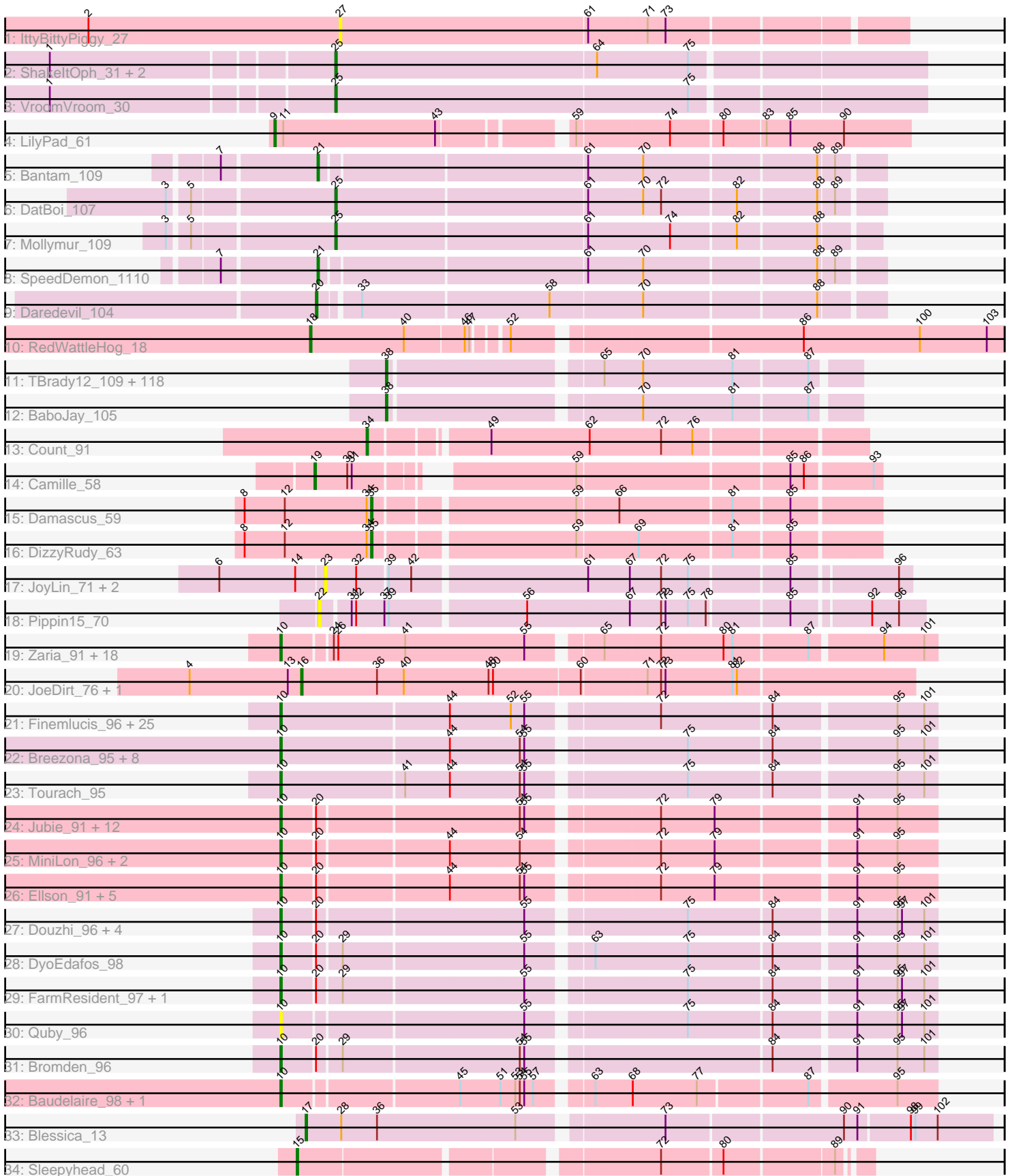


Pham 196275



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 196275 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196275 has 233 members, 27 are drafts.

Phages represented in each track:

- Track 1 : IttyBittyPiggy\_27
- Track 2 : ShakeltOph\_31, MiniMommy\_31, JasmineDragon\_30
- Track 3 : VroomVroom\_30
- Track 4 : LilyPad\_61
- Track 5 : Bantam\_109
- Track 6 : DatBoi\_107
- Track 7 : Mollymur\_109
- Track 8 : SpeedDemon\_1110
- Track 9 : Daredevil\_104
- Track 10 : RedWattleHog\_18
- Track 11 : TBrady12\_109, Lilizi\_106, Glexan\_105, Bench\_108, JeTaime\_104, Lilipickle\_105, Nimrod\_106, Hopey\_106, Murphy\_105, Paperbeatsrock\_105, DrDrey\_106, Stark\_106, Moldemort\_108, ShamWow\_106, Emmina\_106, Traaww1\_102, Contagion\_102, Adnama\_110, Cjw1\_106, Pat3\_103, Misfit\_107, Teaspoon\_106, Inca\_103, Henry\_103, Murica\_109, GooberAzure\_109, Phaja\_104, Cookies\_103, Kanye\_103, HanKaySha\_106, StolenFromERC\_108, Bruin\_103, Buck\_107, Elite2014\_105, Manda\_107, GoldenSpark\_110, Argent26\_110, Phaux\_108, ChosenOne\_106, Miniwave\_101, Harella\_106, Command613\_108, NelitzaMV\_103, Dumbo\_105, Mindy\_105, Gage\_108, ChotaBhai\_106, Wiggin\_108, Bask21\_106, Pumpkin\_107, Ukulele\_100, Barbarian\_105, DoctorDiddles\_105, 244\_106, Gator\_104, Hoonter\_109, MPhalcon\_107, Easy2Say\_106, TeardropMSU\_102, PhatBacter\_109, Flypotenuse\_102, ABCat\_103, Saints25\_102, FireRed\_109, Lilac\_107, Kimchi\_110, Thresher\_107, YassJohnny\_103, xkcd\_109, RiverMonster\_105, Sassay\_101, Cactus\_110, Sotrice96\_107, Gemini\_111, HuffyPuff\_108, Goldilocks\_109, SirDuracell\_106, SophKB\_104, Dusk\_103, Icee\_107, BadStone\_103, Asriel\_104, Terminus\_109, Youngblood\_109, Tuco\_107, Rimmer\_104, Highbury\_102, StellaBean\_105, Tarkin\_105, Phrux\_102, Elph10\_105, Pharsalus\_103, Kostya\_106, Czyszczonek\_106, Filch\_107, ShereKhan\_104, Willez\_101, MISSy\_107, Nala\_108, BigBubba\_106, Goku\_105, Mosby\_102, Stank\_108, Myrale\_106, Marshmallow\_103, MadamMonkfish\_105, Eureka\_105, OrionPax\_104, NoSleep\_106, Balomoji\_106, Toto\_104, Porky\_104, CrystalP\_105, Tomaszewski\_101, Rakim\_107, Holt\_111, Simpliphy\_104, Maxxinista\_107, IHOP\_104
- Track 12 : BaboJay\_105
- Track 13 : Count\_91
- Track 14 : Camille\_58
- Track 15 : Damascus\_59

