418, Stop: 60708, Start Num: 39

Candidate Starts for Asriel\_104:

(Start: 39 @60418 has 124 MA's), (63, 60547), (68, 60571), (78, 60631), (83, 60679),

Gene: BaboJay\_105 Start: 62761, Stop: 63051, Start Num: 39

Candidate Starts for BaboJay\_105:

(Start: 39 @62761 has 124 MA's), (68, 62914), (78, 62974), (83, 63022),

Gene: BadStone\_103 Start: 62340, Stop: 62630, Start Num: 39

Candidate Starts for BadStone\_103:

(Start: 39 @62340 has 124 MA's), (63, 62469), (68, 62493), (78, 62553), (83, 62601),

Gene: Balomoji\_106 Start: 62201, Stop: 62491, Start Num: 39

Candidate Starts for Balomoji\_106:

(Start: 39 @62201 has 124 MA's), (63, 62330), (68, 62354), (78, 62414), (83, 62462),

Gene: Bantam\_109 Start: 70339, Stop: 70695, Start Num: 24

Candidate Starts for Bantam\_109:

(8, 70279), (Start: 24 @70339 has 2 MA's), (59, 70510), (68, 70546), (85, 70657), (86, 70666),

Gene: Barbarian\_105 Start: 60418, Stop: 60708, Start Num: 39

Candidate Starts for Barbarian\_105:

(Start: 39 @60418 has 124 MA's), (63, 60547), (68, 60571), (78, 60631), (83, 60679),

Gene: Bask21\_106 Start: 61036, Stop: 61323, Start Num: 39

Candidate Starts for Bask21\_106:

(Start: 39 @61036 has 124 MA's), (63, 61165), (68, 61189), (78, 61249), (83, 61297),

Gene: Bench\_108 Start: 62762, Stop: 63052, Start Num: 39

Candidate Starts for Bench\_108:

(Start: 39 @62762 has 124 MA's), (63, 62891), (68, 62915), (78, 62975), (83, 63023),

Gene: BigBubba\_106 Start: 61114, Stop: 61404, Start Num: 39

Candidate Starts for BigBubba\_106:

(Start: 39 @61114 has 124 MA's), (63, 61243), (68, 61267), (78, 61327), (83, 61375),

Gene: Blessica\_13 Start: 5453, Stop: 5890, Start Num: 18

Candidate Starts for Blessica\_13:

(Start: 18 @5453 has 1 MA's), (26, 5477), (35, 5501), (52, 5594), (71, 5681), (88, 5795), (89, 5804), (94, 5837), (95, 5840), (97, 5855),

Gene: Brewer\_102 Start: 60918, Stop: 61208, Start Num: 39

Candidate Starts for Brewer\_102:

(Start: 39 @60918 has 124 MA's), (63, 61047), (68, 61071), (78, 61131), (83, 61179),

Gene: Bruin\_103 Start: 61446, Stop: 61736, Start Num: 39

Candidate Starts for Bruin\_103:

(Start: 39 @61446 has 124 MA's), (63, 61575), (68, 61599), (78, 61659), (83, 61707),

Gene: Buck\_107 Start: 63262, Stop: 63552, Start Num: 39

Candidate Starts for Buck\_107:

(Start: 39 @63262 has 124 MA's), (63, 63391), (68, 63415), (78, 63475), (83, 63523),

Gene: Budgie\_112 Start: 62448, Stop: 62732, Start Num: 39

Candidate Starts for Budgie\_112:

(Start: 39 @62448 has 124 MA's), (63, 62577), (68, 62601), (78, 62661),

Gene: Cactus\_110 Start: 61700, Stop: 61990, Start Num: 39

Candidate Starts for Cactus\_110:

(Start: 39 @61700 has 124 MA's), (63, 61829), (68, 61853), (78, 61913), (83, 61961),

Gene: Camille\_58 Start: 41232, Stop: 41567, Start Num: 27

Candidate Starts for Camille\_58:

(Start: 27 @41232 has 7 MA's), (Start: 36 @41253 has 1 MA's), (Start: 40 @41256 has 8 MA's), (55, 41376), (81, 41511), (82, 41520), (91, 41562),

Gene: ChosenOne\_106 Start: 61646, Stop: 61936, Start Num: 39

Candidate Starts for ChosenOne\_106:

(Start: 39 @61646 has 124 MA's), (63, 61775), (68, 61799), (78, 61859), (83, 61907),

Gene: ChotaBhai\_106 Start: 62098, Stop: 62385, Start Num: 39

Candidate Starts for ChotaBhai\_106:

(Start: 39 @62098 has 124 MA's), (63, 62227), (68, 62251), (78, 62311), (83, 62359),

Gene: Cjw1\_106 Start: 63455, Stop: 63745, Start Num: 39

Candidate Starts for Cjw1\_106:

(Start: 39 @63455 has 124 MA's), (63, 63584), (68, 63608), (78, 63668), (83, 63716),

Gene: Command613\_108 Start: 62194, Stop: 62484, Start Num: 39

Candidate Starts for Command613\_108:

(Start: 39 @62194 has 124 MA's), (63, 62323), (68, 62347), (78, 62407), (83, 62455),

Gene: Contagion\_102 Start: 61808, Stop: 62098, Start Num: 39

Candidate Starts for Contagion\_102:

(Start: 39 @61808 has 124 MA's), (63, 61937), (68, 61961), (78, 62021), (83, 62069),

Gene: Cookies\_103 Start: 61964, Stop: 62251, Start Num: 39

Candidate Starts for Cookies\_103:

(Start: 39 @61964 has 124 MA's), (63, 62093), (68, 62117), (78, 62177), (83, 62225),

Gene: Count\_91 Start: 59562, Stop: 59873, Start Num: 34

Candidate Starts for Count\_91:

(Start: 34 @59562 has 1 MA's), (48, 59631), (60, 59697), (70, 59745), (74, 59766),

Gene: CrystalP\_105 Start: 62698, Stop: 62988, Start Num: 39

Candidate Starts for CrystalP\_105:

(Start: 39 @62698 has 124 MA's), (63, 62827), (68, 62851), (78, 62911), (83, 62959),

Gene: Czyszczone1\_106 Start: 61801, Stop: 62091, Start Num: 39

Candidate Starts for Czyszczone1\_106:

(Start: 39 @61801 has 124 MA's), (63, 61930), (68, 61954), (78, 62014), (83, 62062),

Gene: Daddyjeff\_70 Start: 44061, Stop: 44387, Start Num: 40

Candidate Starts for Daddyjeff\_70:

(12, 43989), (30, 44040), (38, 44058), (Start: 40 @44061 has 8 MA's), (44, 44103), (45, 44106), (56, 44178), (57, 44181), (66, 44217), (68, 44223), (71, 44238), (78, 44280), (84, 44331), (87, 44349), (92, 44379),

Gene: Damascus\_59 Start: 42669, Stop: 42986, Start Num: 33

Candidate Starts for Damascus\_59:

(10, 42585), (13, 42612), (32, 42666), (Start: 33 @42669 has 2 MA's), (55, 42795), (64, 42822), (78, 42894), (81, 42930),

Gene: Daredevil\_104 Start: 67182, Stop: 67538, Start Num: 23

Candidate Starts for Daredevil\_104:

(Start: 23 @67182 has 5 MA's), (Start: 33 @67206 has 2 MA's), (54, 67329), (68, 67389), (85, 67500),

Gene: DatBoi\_107 Start: 69816, Stop: 70166, Start Num: 27

Candidate Starts for DatBoi\_107:

(4, 69714), (6, 69726), (Start: 27 @69816 has 7 MA's), (59, 69981), (68, 70017), (70, 70029), (79, 70077), (85, 70128), (86, 70137),

Gene: DizzyRudy\_63 Start: 42556, Stop: 42873, Start Num: 33

Candidate Starts for DizzyRudy\_63:

(10, 42472), (13, 42499), (32, 42553), (Start: 33 @42556 has 2 MA's), (55, 42682), (67, 42721), (78, 42781), (81, 42817),

Gene: DoctorDiddles\_105 Start: 61466, Stop: 61753, Start Num: 39

Candidate Starts for DoctorDiddles\_105:

(Start: 39 @61466 has 124 MA's), (63, 61595), (68, 61619), (78, 61679), (83, 61727),

Gene: DrDrey\_106 Start: 63478, Stop: 63768, Start Num: 39

Candidate Starts for DrDrey\_106:

(Start: 39 @63478 has 124 MA's), (63, 63607), (68, 63631), (78, 63691), (83, 63739),

Gene: Dumbo\_105 Start: 61838, Stop: 62128, Start Num: 39

Candidate Starts for Dumbo\_105:

(Start: 39 @61838 has 124 MA's), (63, 61967), (68, 61991), (78, 62051), (83, 62099),

Gene: Dusk\_103 Start: 62000, Stop: 62290, Start Num: 39

Candidate Starts for Dusk\_103:

(Start: 39 @62000 has 124 MA's), (63, 62129), (68, 62153), (78, 62213), (83, 62261),

Gene: Easy2Say\_106 Start: 62472, Stop: 62762, Start Num: 39  
Candidate Starts for Easy2Say\_106:  
(Start: 39 @62472 has 124 MA's), (63, 62601), (68, 62625), (78, 62685), (83, 62733),

Gene: Eevee\_69 Start: 47508, Stop: 47876, Start Num: 23  
Candidate Starts for Eevee\_69:  
(7, 47439), (15, 47490), (Start: 23 @47508 has 5 MA's), (31, 47529), (Start: 40 @47547 has 8 MA's),  
(42, 47562), (58, 47673), (65, 47700), (70, 47721), (73, 47739), (81, 47802), (92, 47868),

Gene: Elite2014\_105 Start: 61645, Stop: 61935, Start Num: 39  
Candidate Starts for Elite2014\_105:  
(Start: 39 @61645 has 124 MA's), (63, 61774), (68, 61798), (78, 61858), (83, 61906),

Gene: Elph10\_105 Start: 61484, Stop: 61774, Start Num: 39  
Candidate Starts for Elph10\_105:  
(Start: 39 @61484 has 124 MA's), (63, 61613), (68, 61637), (78, 61697), (83, 61745),

Gene: Emmina\_106 Start: 61423, Stop: 61713, Start Num: 39  
Candidate Starts for Emmina\_106:  
(Start: 39 @61423 has 124 MA's), (63, 61552), (68, 61576), (78, 61636), (83, 61684),