- Track 16 : DizzyRudy\_63
- Track 17 : JoyLin\_71, Eevee\_71, Yotsuba\_70
- Track 18 : Pippin15\_70
- Track 19 : Zaria\_91, AvadaKedavra\_91, Wyatt2\_92, Appletree2\_90, LeBron\_90, Tyson\_92, Calm\_92, Enceladus\_88, Acquire49\_91, DirkDirk\_88, CicholasNage\_88, JoeDirt\_92, Halena\_88, MAckerman\_89, Rose5\_92, Silverleaf\_90, Wamburgxpress\_90, UPIE\_90, OhShagHennessy\_87
- Track 20 : JoeDirt\_76, OhShagHennessy\_74
- Track 21 : Finemlucis\_96, MkaliMitinis3\_97, BigCheese\_95, DHan\_98, DanBing\_94, Loadrie\_94, Bazzle\_92, Gardann\_95, Archie\_92, GuuelaD\_92, Baoshan\_92, Wilder\_96, Kahlid\_94, Lewan\_96, Zakai\_96, Hafay\_96, Nicholasp3\_95, Crossroads\_95, Vatrix\_93, Sarshaun\_96, Soap141\_95, ZhongYanYuan\_92, LilDestine\_93, BobsGarage\_94, Rumpelstiltskin\_91, Claus\_94
- Track 22 : Breezona\_95, Faith1\_95, DrSeegs\_94, Miley16\_95, Itos\_95, Winky\_95, Wigglewiggles\_95, Netyap\_94, Gabriela\_95
- Track 23 : Tourach\_95
- Track 24 : Jubie\_91, MsGreen\_92, Snenia\_91, Moostard\_89, Finnry\_92, Jobypre\_93, Clautastrophe\_90, Nicholas\_90, Bellis\_90, Kingsolomon\_90, Whirlwind\_93, Samty\_91, Lumos\_92
- Track 25 : MiniLon\_96, MiniMac\_96, Lolly9\_91
- Track 26 : Ellson\_91, BourbonZero\_93, Krypton555\_94, KirDoubleO7\_90, LiyuLake\_91, DuncansLeg\_92
- Track 27 : Douzhi\_96, Douge\_96, Sheng711\_97, BrainDrainer\_97, PYPDinur\_96
- Track 28 : DyoEdafos\_98
- Track 29 : FarmResident\_97, Chaser\_95
- Track 30 : Quby\_96
- Track 31 : Bromden\_96
- Track 32 : Baudelaire\_98, Aegeus\_98
- Track 33 : Blessica\_13
- Track 34 : 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 38, it was called in 120 of the 206 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244\_106, ABCat\_103, Adnama\_110, Argent26\_110, Asriel\_104, BaboJay\_105, BadStone\_103, Balomoji\_106, Barbarian\_105, Bask21\_106, Bench\_108, BigBubba\_106, Bruin\_103, Buck\_107, 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, HuffyPuff\_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, 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:

- Acquire49\_91, Aegeus\_98, Appletree2\_90, Archie\_92, AvadaKedavra\_91, Bantam\_109, Baoshan\_92, Baudelaire\_98, Bazzle\_92, Bellis\_90, BigCheese\_95, Blessica\_13, BobsGarage\_94, BourbonZero\_93, BrainDrainer\_97, Breezona\_95, Bromden\_96, Calm\_92, Camille\_58, Chaser\_95, CicholasNage\_88, Claus\_94, Clautastrophe\_90, Count\_91, Crossroads\_95, DHan\_98, Damascus\_59, DanBing\_94, Daredevil\_104, DatBoi\_107, DirkDirk\_88, DizzyRudy\_63, Douge\_96, Douzhi\_96, DrSeegs\_94, DuncansLeg\_92, DyoEdafos\_98, Eevee\_71, Ellson\_91, Enceladus\_88, Faith1\_95, FarmResident\_97, Finemlucis\_96, Finnry\_92, Gabriela\_95, Gardann\_95, GuuelaD\_92, Hafay\_96, Halena\_88, Itos\_95, IttyBittyPiggy\_27, JasmineDragon\_30, Jobypre\_93, JoeDirt\_76, JoeDirt\_92, JoyLin\_71, Jubie\_91, Kahlid\_94, Kingsolomon\_90, KirDoubleO7\_90, Krypton555\_94, LeBron\_90, Lewan\_96, LilDestine\_93, LilyPad\_61, LiyuLake\_91, Loadrie\_94, Lolly9\_91, Lumos\_92, MAckerman\_89, Miley16\_95, MiniLon\_96, MiniMac\_96, MiniMommy\_31, MkaliMitinis3\_97, Mollymur\_109, Moostard\_89, MsGreen\_92, Netyap\_94, Nicholas\_90, Nicholasp3\_95, OhShagHennessy\_74, OhShagHennessy\_87, PYPDinur\_96, Pippin15\_70, Quby\_96, RedWattleHog\_18, Rose5\_92, Rumpelstiltskin\_91, Samty\_91, Sarshaun\_96, ShakeltOph\_31, Sheng711\_97, Silverleaf\_90, Sleepyhead\_60, Snenia\_91, Soap141\_95, SpeedDemon\_1110, Tourach\_95, Tyson\_92, UPIE\_90, Vetrix\_93, VroomVroom\_30, Wamburgexpress\_90, Whirlwind\_93, Wigglewiggle\_95, Wilder\_96, Winky\_95, Wyatt2\_92, Yotsuba\_70, Zakai\_96, Zaria\_91, ZhongYanYuan\_92,

### Summary by start number:

Start 9:

- Found in 1 of 233 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilyPad\_61 (DG1),

Start 10:

- Found in 89 of 233 ( 38.2% ) of genes in pham
- Manual Annotations of this start: 69 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acquire49\_91 (L1), Aegeus\_98 (L5), Appletree2\_90 (L1), Archie\_92 (L2), AvadaKedavra\_91 (L1), Baoshan\_92 (L2), Baudelaire\_98 (L5), Bazzle\_92 (L2), Bellis\_90 (L3), BigCheese\_95 (L2), BobsGarage\_94 (L2), BourbonZero\_93 (L3), BrainDrainer\_97 (L4), Breezona\_95