Gene: Eureka\_105 Start: 62611, Stop: 62901, Start Num: 39  
Candidate Starts for Eureka\_105:  
(Start: 39 @62611 has 124 MA's), (63, 62740), (68, 62764), (78, 62824), (83, 62872),

Gene: Filch\_107 Start: 61797, Stop: 62087, Start Num: 39  
Candidate Starts for Filch\_107:  
(Start: 39 @61797 has 124 MA's), (63, 61926), (68, 61950), (78, 62010), (83, 62058),

Gene: FireRed\_109 Start: 62887, Stop: 63177, Start Num: 39  
Candidate Starts for FireRed\_109:  
(Start: 39 @62887 has 124 MA's), (63, 63016), (68, 63040), (78, 63100), (83, 63148),

Gene: FiveHead\_33 Start: 22717, Stop: 23097, Start Num: 27  
Candidate Starts for FiveHead\_33:  
(9, 22657), (Start: 27 @22717 has 7 MA's), (73, 22948),

Gene: Flypotenuse\_102 Start: 61072, Stop: 61362, Start Num: 39  
Candidate Starts for Flypotenuse\_102:  
(Start: 39 @61072 has 124 MA's), (63, 61201), (68, 61225), (78, 61285), (83, 61333),

Gene: Gage\_108 Start: 62143, Stop: 62433, Start Num: 39  
Candidate Starts for Gage\_108:  
(Start: 39 @62143 has 124 MA's), (63, 62272), (68, 62296), (78, 62356), (83, 62404),

Gene: Gator\_104 Start: 61931, Stop: 62218, Start Num: 39  
Candidate Starts for Gator\_104:  
(Start: 39 @61931 has 124 MA's), (63, 62060), (68, 62084), (78, 62144), (83, 62192),

Gene: Gemini\_111 Start: 62522, Stop: 62812, Start Num: 39  
Candidate Starts for Gemini\_111:  
(Start: 39 @62522 has 124 MA's), (63, 62651), (68, 62675), (78, 62735), (83, 62783),

Gene: Glexan\_105 Start: 62202, Stop: 62492, Start Num: 39  
Candidate Starts for Glexan\_105:  
(Start: 39 @62202 has 124 MA's), (63, 62331), (68, 62355), (78, 62415), (83, 62463),

Gene: Goku\_105 Start: 62340, Stop: 62630, Start Num: 39  
Candidate Starts for Goku\_105:  
(Start: 39 @62340 has 124 MA's), (63, 62469), (68, 62493), (78, 62553), (83, 62601),

Gene: GoldenSpark\_110 Start: 62005, Stop: 62295, Start Num: 39  
Candidate Starts for GoldenSpark\_110:  
(Start: 39 @62005 has 124 MA's), (63, 62134), (68, 62158), (78, 62218), (83, 62266),

Gene: Goldilocks\_109 Start: 61901, Stop: 62191, Start Num: 39  
Candidate Starts for Goldilocks\_109:  
(Start: 39 @61901 has 124 MA's), (63, 62030), (68, 62054), (78, 62114), (83, 62162),

Gene: GooberAzure\_109 Start: 62005, Stop: 62295, Start Num: 39  
Candidate Starts for GooberAzure\_109:  
(Start: 39 @62005 has 124 MA's), (63, 62134), (68, 62158), (78, 62218), (83, 62266),

Gene: HanKaySha\_106 Start: 62193, Stop: 62483, Start Num: 39  
Candidate Starts for HanKaySha\_106:  
(Start: 39 @62193 has 124 MA's), (63, 62322), (68, 62346), (78, 62406), (83, 62454),

Gene: Harella\_106 Start: 62718, Stop: 63008, Start Num: 39  
Candidate Starts for Harella\_106:  
(Start: 39 @62718 has 124 MA's), (63, 62847), (68, 62871), (78, 62931), (83, 62979),

Gene: Henry\_103 Start: 62003, Stop: 62293, Start Num: 39  
Candidate Starts for Henry\_103:  
(Start: 39 @62003 has 124 MA's), (63, 62132), (68, 62156), (78, 62216), (83, 62264),

Gene: Highbury\_102 Start: 60350, Stop: 60640, Start Num: 39  
Candidate Starts for Highbury\_102:  
(Start: 39 @60350 has 124 MA's), (63, 60479), (68, 60503), (78, 60563), (83, 60611),

Gene: Holt\_111 Start: 62419, Stop: 62709, Start Num: 39  
Candidate Starts for Holt\_111:  
(Start: 39 @62419 has 124 MA's), (63, 62548), (68, 62572), (78, 62632), (83, 62680),

Gene: Hoonter\_109 Start: 62498, Stop: 62788, Start Num: 39  
Candidate Starts for Hoonter\_109:  
(Start: 39 @62498 has 124 MA's), (63, 62627), (68, 62651), (78, 62711), (83, 62759),

Gene: Hokey\_106 Start: 62804, Stop: 63094, Start Num: 39  
Candidate Starts for Hokey\_106:  
(Start: 39 @62804 has 124 MA's), (63, 62933), (68, 62957), (78, 63017), (83, 63065),

Gene: HufflyPuff\_108 Start: 63113, Stop: 63403, Start Num: 39  
Candidate Starts for HufflyPuff\_108:  
(Start: 39 @63113 has 124 MA's), (63, 63242), (68, 63266), (78, 63326), (83, 63374),

Gene: IHOP\_104 Start: 61721, Stop: 62011, Start Num: 39

Candidate Starts for IHOP\_104:

(Start: 39 @61721 has 124 MA's), (63, 61850), (68, 61874), (78, 61934), (83, 61982),

Gene: Icee\_107 Start: 61529, Stop: 61819, Start Num: 39

Candidate Starts for Icee\_107:

(Start: 39 @61529 has 124 MA's), (63, 61658), (68, 61682), (78, 61742), (83, 61790),

Gene: Inca\_103 Start: 60210, Stop: 60500, Start Num: 39

Candidate Starts for Inca\_103:

(Start: 39 @60210 has 124 MA's), (63, 60339), (68, 60363), (78, 60423), (83, 60471),

Gene: IttyBittyPiggy\_27 Start: 22317, Stop: 22682, Start Num: 28

Candidate Starts for IttyBittyPiggy\_27:

(3, 22149), (Start: 28 @22317 has 1 MA's), (61, 22482), (69, 22521), (71, 22533),

Gene: JasmineDragon\_30 Start: 22617, Stop: 23000, Start Num: 27

Candidate Starts for JasmineDragon\_30:

(1, 22437), (Start: 27 @22617 has 7 MA's), (62, 22791), (73, 22851),

Gene: JeTaime\_104 Start: 61629, Stop: 61919, Start Num: 39

Candidate Starts for JeTaime\_104:

(Start: 39 @61629 has 124 MA's), (63, 61758), (68, 61782), (78, 61842), (83, 61890),

Gene: JoeDirt\_76 Start: 51825, Stop: 52229, Start Num: 16

Candidate Starts for JoeDirt\_76:

(5, 51750), (14, 51816), (Start: 16 @51825 has 2 MA's), (35, 51876), (41, 51894), (49, 51951), (50, 51954), (58, 52011), (69, 52053), (70, 52062), (71, 52065), (78, 52110), (79, 52113),

Gene: JohnThicc\_32 Start: 22717, Stop: 23097, Start Num: 27

Candidate Starts for JohnThicc\_32:

(9, 22657), (Start: 27 @22717 has 7 MA's), (73, 22948),

Gene: JoyLin\_69 Start: 47628, Stop: 47996, Start Num: 23

Candidate Starts for JoyLin\_69:

(7, 47559), (15, 47610), (Start: 23 @47628 has 5 MA's), (31, 47649), (Start: 40 @47667 has 8 MA's), (42, 47682), (58, 47793), (65, 47820), (70, 47841), (73, 47859), (81, 47922), (92, 47988),

Gene: Kanye\_103 Start: 62254, Stop: 62544, Start Num: 39

Candidate Starts for Kanye\_103:

(Start: 39 @62254 has 124 MA's), (63, 62383), (68, 62407), (78, 62467), (83, 62515),

Gene: Kimchi\_110 Start: 62146, Stop: 62436, Start Num: 39

Candidate Starts for Kimchi\_110:

(Start: 39 @62146 has 124 MA's), (63, 62275), (68, 62299), (78, 62359), (83, 62407),

Gene: Kostya\_106 Start: 61823, Stop: 62113, Start Num: 39

Candidate Starts for Kostya\_106:

(Start: 39 @61823 has 124 MA's), (63, 61952), (68, 61976), (78, 62036), (83, 62084),

Gene: LadyAstra\_31 Start: 22651, Stop: 23034, Start Num: 27

Candidate Starts for LadyAstra\_31:

(9, 22591), (Start: 27 @22651 has 7 MA's), (73, 22885),

Gene: Lilac\_107 Start: 62947, Stop: 63237, Start Num: 39  
Candidate Starts for Lilac\_107:  
(Start: 39 @62947 has 124 MA's), (63, 63076), (68, 63100), (78, 63160), (83, 63208),

Gene: Lilizi\_106 Start: 62233, Stop: 62523, Start Num: 39  
Candidate Starts for Lilizi\_106:  
(Start: 39 @62233 has 124 MA's), (63, 62362), (68, 62386), (78, 62446), (83, 62494),

Gene: Lilpickle\_105 Start: 61645, Stop: 61935, Start Num: 39  
Candidate Starts for Lilpickle\_105:  
(Start: 39 @61645 has 124 MA's), (63, 61774), (68, 61798), (78, 61858), (83, 61906),

Gene: LilyPad\_61 Start: 44847, Stop: 45245, Start Num: 11  
Candidate Starts for LilyPad\_61:  
(Start: 11 @44847 has 1 MA's), (13, 44853), (43, 44955), (57, 45030), (72, 45090), (76, 45123), (80, 45150), (81, 45165), (88, 45201),

Gene: MISSy\_107 Start: 62930, Stop: 63220, Start Num: 39  
Candidate Starts for MISSy\_107:  
(Start: 39 @62930 has 124 MA's), (63, 63059), (68, 63083), (78, 63143), (83, 63191),