(L2), Bromden\_96 (L4), Calm\_92 (L1), Chaser\_95 (L4), CicholasNage\_88 (L1), Claus\_94 (L2), Clautastrophe\_90 (L3), Crossroads\_95 (L2), DHan\_98 (L2), DanBing\_94 (L2), DirkDirk\_88 (L1), Douge\_96 (L4), Douzhi\_96 (L4), DrSeegs\_94 (L2), DuncansLeg\_92 (L3), DyoEdafos\_98 (L4), Ellson\_91 (L3), Enceladus\_88 (L1), Faith1\_95 (L2), FarmResident\_97 (L4), Finemlucis\_96 (L2), Finnry\_92 (L3), Gabriela\_95 (L2), Gardann\_95 (L2), GuuelaD\_92 (L2), Hafay\_96 (L2), Halena\_88 (L1), Itos\_95 (L2), Jobypre\_93 (L3), JoeDirt\_92 (L1), Jubie\_91 (L3), Kahlid\_94 (L2), Kingsolomon\_90 (L3), KirDoubleO7\_90 (L3), Krypton555\_94 (L3), LeBron\_90 (L1), Lewan\_96 (L2), LilDestine\_93 (L2), LiyuLake\_91 (L3), Loadrie\_94 (L2), Lolly9\_91 (L3), Lumos\_92 (L3), MAckerman\_89 (L1), Miley16\_95 (L2), MiniLon\_96 (L3), MiniMac\_96 (L3), MkaliMitinis3\_97 (L2), Moostard\_89 (L3), MsGreen\_92 (L3), Netyap\_94 (L2), Nicholas\_90 (L3), Nicholasp3\_95 (L2), OhShagHennessy\_87 (L1), PYPDinur\_96 (L4), Quby\_96 (L4), Rose5\_92 (L1), Rumpelstiltskin\_91 (L2), Samty\_91 (L3), Sarshaun\_96 (L2), Sheng711\_97 (L4), Silverleaf\_90 (L1), Snenia\_91 (L3), Soap141\_95 (L2), Tourach\_95 (L2), Tyson\_92 (L1), UPIE\_90 (L1), Vetrix\_93 (L2), Wamburggrxpress\_90 (L1), Whirlwind\_93 (L3), Wigglewiggle\_95 (L2), Wilder\_96 (L2), Winky\_95 (L2), Wyatt2\_92 (L1), Zakai\_96 (L2), Zaria\_91 (L1), ZhongYanYuan\_92 (L2),

#### Start 15:

- Found in 1 of 233 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sleepyhead\_60 (singleton),

#### Start 16:

- Found in 2 of 233 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 206
- 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 233 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blessica\_13 (O),

#### Start 18:

- Found in 1 of 233 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RedWattleHog\_18 (DX),

#### Start 19:

- Found in 1 of 233 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Camille\_58 (EL),

#### Start 20:

- Found in 32 of 233 ( 13.7% ) of genes in pham
- Manual Annotations of this start: 1 of 206

- Called 3.1% of time when present
- Phage (with cluster) where this start called: Daredevil\_104 (DL),

Start 21:

- Found in 2 of 233 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bantam\_109 (DL), SpeedDemon\_1110 (DL),

Start 22:

- Found in 1 of 233 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pippin15\_70 (JA),

Start 23:

- Found in 3 of 233 ( 1.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Eevee\_71 (JA), JoyLin\_71 (JA), Yotsuba\_70 (JA),

Start 25:

- Found in 6 of 233 ( 2.6% ) of genes in pham
- Manual Annotations of this start: 4 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DatBoi\_107 (DL), JasmineDragon\_30 (AZ4), MiniMommy\_31 (AZ4), Mollymur\_109 (DL), ShakeltOph\_31 (AZ4), VroomVroom\_30 (AZ4),

Start 27:

- Found in 1 of 233 ( 0.4% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: IttyBittyPiggy\_27 (AZ1),

Start 34:

- Found in 3 of 233 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 1 of 206
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Count\_91 (EL),

Start 35:

- Found in 2 of 233 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 206
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Damascus\_59 (EL), DizzyRudy\_63 (EL),

Start 38:

- Found in 120 of 233 ( 51.5% ) of genes in pham
- Manual Annotations of this start: 120 of 206
- Called 100.0% of time when present

- Phage (with cluster) where this start called: 244\_106 (E), ABCat\_103 (E), Adnama\_110 (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), Bruin\_103 (E), Buck\_107 (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), 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),

### Summary by clusters:

There are 15 clusters represented in this pham: EL, singleton, E, DL, O, L4, L5, L2, L3, DX, L1, AZ1, DG1, AZ4, JA,

Info for manual annotations of cluster AZ4:

- Start number 25 was manually annotated 2 times for cluster AZ4.

Info for manual annotations of cluster DG1:

- Start number 9 was manually annotated 1 time for cluster DG1.

Info for manual annotations of cluster DL:

- Start number 20 was manually annotated 1 time for cluster DL.
- Start number 21 was manually annotated 2 times for cluster DL.
- Start number 25 was manually annotated 2 times for cluster DL.

Info for manual annotations of cluster DX:

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

Info for manual annotations of cluster E:

- Start number 38 was manually annotated 120 times for cluster E.

Info for manual annotations of cluster EL:

- Start number 19 was manually annotated 1 time for cluster EL.
- Start number 34 was manually annotated 1 time for cluster EL.
- Start number 35 was manually annotated 2 times for cluster EL.

Info for manual annotations of cluster L1:

- Start number 10 was manually annotated 19 times for cluster L1.
- Start number 16 was manually annotated 2 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 10 was manually annotated 28 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 10 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 10 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 10 was manually annotated 2 times for cluster L5.

Info for manual annotations of cluster O:

- Start number 17 was manually annotated 1 time for cluster O.

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

Gene: 244\_106 Start: 61588, Stop: 61878, Start Num: 38

Candidate Starts for 244\_106:

(Start: 38 @61588 has 120 MA's), (65, 61717), (70, 61741), (81, 61801), (87, 61849),

Gene: ABCat\_103 Start: 62792, Stop: 63082, Start Num: 38

Candidate Starts for ABCat\_103:

(Start: 38 @62792 has 120 MA's), (65, 62921), (70, 62945), (81, 63005), (87, 63053),

Gene: Acquire49\_91 Start: 57365, Stop: 57775, Start Num: 10

Candidate Starts for Acquire49\_91:

(Start: 10 @57365 has 69 MA's), (24, 57395), (26, 57398), (41, 57443), (55, 57521), (65, 57563), (72, 57599), (80, 57641), (81, 57647), (87, 57695), (94, 57740), (101, 57767),

Gene: Adnama\_110 Start: 62081, Stop: 62371, Start Num: 38

Candidate Starts for Adnama\_110:

(Start: 38 @62081 has 120 MA's), (65, 62210), (70, 62234), (81, 62294), (87, 62342),

Gene: Aegeus\_98 Start: 59877, Stop: 60281, Start Num: 10

Candidate Starts for Aegeus\_98:

(Start: 10 @59877 has 69 MA's), (45, 59988), (51, 60015), (53, 60024), (54, 60027), (55, 60030), (57, 60036), (63, 60066), (68, 60090), (77, 60132), (87, 60201), (95, 60255),