Gene: MPhalcon\_107 Start: 62348, Stop: 62638, Start Num: 39  
Candidate Starts for MPhalcon\_107:  
(Start: 39 @62348 has 124 MA's), (63, 62477), (68, 62501), (78, 62561), (83, 62609),

Gene: MadamMonkfish\_105 Start: 61655, Stop: 61945, Start Num: 39  
Candidate Starts for MadamMonkfish\_105:  
(Start: 39 @61655 has 124 MA's), (63, 61784), (68, 61808), (78, 61868), (83, 61916),

Gene: Manda\_107 Start: 62385, Stop: 62675, Start Num: 39  
Candidate Starts for Manda\_107:  
(Start: 39 @62385 has 124 MA's), (63, 62514), (68, 62538), (78, 62598), (83, 62646),

Gene: Marshmallow\_103 Start: 62343, Stop: 62633, Start Num: 39  
Candidate Starts for Marshmallow\_103:  
(Start: 39 @62343 has 124 MA's), (63, 62472), (68, 62496), (78, 62556), (83, 62604),

Gene: Maxxinista\_107 Start: 62132, Stop: 62422, Start Num: 39  
Candidate Starts for Maxxinista\_107:  
(Start: 39 @62132 has 124 MA's), (63, 62261), (68, 62285), (78, 62345), (83, 62393),

Gene: Mema\_58 Start: 45072, Stop: 45413, Start Num: 25  
Candidate Starts for Mema\_58:  
(25, 45072), (Start: 36 @45099 has 1 MA's), (55, 45222),

Gene: Mindy\_105 Start: 61664, Stop: 61954, Start Num: 39  
Candidate Starts for Mindy\_105:  
(Start: 39 @61664 has 124 MA's), (63, 61793), (68, 61817), (78, 61877), (83, 61925),

Gene: MiniMommy\_30 Start: 22618, Stop: 23001, Start Num: 27  
Candidate Starts for MiniMommy\_30:  
(1, 22438), (Start: 27 @22618 has 7 MA's), (62, 22792), (73, 22852),

Gene: Miniwave\_101 Start: 61841, Stop: 62131, Start Num: 39  
Candidate Starts for Miniwave\_101:  
(Start: 39 @61841 has 124 MA's), (63, 61970), (68, 61994), (78, 62054), (83, 62102),

Gene: Misfit\_107 Start: 63444, Stop: 63734, Start Num: 39  
Candidate Starts for Misfit\_107:  
(Start: 39 @63444 has 124 MA's), (63, 63573), (68, 63597), (78, 63657), (83, 63705),

Gene: Moldemort\_108 Start: 62113, Stop: 62403, Start Num: 39  
Candidate Starts for Moldemort\_108:  
(Start: 39 @62113 has 124 MA's), (63, 62242), (68, 62266), (78, 62326), (83, 62374),

Gene: Mollymur\_109 Start: 70923, Stop: 71270, Start Num: 27  
Candidate Starts for Mollymur\_109:  
(4, 70821), (6, 70833), (Start: 27 @70923 has 7 MA's), (59, 71088), (72, 71142), (79, 71184), (85, 71235),

Gene: Mosby\_102 Start: 61808, Stop: 62098, Start Num: 39  
Candidate Starts for Mosby\_102:  
(Start: 39 @61808 has 124 MA's), (63, 61937), (68, 61961), (78, 62021), (83, 62069),

Gene: Murica\_109 Start: 64147, Stop: 64437, Start Num: 39  
Candidate Starts for Murica\_109:  
(Start: 39 @64147 has 124 MA's), (63, 64276), (68, 64300), (78, 64360), (83, 64408),

Gene: Murphy\_105 Start: 62505, Stop: 62795, Start Num: 39  
Candidate Starts for Murphy\_105:  
(Start: 39 @62505 has 124 MA's), (63, 62634), (68, 62658), (78, 62718), (83, 62766),

Gene: Myrale\_106 Start: 62482, Stop: 62772, Start Num: 39  
Candidate Starts for Myrale\_106:  
(Start: 39 @62482 has 124 MA's), (63, 62611), (68, 62635), (78, 62695), (83, 62743),

Gene: Nala\_108 Start: 62857, Stop: 63147, Start Num: 39  
Candidate Starts for Nala\_108:  
(Start: 39 @62857 has 124 MA's), (63, 62986), (68, 63010), (78, 63070), (83, 63118),

Gene: NelitzaMV\_103 Start: 60830, Stop: 61120, Start Num: 39  
Candidate Starts for NelitzaMV\_103:  
(Start: 39 @60830 has 124 MA's), (63, 60959), (68, 60983), (78, 61043), (83, 61091),

Gene: Nilo\_93 Start: 65105, Stop: 65443, Start Num: 40  
Candidate Starts for Nilo\_93:  
(Start: 40 @65105 has 8 MA's), (93, 65426),

Gene: Nimrod\_106 Start: 62491, Stop: 62781, Start Num: 39  
Candidate Starts for Nimrod\_106:  
(Start: 39 @62491 has 124 MA's), (63, 62620), (68, 62644), (78, 62704), (83, 62752),

Gene: NoSleep\_106 Start: 61665, Stop: 61955, Start Num: 39  
Candidate Starts for NoSleep\_106:  
(Start: 39 @61665 has 124 MA's), (63, 61794), (68, 61818), (78, 61878), (83, 61926),