Gene: Appletree2\_90 Start: 57125, Stop: 57535, Start Num: 10

Candidate Starts for Appletree2\_90:



(Start: 10 @57125 has 69 MA's), (24, 57155), (26, 57158), (41, 57203), (55, 57281), (65, 57323), (72, 57359), (80, 57401), (81, 57407), (87, 57455), (94, 57500), (101, 57527),

Gene: Archie\_92 Start: 59049, Stop: 59462, Start Num: 10

Candidate Starts for Archie\_92:

(Start: 10 @59049 has 69 MA's), (44, 59160), (52, 59199), (55, 59208), (72, 59286), (84, 59358), (95, 59436), (101, 59454),

Gene: Argent26\_110 Start: 62005, Stop: 62295, Start Num: 38

Candidate Starts for Argent26\_110:

(Start: 38 @62005 has 120 MA's), (65, 62134), (70, 62158), (81, 62218), (87, 62266),

Gene: Asriel\_104 Start: 60418, Stop: 60708, Start Num: 38

Candidate Starts for Asriel\_104:

(Start: 38 @60418 has 120 MA's), (65, 60547), (70, 60571), (81, 60631), (87, 60679),

Gene: AvadaKedavra\_91 Start: 57477, Stop: 57887, Start Num: 10

Candidate Starts for AvadaKedavra\_91:

(Start: 10 @57477 has 69 MA's), (24, 57507), (26, 57510), (41, 57555), (55, 57633), (65, 57675), (72, 57711), (80, 57753), (81, 57759), (87, 57807), (94, 57852), (101, 57879),

Gene: BaboJay\_105 Start: 62761, Stop: 63051, Start Num: 38

Candidate Starts for BaboJay\_105:

(Start: 38 @62761 has 120 MA's), (70, 62914), (81, 62974), (87, 63022),

Gene: BadStone\_103 Start: 62340, Stop: 62630, Start Num: 38

Candidate Starts for BadStone\_103:

(Start: 38 @62340 has 120 MA's), (65, 62469), (70, 62493), (81, 62553), (87, 62601),

Gene: Balomoji\_106 Start: 62201, Stop: 62491, Start Num: 38

Candidate Starts for Balomoji\_106:

(Start: 38 @62201 has 120 MA's), (65, 62330), (70, 62354), (81, 62414), (87, 62462),

Gene: Bantam\_109 Start: 70339, Stop: 70695, Start Num: 21

Candidate Starts for Bantam\_109:

(7, 70279), (Start: 21 @70339 has 2 MA's), (61, 70510), (70, 70546), (88, 70657), (89, 70666),

Gene: Baoshan\_92 Start: 59704, Stop: 60117, Start Num: 10

Candidate Starts for Baoshan\_92:

(Start: 10 @59704 has 69 MA's), (44, 59815), (52, 59854), (55, 59863), (72, 59941), (84, 60013), (95, 60091), (101, 60109),

Gene: Barbarian\_105 Start: 60418, Stop: 60708, Start Num: 38

Candidate Starts for Barbarian\_105:

(Start: 38 @60418 has 120 MA's), (65, 60547), (70, 60571), (81, 60631), (87, 60679),

Gene: Bask21\_106 Start: 61036, Stop: 61323, Start Num: 38

Candidate Starts for Bask21\_106:

(Start: 38 @61036 has 120 MA's), (65, 61165), (70, 61189), (81, 61249), (87, 61297),

Gene: Baudelaire\_98 Start: 59877, Stop: 60281, Start Num: 10

Candidate Starts for Baudelaire\_98:

(Start: 10 @59877 has 69 MA's), (45, 59988), (51, 60015), (53, 60024), (54, 60027), (55, 60030), (57, 60036), (63, 60066), (68, 60090), (77, 60132), (87, 60201), (95, 60255),

Gene: Bazzle\_92 Start: 59605, Stop: 60018, Start Num: 10

Candidate Starts for Bazzle\_92:

(Start: 10 @59605 has 69 MA's), (44, 59716), (52, 59755), (55, 59764), (72, 59842), (84, 59914), (95, 59992), (101, 60010),

Gene: Bellis\_90 Start: 59240, Stop: 59647, Start Num: 10

Candidate Starts for Bellis\_90:

(Start: 10 @59240 has 69 MA's), (Start: 20 @59261 has 1 MA's), (54, 59390), (55, 59393), (72, 59471), (79, 59507), (91, 59594), (95, 59621),

Gene: Bench\_108 Start: 62762, Stop: 63052, Start Num: 38

Candidate Starts for Bench\_108:

(Start: 38 @62762 has 120 MA's), (65, 62891), (70, 62915), (81, 62975), (87, 63023),

Gene: BigBubba\_106 Start: 61114, Stop: 61404, Start Num: 38

Candidate Starts for BigBubba\_106:

(Start: 38 @61114 has 120 MA's), (65, 61243), (70, 61267), (81, 61327), (87, 61375),

Gene: BigCheese\_95 Start: 59815, Stop: 60228, Start Num: 10

Candidate Starts for BigCheese\_95:

(Start: 10 @59815 has 69 MA's), (44, 59926), (52, 59965), (55, 59974), (72, 60052), (84, 60124), (95, 60202), (101, 60220),

Gene: Blessica\_13 Start: 5453, Stop: 5890, Start Num: 17

Candidate Starts for Blessica\_13:

(Start: 17 @5453 has 1 MA's), (28, 5477), (36, 5501), (53, 5594), (73, 5681), (90, 5795), (91, 5804), (98, 5837), (99, 5840), (102, 5855),

Gene: BobsGarage\_94 Start: 59815, Stop: 60228, Start Num: 10

Candidate Starts for BobsGarage\_94:

(Start: 10 @59815 has 69 MA's), (44, 59926), (52, 59965), (55, 59974), (72, 60052), (84, 60124), (95, 60202), (101, 60220),

Gene: BourbonZero\_93 Start: 59266, Stop: 59673, Start Num: 10

Candidate Starts for BourbonZero\_93:

(Start: 10 @59266 has 69 MA's), (Start: 20 @59287 has 1 MA's), (44, 59371), (54, 59416), (55, 59419), (72, 59497), (79, 59533), (91, 59620), (95, 59647),

Gene: BrainDrainer\_97 Start: 59520, Stop: 59927, Start Num: 10

Candidate Starts for BrainDrainer\_97:

(Start: 10 @59520 has 69 MA's), (Start: 20 @59541 has 1 MA's), (55, 59673), (75, 59769), (84, 59823), (91, 59874), (95, 59901), (97, 59904), (101, 59919),

Gene: Breezona\_95 Start: 59815, Stop: 60228, Start Num: 10

Candidate Starts for Breezona\_95:

(Start: 10 @59815 has 69 MA's), (44, 59926), (54, 59971), (55, 59974), (75, 60070), (84, 60124), (95, 60202), (101, 60220),

Gene: Bromden\_96 Start: 60413, Stop: 60820, Start Num: 10

Candidate Starts for Bromden\_96:

(Start: 10 @60413 has 69 MA's), (Start: 20 @60434 has 1 MA's), (29, 60449), (54, 60563), (55, 60566), (84, 60716), (91, 60767), (95, 60794), (101, 60812),

Gene: Bruin\_103 Start: 61446, Stop: 61736, Start Num: 38

Candidate Starts for Bruin\_103:

(Start: 38 @61446 has 120 MA's), (65, 61575), (70, 61599), (81, 61659), (87, 61707),

Gene: Buck\_107 Start: 63262, Stop: 63552, Start Num: 38

Candidate Starts for Buck\_107:

(Start: 38 @63262 has 120 MA's), (65, 63391), (70, 63415), (81, 63475), (87, 63523),

Gene: Cactus\_110 Start: 61700, Stop: 61990, Start Num: 38

Candidate Starts for Cactus\_110:

(Start: 38 @61700 has 120 MA's), (65, 61829), (70, 61853), (81, 61913), (87, 61961),

Gene: Calm\_92 Start: 57376, Stop: 57786, Start Num: 10

Candidate Starts for Calm\_92:

(Start: 10 @57376 has 69 MA's), (24, 57406), (26, 57409), (41, 57454), (55, 57532), (65, 57574), (72, 57610), (80, 57652), (81, 57658), (87, 57706), (94, 57751), (101, 57778),

Gene: Camille\_58 Start: 41232, Stop: 41567, Start Num: 19

Candidate Starts for Camille\_58:

(Start: 19 @41232 has 1 MA's), (30, 41253), (31, 41256), (59, 41376), (85, 41511), (86, 41520), (93, 41562),

Gene: Chaser\_95 Start: 58821, Stop: 59228, Start Num: 10

Candidate Starts for Chaser\_95:

(Start: 10 @58821 has 69 MA's), (Start: 20 @58842 has 1 MA's), (29, 58857), (55, 58974), (75, 59070), (84, 59124), (91, 59175), (95, 59202), (97, 59205), (101, 59220),

Gene: ChosenOne\_106 Start: 61646, Stop: 61936, Start Num: 38

Candidate Starts for ChosenOne\_106:

(Start: 38 @61646 has 120 MA's), (65, 61775), (70, 61799), (81, 61859), (87, 61907),

Gene: ChotaBhai\_106 Start: 62098, Stop: 62385, Start Num: 38

Candidate Starts for ChotaBhai\_106:

(Start: 38 @62098 has 120 MA's), (65, 62227), (70, 62251), (81, 62311), (87, 62359),

Gene: CicholasNage\_88 Start: 57029, Stop: 57439, Start Num: 10

Candidate Starts for CicholasNage\_88:

(Start: 10 @57029 has 69 MA's), (24, 57059), (26, 57062), (41, 57107), (55, 57185), (65, 57227), (72, 57263), (80, 57305), (81, 57311), (87, 57359), (94, 57404), (101, 57431),

Gene: Cjw1\_106 Start: 63455, Stop: 63745, Start Num: 38

Candidate Starts for Cjw1\_106:

(Start: 38 @63455 has 120 MA's), (65, 63584), (70, 63608), (81, 63668), (87, 63716),

Gene: Claus\_94 Start: 59528, Stop: 59941, Start Num: 10

Candidate Starts for Claus\_94:

(Start: 10 @59528 has 69 MA's), (44, 59639), (52, 59678), (55, 59687), (72, 59765), (84, 59837), (95, 59915), (101, 59933),

Gene: Clautastrophe\_90 Start: 59235, Stop: 59642, Start Num: 10

Candidate Starts for Clautastrophe\_90:

(Start: 10 @59235 has 69 MA's), (Start: 20 @59256 has 1 MA's), (54, 59385), (55, 59388), (72, 59466), (79, 59502), (91, 59589), (95, 59616),

Gene: Command613\_108 Start: 62194, Stop: 62484, Start Num: 38

Candidate Starts for Command613\_108:

(Start: 38 @62194 has 120 MA's), (65, 62323), (70, 62347), (81, 62407), (87, 62455),

Gene: Contagion\_102 Start: 61808, Stop: 62098, Start Num: 38

Candidate Starts for Contagion\_102:

(Start: 38 @61808 has 120 MA's), (65, 61937), (70, 61961), (81, 62021), (87, 62069),

Gene: Cookies\_103 Start: 61964, Stop: 62251, Start Num: 38

Candidate Starts for Cookies\_103:

(Start: 38 @61964 has 120 MA's), (65, 62093), (70, 62117), (81, 62177), (87, 62225),

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

Candidate Starts for Count\_91:

(Start: 34 @59562 has 1 MA's), (49, 59631), (62, 59697), (72, 59745), (76, 59766),

Gene: Crossroads\_95 Start: 59527, Stop: 59940, Start Num: 10

Candidate Starts for Crossroads\_95:

(Start: 10 @59527 has 69 MA's), (44, 59638), (52, 59677), (55, 59686), (72, 59764), (84, 59836), (95, 59914), (101, 59932),

Gene: CrystalP\_105 Start: 62698, Stop: 62988, Start Num: 38

Candidate Starts for CrystalP\_105:

(Start: 38 @62698 has 120 MA's), (65, 62827), (70, 62851), (81, 62911), (87, 62959),

Gene: Czyszczone1\_106 Start: 61801, Stop: 62091, Start Num: 38

Candidate Starts for Czyszczone1\_106:

(Start: 38 @61801 has 120 MA's), (65, 61930), (70, 61954), (81, 62014), (87, 62062),

Gene: DHan\_98 Start: 59751, Stop: 60164, Start Num: 10

Candidate Starts for DHan\_98:

(Start: 10 @59751 has 69 MA's), (44, 59862), (52, 59901), (55, 59910), (72, 59988), (84, 60060), (95, 60138), (101, 60156),

Gene: Damascus\_59 Start: 42669, Stop: 42986, Start Num: 35

Candidate Starts for Damascus\_59:

(8, 42585), (12, 42612), (Start: 34 @42666 has 1 MA's), (Start: 35 @42669 has 2 MA's), (59, 42795), (66, 42822), (81, 42894), (85, 42930),

Gene: DanBing\_94 Start: 59444, Stop: 59857, Start Num: 10

Candidate Starts for DanBing\_94:

(Start: 10 @59444 has 69 MA's), (44, 59555), (52, 59594), (55, 59603), (72, 59681), (84, 59753), (95, 59831), (101, 59849),

Gene: Daredevil\_104 Start: 67182, Stop: 67538, Start Num: 20

Candidate Starts for Daredevil\_104:

(Start: 20 @67182 has 1 MA's), (33, 67206), (58, 67329), (70, 67389), (88, 67500),