Gene: OhShagHennessy\_74 Start: 50528, Stop: 50932, Start Num: 16

Candidate Starts for OhShagHennessy\_74:

(5, 50453), (14, 50519), (Start: 16 @50528 has 2 MA's), (35, 50579), (41, 50597), (49, 50654), (50, 50657), (58, 50714), (69, 50756), (70, 50765), (71, 50768), (78, 50813), (79, 50816),

Gene: Origami\_31 Start: 22651, Stop: 23034, Start Num: 27

Candidate Starts for Origami\_31:

(9, 22591), (Start: 27 @22651 has 7 MA's), (73, 22885),

Gene: OrionPax\_104 Start: 61738, Stop: 62028, Start Num: 39

Candidate Starts for OrionPax\_104:

(Start: 39 @61738 has 124 MA's), (63, 61867), (68, 61891), (78, 61951), (83, 61999),

Gene: Paperbeatsrock\_105 Start: 62519, Stop: 62809, Start Num: 39

Candidate Starts for Paperbeatsrock\_105:

(Start: 39 @62519 has 124 MA's), (63, 62648), (68, 62672), (78, 62732), (83, 62780),

Gene: Papyrus\_90 Start: 64039, Stop: 64377, Start Num: 40

Candidate Starts for Papyrus\_90:

(Start: 40 @64039 has 8 MA's), (93, 64360),

Gene: Pat3\_103 Start: 61036, Stop: 61323, Start Num: 39

Candidate Starts for Pat3\_103:

(Start: 39 @61036 has 124 MA's), (63, 61165), (68, 61189), (78, 61249), (83, 61297),

Gene: Phaja\_104 Start: 61723, Stop: 62013, Start Num: 39

Candidate Starts for Phaja\_104:

(Start: 39 @61723 has 124 MA's), (63, 61852), (68, 61876), (78, 61936), (83, 61984),

Gene: Pharsalus\_103 Start: 62218, Stop: 62508, Start Num: 39

Candidate Starts for Pharsalus\_103:

(Start: 39 @62218 has 124 MA's), (63, 62347), (68, 62371), (78, 62431), (83, 62479),

Gene: PhatBacter\_109 Start: 62887, Stop: 63177, Start Num: 39

Candidate Starts for PhatBacter\_109:

(Start: 39 @62887 has 124 MA's), (63, 63016), (68, 63040), (78, 63100), (83, 63148),

Gene: Phaux\_108 Start: 63447, Stop: 63737, Start Num: 39

Candidate Starts for Phaux\_108:

(Start: 39 @63447 has 124 MA's), (63, 63576), (68, 63600), (78, 63660), (83, 63708),

Gene: Phrux\_102 Start: 61525, Stop: 61815, Start Num: 39

Candidate Starts for Phrux\_102:

(Start: 39 @61525 has 124 MA's), (63, 61654), (68, 61678), (78, 61738), (83, 61786),

Gene: Pippin15\_70 Start: 44587, Stop: 44967, Start Num: 22

Candidate Starts for Pippin15\_70:

(Start: 22 @44587 has 1 MA's), (29, 44605), (31, 44608), (37, 44626), (Start: 40 @44629 has 8 MA's), (53, 44716), (65, 44782), (70, 44803), (71, 44806), (73, 44821), (75, 44833), (81, 44884), (90, 44932), (92, 44950),

Gene: Porky\_104 Start: 61269, Stop: 61559, Start Num: 39

Candidate Starts for Porky\_104:

(Start: 39 @61269 has 124 MA's), (63, 61398), (68, 61422), (78, 61482), (83, 61530),

Gene: Pumpkin\_107 Start: 61865, Stop: 62155, Start Num: 39

Candidate Starts for Pumpkin\_107:

(Start: 39 @61865 has 124 MA's), (63, 61994), (68, 62018), (78, 62078), (83, 62126),

Gene: Rakim\_107 Start: 61934, Stop: 62221, Start Num: 39

Candidate Starts for Rakim\_107:

(Start: 39 @61934 has 124 MA's), (63, 62063), (68, 62087), (78, 62147), (83, 62195),

Gene: RedWattleHog\_18 Start: 21845, Stop: 22282, Start Num: 19

Candidate Starts for RedWattleHog\_18:

(Start: 19 @21845 has 1 MA's), (41, 21908), (46, 21947), (47, 21950), (51, 21968), (82, 22148), (96, 22226), (98, 22271),

Gene: Rimmer\_104 Start: 62324, Stop: 62614, Start Num: 39

Candidate Starts for Rimmer\_104:

(Start: 39 @62324 has 124 MA's), (63, 62453), (68, 62477), (78, 62537), (83, 62585),

Gene: Riparian\_92 Start: 64551, Stop: 64889, Start Num: 40

Candidate Starts for Riparian\_92:

(Start: 40 @64551 has 8 MA's), (93, 64872),

Gene: RiverMonster\_105 Start: 62420, Stop: 62710, Start Num: 39

Candidate Starts for RiverMonster\_105:

(Start: 39 @62420 has 124 MA's), (63, 62549), (68, 62573), (78, 62633), (83, 62681),