Gene: DatBoi\_107 Start: 69816, Stop: 70166, Start Num: 25

Candidate Starts for DatBoi\_107:

(3, 69714), (5, 69726), (Start: 25 @69816 has 4 MA's), (61, 69981), (70, 70017), (72, 70029), (82, 70077), (88, 70128), (89, 70137),

Gene: DirkDirk\_88 Start: 56705, Stop: 57115, Start Num: 10

Candidate Starts for DirkDirk\_88:

(Start: 10 @56705 has 69 MA's), (24, 56735), (26, 56738), (41, 56783), (55, 56861), (65, 56903), (72, 56939), (80, 56981), (81, 56987), (87, 57035), (94, 57080), (101, 57107),

Gene: DizzyRudy\_63 Start: 42556, Stop: 42873, Start Num: 35

Candidate Starts for DizzyRudy\_63:

(8, 42472), (12, 42499), (Start: 34 @42553 has 1 MA's), (Start: 35 @42556 has 2 MA's), (59, 42682), (69, 42721), (81, 42781), (85, 42817),

Gene: DoctorDiddles\_105 Start: 61466, Stop: 61753, Start Num: 38

Candidate Starts for DoctorDiddles\_105:

(Start: 38 @61466 has 120 MA's), (65, 61595), (70, 61619), (81, 61679), (87, 61727),

Gene: Douge\_96 Start: 58940, Stop: 59347, Start Num: 10

Candidate Starts for Douge\_96:

(Start: 10 @58940 has 69 MA's), (Start: 20 @58961 has 1 MA's), (55, 59093), (75, 59189), (84, 59243), (91, 59294), (95, 59321), (97, 59324), (101, 59339),

Gene: Douzhi\_96 Start: 59209, Stop: 59616, Start Num: 10

Candidate Starts for Douzhi\_96:

(Start: 10 @59209 has 69 MA's), (Start: 20 @59230 has 1 MA's), (55, 59362), (75, 59458), (84, 59512), (91, 59563), (95, 59590), (97, 59593), (101, 59608),

Gene: DrDrey\_106 Start: 63478, Stop: 63768, Start Num: 38

Candidate Starts for DrDrey\_106:

(Start: 38 @63478 has 120 MA's), (65, 63607), (70, 63631), (81, 63691), (87, 63739),

Gene: DrSeegs\_94 Start: 59815, Stop: 60228, Start Num: 10

Candidate Starts for DrSeegs\_94:

(Start: 10 @59815 has 69 MA's), (44, 59926), (54, 59971), (55, 59974), (75, 60070), (84, 60124), (95, 60202), (101, 60220),

Gene: Dumbo\_105 Start: 61838, Stop: 62128, Start Num: 38

Candidate Starts for Dumbo\_105:

(Start: 38 @61838 has 120 MA's), (65, 61967), (70, 61991), (81, 62051), (87, 62099),

Gene: DuncansLeg\_92 Start: 59254, Stop: 59661, Start Num: 10

Candidate Starts for DuncansLeg\_92:

(Start: 10 @59254 has 69 MA's), (Start: 20 @59275 has 1 MA's), (44, 59359), (54, 59404), (55, 59407), (72, 59485), (79, 59521), (91, 59608), (95, 59635),

Gene: Dusk\_103 Start: 62000, Stop: 62290, Start Num: 38

Candidate Starts for Dusk\_103:

(Start: 38 @62000 has 120 MA's), (65, 62129), (70, 62153), (81, 62213), (87, 62261),

Gene: DyoEdafos\_98 Start: 59531, Stop: 59938, Start Num: 10

Candidate Starts for DyoEdafos\_98:

(Start: 10 @59531 has 69 MA's), (Start: 20 @59552 has 1 MA's), (29, 59567), (55, 59684), (63, 59720), (75, 59780), (84, 59834), (91, 59885), (95, 59912), (101, 59930),

Gene: Easy2Say\_106 Start: 62472, Stop: 62762, Start Num: 38

Candidate Starts for Easy2Say\_106:

(Start: 38 @62472 has 120 MA's), (65, 62601), (70, 62625), (81, 62685), (87, 62733),

Gene: Eevee\_71 Start: 47508, Stop: 47876, Start Num: 23

Candidate Starts for Eevee\_71:

(6, 47439), (14, 47490), (23, 47508), (32, 47529), (39, 47547), (42, 47562), (61, 47673), (67, 47700), (72, 47721), (75, 47739), (85, 47802), (96, 47868),

Gene: Elite2014\_105 Start: 61645, Stop: 61935, Start Num: 38

Candidate Starts for Elite2014\_105:

(Start: 38 @61645 has 120 MA's), (65, 61774), (70, 61798), (81, 61858), (87, 61906),

Gene: Ellson\_91 Start: 59569, Stop: 59976, Start Num: 10

Candidate Starts for Ellson\_91:

(Start: 10 @59569 has 69 MA's), (Start: 20 @59590 has 1 MA's), (44, 59674), (54, 59719), (55, 59722), (72, 59800), (79, 59836), (91, 59923), (95, 59950),

Gene: Elph10\_105 Start: 61484, Stop: 61774, Start Num: 38

Candidate Starts for Elph10\_105:

(Start: 38 @61484 has 120 MA's), (65, 61613), (70, 61637), (81, 61697), (87, 61745),

Gene: Emmina\_106 Start: 61423, Stop: 61713, Start Num: 38

Candidate Starts for Emmina\_106:

(Start: 38 @61423 has 120 MA's), (65, 61552), (70, 61576), (81, 61636), (87, 61684),

Gene: Enceladus\_88 Start: 57406, Stop: 57816, Start Num: 10

Candidate Starts for Enceladus\_88:

(Start: 10 @57406 has 69 MA's), (24, 57436), (26, 57439), (41, 57484), (55, 57562), (65, 57604), (72, 57640), (80, 57682), (81, 57688), (87, 57736), (94, 57781), (101, 57808),

Gene: Eureka\_105 Start: 62611, Stop: 62901, Start Num: 38

Candidate Starts for Eureka\_105:

(Start: 38 @62611 has 120 MA's), (65, 62740), (70, 62764), (81, 62824), (87, 62872),

Gene: Faith1\_95 Start: 59452, Stop: 59865, Start Num: 10

Candidate Starts for Faith1\_95:

(Start: 10 @59452 has 69 MA's), (44, 59563), (54, 59608), (55, 59611), (75, 59707), (84, 59761), (95, 59839), (101, 59857),

Gene: FarmResident\_97 Start: 59091, Stop: 59498, Start Num: 10

Candidate Starts for FarmResident\_97:

(Start: 10 @59091 has 69 MA's), (Start: 20 @59112 has 1 MA's), (29, 59127), (55, 59244), (75, 59340), (84, 59394), (91, 59445), (95, 59472), (97, 59475), (101, 59490),