Gene: RunningOnE\_35 Start: 16150, Stop: 15782, Start Num: 21

Candidate Starts for RunningOnE\_35:

(21, 16150), (43, 16075), (68, 15961), (70, 15949), (73, 15931),

Gene: Saints25\_102 Start: 60350, Stop: 60640, Start Num: 39

Candidate Starts for Saints25\_102:

(Start: 39 @60350 has 124 MA's), (63, 60479), (68, 60503), (78, 60563), (83, 60611),

Gene: Sassay\_101 Start: 60770, Stop: 61060, Start Num: 39

Candidate Starts for Sassay\_101:

(Start: 39 @60770 has 124 MA's), (63, 60899), (68, 60923), (78, 60983), (83, 61031),

Gene: Serenabean\_69 Start: 43953, Stop: 44279, Start Num: 40

Candidate Starts for Serenabean\_69:

(12, 43881), (30, 43932), (38, 43950), (Start: 40 @43953 has 8 MA's), (44, 43995), (45, 43998), (56, 44070), (57, 44073), (66, 44109), (68, 44115), (71, 44130), (78, 44172), (84, 44223), (87, 44241), (92, 44271),

Gene: ShakeltOph\_30 Start: 22617, Stop: 23000, Start Num: 27

Candidate Starts for ShakeltOph\_30:

(1, 22437), (Start: 27 @22617 has 7 MA's), (62, 22791), (73, 22851),

Gene: ShamWow\_106 Start: 62698, Stop: 62988, Start Num: 39

Candidate Starts for ShamWow\_106:

(Start: 39 @62698 has 124 MA's), (63, 62827), (68, 62851), (78, 62911), (83, 62959),

Gene: ShereKhan\_104 Start: 63179, Stop: 63469, Start Num: 39  
Candidate Starts for ShereKhan\_104:  
(Start: 39 @63179 has 124 MA's), (63, 63308), (68, 63332), (78, 63392), (83, 63440),

Gene: Simpliphy\_104 Start: 61991, Stop: 62281, Start Num: 39  
Candidate Starts for Simpliphy\_104:  
(Start: 39 @61991 has 124 MA's), (63, 62120), (68, 62144), (78, 62204), (83, 62252),

Gene: SirDuracell\_106 Start: 61536, Stop: 61823, Start Num: 39  
Candidate Starts for SirDuracell\_106:  
(Start: 39 @61536 has 124 MA's), (63, 61665), (68, 61689), (78, 61749), (83, 61797),

Gene: Sleepyhead\_60 Start: 39674, Stop: 40021, Start Num: 17  
Candidate Starts for Sleepyhead\_60:  
(Start: 17 @39674 has 1 MA's), (70, 39896), (77, 39935), (86, 40004),

Gene: SophKB\_104 Start: 61980, Stop: 62270, Start Num: 39  
Candidate Starts for SophKB\_104:  
(Start: 39 @61980 has 124 MA's), (63, 62109), (68, 62133), (78, 62193), (83, 62241),

Gene: Sotrice96\_107 Start: 62444, Stop: 62734, Start Num: 39  
Candidate Starts for Sotrice96\_107:  
(Start: 39 @62444 has 124 MA's), (63, 62573), (68, 62597), (78, 62657), (83, 62705),

Gene: SpeedDemon\_1110 Start: 72859, Stop: 73215, Start Num: 24  
Candidate Starts for SpeedDemon\_1110:  
(8, 72799), (Start: 24 @72859 has 2 MA's), (59, 73030), (68, 73066), (85, 73177), (86, 73186),

Gene: Stank\_108 Start: 62218, Stop: 62508, Start Num: 39  
Candidate Starts for Stank\_108:  
(Start: 39 @62218 has 124 MA's), (63, 62347), (68, 62371), (78, 62431), (83, 62479),

Gene: Stark\_106 Start: 62304, Stop: 62594, Start Num: 39  
Candidate Starts for Stark\_106:  
(Start: 39 @62304 has 124 MA's), (63, 62433), (68, 62457), (78, 62517), (83, 62565),

Gene: StellaBean\_105 Start: 62601, Stop: 62891, Start Num: 39  
Candidate Starts for StellaBean\_105:  
(Start: 39 @62601 has 124 MA's), (63, 62730), (68, 62754), (78, 62814), (83, 62862),

Gene: StolenFromERC\_108 Start: 62143, Stop: 62433, Start Num: 39  
Candidate Starts for StolenFromERC\_108:  
(Start: 39 @62143 has 124 MA's), (63, 62272), (68, 62296), (78, 62356), (83, 62404),

Gene: Sweetclover\_69 Start: 43166, Stop: 43486, Start Num: 36  
Candidate Starts for Sweetclover\_69:  
(Start: 36 @43166 has 1 MA's), (45, 43211), (68, 43328), (84, 43436), (87, 43454), (92, 43478),

Gene: TBrady12\_109 Start: 61655, Stop: 61945, Start Num: 39  
Candidate Starts for TBrady12\_109:  
(Start: 39 @61655 has 124 MA's), (63, 61784), (68, 61808), (78, 61868), (83, 61916),

Gene: Tarkin\_105 Start: 63044, Stop: 63334, Start Num: 39

Candidate Starts for Tarkin\_105:

(Start: 39 @63044 has 124 MA's), (63, 63173), (68, 63197), (78, 63257), (83, 63305),

Gene: TeardropMSU\_102 Start: 61546, Stop: 61836, Start Num: 39

Candidate Starts for TeardropMSU\_102:

(Start: 39 @61546 has 124 MA's), (63, 61675), (68, 61699), (78, 61759), (83, 61807),

Gene: Teaspoon\_106 Start: 62203, Stop: 62493, Start Num: 39

Candidate Starts for Teaspoon\_106:

(Start: 39 @62203 has 124 MA's), (63, 62332), (68, 62356), (78, 62416), (83, 62464),

Gene: Terminus\_109 Start: 63444, Stop: 63734, Start Num: 39

Candidate Starts for Terminus\_109:

(Start: 39 @63444 has 124 MA's), (63, 63573), (68, 63597), (78, 63657), (83, 63705),

Gene: Thimble\_108 Start: 61405, Stop: 61695, Start Num: 39

Candidate Starts for Thimble\_108:

(Start: 39 @61405 has 124 MA's), (63, 61534), (68, 61558), (78, 61618), (83, 61666),

Gene: Thresher\_107 Start: 63084, Stop: 63374, Start Num: 39

Candidate Starts for Thresher\_107:

(Start: 39 @63084 has 124 MA's), (63, 63213), (68, 63237), (78, 63297), (83, 63345),

Gene: Tomaszewski\_101 Start: 61982, Stop: 62272, Start Num: 39

Candidate Starts for Tomaszewski\_101:

(Start: 39 @61982 has 124 MA's), (63, 62111), (68, 62135), (78, 62195), (83, 62243),

Gene: Toto\_104 Start: 62698, Stop: 62988, Start Num: 39

Candidate Starts for Toto\_104:

(Start: 39 @62698 has 124 MA's), (63, 62827), (68, 62851), (78, 62911), (83, 62959),

Gene: Towmatter\_103 Start: 67264, Stop: 67620, Start Num: 23

Candidate Starts for Towmatter\_103:

(Start: 23 @67264 has 5 MA's), (Start: 33 @67288 has 2 MA's), (54, 67411), (68, 67471), (85, 67582),

Gene: Traaww1\_102 Start: 61247, Stop: 61537, Start Num: 39

Candidate Starts for Traaww1\_102:

(Start: 39 @61247 has 124 MA's), (63, 61376), (68, 61400), (78, 61460), (83, 61508),

Gene: Tuco\_107 Start: 63605, Stop: 63895, Start Num: 39

Candidate Starts for Tuco\_107:

(Start: 39 @63605 has 124 MA's), (63, 63734), (68, 63758), (78, 63818), (83, 63866),

Gene: Ukulele\_100 Start: 61803, Stop: 62093, Start Num: 39

Candidate Starts for Ukulele\_100:

(Start: 39 @61803 has 124 MA's), (63, 61932), (68, 61956), (78, 62016), (83, 62064),

Gene: VroomVroom\_30 Start: 22712, Stop: 23095, Start Num: 27

Candidate Starts for VroomVroom\_30:

(1, 22532), (Start: 27 @22712 has 7 MA's), (73, 22946),

Gene: Weiss13\_90 Start: 64788, Stop: 65126, Start Num: 40

Candidate Starts for Weiss13\_90:

(Start: 40 @64788 has 8 MA's), (93, 65109),

Gene: Wiggin\_108 Start: 61648, Stop: 61938, Start Num: 39

Candidate Starts for Wiggin\_108:

(Start: 39 @61648 has 124 MA's), (63, 61777), (68, 61801), (78, 61861), (83, 61909),

Gene: Willez\_101 Start: 60770, Stop: 61060, Start Num: 39

Candidate Starts for Willez\_101:

(Start: 39 @60770 has 124 MA's), (63, 60899), (68, 60923), (78, 60983), (83, 61031),

Gene: YassJohnny\_103 Start: 60791, Stop: 61081, Start Num: 39

Candidate Starts for YassJohnny\_103:

(Start: 39 @60791 has 124 MA's), (63, 60920), (68, 60944), (78, 61004), (83, 61052),

Gene: Yotsuba\_69 Start: 47646, Stop: 48014, Start Num: 23

Candidate Starts for Yotsuba\_69:

(7, 47577), (15, 47628), (Start: 23 @47646 has 5 MA's), (31, 47667), (Start: 40 @47685 has 8 MA's), (42, 47700), (58, 47811), (65, 47838), (70, 47859), (73, 47877), (81, 47940), (92, 48006),

Gene: Youngblood\_109 Start: 62940, Stop: 63230, Start Num: 39

Candidate Starts for Youngblood\_109:

(Start: 39 @62940 has 124 MA's), (63, 63069), (68, 63093), (78, 63153), (83, 63201),

Gene: Zenon\_92 Start: 65114, Stop: 65452, Start Num: 40

Candidate Starts for Zenon\_92:

(Start: 40 @65114 has 8 MA's), (93, 65435),

Gene: xkcd\_109 Start: 63125, Stop: 63415, Start Num: 39

Candidate Starts for xkcd\_109:

(Start: 39 @63125 has 124 MA's), (63, 63254), (68, 63278), (78, 63338), (83, 63386),