Gene: Filch\_107 Start: 61797, Stop: 62087, Start Num: 38

Candidate Starts for Filch\_107:

(Start: 38 @61797 has 120 MA's), (65, 61926), (70, 61950), (81, 62010), (87, 62058),

Gene: Finemlucis\_96 Start: 60566, Stop: 60979, Start Num: 10

Candidate Starts for Finemlucis\_96:

(Start: 10 @60566 has 69 MA's), (44, 60677), (52, 60716), (55, 60725), (72, 60803), (84, 60875), (95, 60953), (101, 60971),

Gene: Finnry\_92 Start: 59588, Stop: 59995, Start Num: 10

Candidate Starts for Finnry\_92:

(Start: 10 @59588 has 69 MA's), (Start: 20 @59609 has 1 MA's), (54, 59738), (55, 59741), (72, 59819), (79, 59855), (91, 59942), (95, 59969),

Gene: FireRed\_109 Start: 62887, Stop: 63177, Start Num: 38

Candidate Starts for FireRed\_109:

(Start: 38 @62887 has 120 MA's), (65, 63016), (70, 63040), (81, 63100), (87, 63148),

Gene: Flypotenuse\_102 Start: 61072, Stop: 61362, Start Num: 38

Candidate Starts for Flypotenuse\_102:

(Start: 38 @61072 has 120 MA's), (65, 61201), (70, 61225), (81, 61285), (87, 61333),

Gene: Gabriela\_95 Start: 58798, Stop: 59211, Start Num: 10

Candidate Starts for Gabriela\_95:

(Start: 10 @58798 has 69 MA's), (44, 58909), (54, 58954), (55, 58957), (75, 59053), (84, 59107), (95, 59185), (101, 59203),

Gene: Gage\_108 Start: 62143, Stop: 62433, Start Num: 38

Candidate Starts for Gage\_108:

(Start: 38 @62143 has 120 MA's), (65, 62272), (70, 62296), (81, 62356), (87, 62404),

Gene: Gardann\_95 Start: 59299, Stop: 59712, Start Num: 10

Candidate Starts for Gardann\_95:

(Start: 10 @59299 has 69 MA's), (44, 59410), (52, 59449), (55, 59458), (72, 59536), (84, 59608), (95, 59686), (101, 59704),

Gene: Gator\_104 Start: 61931, Stop: 62218, Start Num: 38

Candidate Starts for Gator\_104:

(Start: 38 @61931 has 120 MA's), (65, 62060), (70, 62084), (81, 62144), (87, 62192),

Gene: Gemini\_111 Start: 62522, Stop: 62812, Start Num: 38

Candidate Starts for Gemini\_111:

(Start: 38 @62522 has 120 MA's), (65, 62651), (70, 62675), (81, 62735), (87, 62783),

Gene: Glexan\_105 Start: 62202, Stop: 62492, Start Num: 38

Candidate Starts for Glexan\_105:

(Start: 38 @62202 has 120 MA's), (65, 62331), (70, 62355), (81, 62415), (87, 62463),

Gene: Goku\_105 Start: 62340, Stop: 62630, Start Num: 38

Candidate Starts for Goku\_105:

(Start: 38 @62340 has 120 MA's), (65, 62469), (70, 62493), (81, 62553), (87, 62601),

Gene: GoldenSpark\_110 Start: 62005, Stop: 62295, Start Num: 38

Candidate Starts for GoldenSpark\_110:

(Start: 38 @62005 has 120 MA's), (65, 62134), (70, 62158), (81, 62218), (87, 62266),

Gene: Goldilocks\_109 Start: 61901, Stop: 62191, Start Num: 38

Candidate Starts for Goldilocks\_109:

(Start: 38 @61901 has 120 MA's), (65, 62030), (70, 62054), (81, 62114), (87, 62162),

Gene: GooberAzure\_109 Start: 62005, Stop: 62295, Start Num: 38

Candidate Starts for GooberAzure\_109:

(Start: 38 @62005 has 120 MA's), (65, 62134), (70, 62158), (81, 62218), (87, 62266),

Gene: GuuelaD\_92 Start: 59411, Stop: 59824, Start Num: 10

Candidate Starts for GuuelaD\_92:

(Start: 10 @59411 has 69 MA's), (44, 59522), (52, 59561), (55, 59570), (72, 59648), (84, 59720), (95, 59798), (101, 59816),

Gene: Hafay\_96 Start: 59523, Stop: 59936, Start Num: 10

Candidate Starts for Hafay\_96:

(Start: 10 @59523 has 69 MA's), (44, 59634), (52, 59673), (55, 59682), (72, 59760), (84, 59832), (95, 59910), (101, 59928),

Gene: Halena\_88 Start: 56292, Stop: 56702, Start Num: 10

Candidate Starts for Halena\_88:

(Start: 10 @56292 has 69 MA's), (24, 56322), (26, 56325), (41, 56370), (55, 56448), (65, 56490), (72, 56526), (80, 56568), (81, 56574), (87, 56622), (94, 56667), (101, 56694),

Gene: HanKaySha\_106 Start: 62193, Stop: 62483, Start Num: 38

Candidate Starts for HanKaySha\_106:

(Start: 38 @62193 has 120 MA's), (65, 62322), (70, 62346), (81, 62406), (87, 62454),

Gene: Harella\_106 Start: 62718, Stop: 63008, Start Num: 38

Candidate Starts for Harella\_106:

(Start: 38 @62718 has 120 MA's), (65, 62847), (70, 62871), (81, 62931), (87, 62979),

Gene: Henry\_103 Start: 62003, Stop: 62293, Start Num: 38

Candidate Starts for Henry\_103:

(Start: 38 @62003 has 120 MA's), (65, 62132), (70, 62156), (81, 62216), (87, 62264),

Gene: Highbury\_102 Start: 60350, Stop: 60640, Start Num: 38

Candidate Starts for Highbury\_102:

(Start: 38 @60350 has 120 MA's), (65, 60479), (70, 60503), (81, 60563), (87, 60611),

Gene: Holt\_111 Start: 62419, Stop: 62709, Start Num: 38

Candidate Starts for Holt\_111:

(Start: 38 @62419 has 120 MA's), (65, 62548), (70, 62572), (81, 62632), (87, 62680),

Gene: Hoonter\_109 Start: 62498, Stop: 62788, Start Num: 38

Candidate Starts for Hoonter\_109:

(Start: 38 @62498 has 120 MA's), (65, 62627), (70, 62651), (81, 62711), (87, 62759),

Gene: Hokey\_106 Start: 62804, Stop: 63094, Start Num: 38

Candidate Starts for Hokey\_106:

(Start: 38 @62804 has 120 MA's), (65, 62933), (70, 62957), (81, 63017), (87, 63065),

Gene: HufflyPuff\_108 Start: 63113, Stop: 63403, Start Num: 38

Candidate Starts for HufflyPuff\_108:

(Start: 38 @63113 has 120 MA's), (65, 63242), (70, 63266), (81, 63326), (87, 63374),



Gene: IHOP\_104 Start: 61721, Stop: 62011, Start Num: 38  
Candidate Starts for IHOP\_104:  
(Start: 38 @61721 has 120 MA's), (65, 61850), (70, 61874), (81, 61934), (87, 61982),

Gene: Icee\_107 Start: 61529, Stop: 61819, Start Num: 38  
Candidate Starts for Icee\_107:  
(Start: 38 @61529 has 120 MA's), (65, 61658), (70, 61682), (81, 61742), (87, 61790),

Gene: Inca\_103 Start: 60210, Stop: 60500, Start Num: 38  
Candidate Starts for Inca\_103:  
(Start: 38 @60210 has 120 MA's), (65, 60339), (70, 60363), (81, 60423), (87, 60471),

Gene: Itos\_95 Start: 58358, Stop: 58771, Start Num: 10  
Candidate Starts for Itos\_95:  
(Start: 10 @58358 has 69 MA's), (44, 58469), (54, 58514), (55, 58517), (75, 58613), (84, 58667), (95, 58745), (101, 58763),

Gene: IttyBittyPiggy\_27 Start: 22317, Stop: 22682, Start Num: 27  
Candidate Starts for IttyBittyPiggy\_27:  
(2, 22149), (27, 22317), (61, 22482), (71, 22521), (73, 22533),

Gene: JasmineDragon\_30 Start: 22617, Stop: 23000, Start Num: 25  
Candidate Starts for JasmineDragon\_30:  
(1, 22437), (Start: 25 @22617 has 4 MA's), (64, 22791), (75, 22851),

Gene: JeTaime\_104 Start: 61629, Stop: 61919, Start Num: 38  
Candidate Starts for JeTaime\_104:  
(Start: 38 @61629 has 120 MA's), (65, 61758), (70, 61782), (81, 61842), (87, 61890),

Gene: Jobypre\_93 Start: 59235, Stop: 59642, Start Num: 10  
Candidate Starts for Jobypre\_93:  
(Start: 10 @59235 has 69 MA's), (Start: 20 @59256 has 1 MA's), (54, 59385), (55, 59388), (72, 59466), (79, 59502), (91, 59589), (95, 59616),

Gene: JoeDirt\_76 Start: 51825, Stop: 52229, Start Num: 16  
Candidate Starts for JoeDirt\_76:  
(4, 51750), (13, 51816), (Start: 16 @51825 has 2 MA's), (36, 51876), (40, 51894), (48, 51951), (50, 51954), (60, 52011), (71, 52053), (72, 52062), (73, 52065), (81, 52110), (82, 52113),

Gene: JoeDirt\_92 Start: 57967, Stop: 58377, Start Num: 10  
Candidate Starts for JoeDirt\_92:  
(Start: 10 @57967 has 69 MA's), (24, 57997), (26, 58000), (41, 58045), (55, 58123), (65, 58165), (72, 58201), (80, 58243), (81, 58249), (87, 58297), (94, 58342), (101, 58369),

Gene: JoyLin\_71 Start: 47628, Stop: 47996, Start Num: 23  
Candidate Starts for JoyLin\_71:  
(6, 47559), (14, 47610), (23, 47628), (32, 47649), (39, 47667), (42, 47682), (61, 47793), (67, 47820), (72, 47841), (75, 47859), (85, 47922), (96, 47988),

Gene: Jubie\_91 Start: 59370, Stop: 59777, Start Num: 10  
Candidate Starts for Jubie\_91:  
(Start: 10 @59370 has 69 MA's), (Start: 20 @59391 has 1 MA's), (54, 59520), (55, 59523), (72, 59601), (79, 59637), (91, 59724), (95, 59751),

Gene: Kahlid\_94 Start: 59217, Stop: 59630, Start Num: 10

Candidate Starts for Kahlid\_94:

(Start: 10 @59217 has 69 MA's), (44, 59328), (52, 59367), (55, 59376), (72, 59454), (84, 59526), (95, 59604), (101, 59622),

Gene: Kanye\_103 Start: 62254, Stop: 62544, Start Num: 38

Candidate Starts for Kanye\_103:

(Start: 38 @62254 has 120 MA's), (65, 62383), (70, 62407), (81, 62467), (87, 62515),

Gene: Kimchi\_110 Start: 62146, Stop: 62436, Start Num: 38

Candidate Starts for Kimchi\_110:

(Start: 38 @62146 has 120 MA's), (65, 62275), (70, 62299), (81, 62359), (87, 62407),

Gene: Kingsolomon\_90 Start: 59344, Stop: 59751, Start Num: 10

Candidate Starts for Kingsolomon\_90:

(Start: 10 @59344 has 69 MA's), (Start: 20 @59365 has 1 MA's), (54, 59494), (55, 59497), (72, 59575), (79, 59611), (91, 59698), (95, 59725),

Gene: KirDoubleO7\_90 Start: 59256, Stop: 59663, Start Num: 10

Candidate Starts for KirDoubleO7\_90:

(Start: 10 @59256 has 69 MA's), (Start: 20 @59277 has 1 MA's), (44, 59361), (54, 59406), (55, 59409), (72, 59487), (79, 59523), (91, 59610), (95, 59637),

Gene: Kostya\_106 Start: 61823, Stop: 62113, Start Num: 38

Candidate Starts for Kostya\_106:

(Start: 38 @61823 has 120 MA's), (65, 61952), (70, 61976), (81, 62036), (87, 62084),

Gene: Krypton555\_94 Start: 59747, Stop: 60154, Start Num: 10

Candidate Starts for Krypton555\_94:

(Start: 10 @59747 has 69 MA's), (Start: 20 @59768 has 1 MA's), (44, 59852), (54, 59897), (55, 59900), (72, 59978), (79, 60014), (91, 60101), (95, 60128),

Gene: LeBron\_90 Start: 56599, Stop: 57009, Start Num: 10

Candidate Starts for LeBron\_90:

(Start: 10 @56599 has 69 MA's), (24, 56629), (26, 56632), (41, 56677), (55, 56755), (65, 56797), (72, 56833), (80, 56875), (81, 56881), (87, 56929), (94, 56974), (101, 57001),

Gene: Lewan\_96 Start: 59451, Stop: 59864, Start Num: 10

Candidate Starts for Lewan\_96:

(Start: 10 @59451 has 69 MA's), (44, 59562), (52, 59601), (55, 59610), (72, 59688), (84, 59760), (95, 59838), (101, 59856),

Gene: LilDestine\_93 Start: 59128, Stop: 59541, Start Num: 10

Candidate Starts for LilDestine\_93:

(Start: 10 @59128 has 69 MA's), (44, 59239), (52, 59278), (55, 59287), (72, 59365), (84, 59437), (95, 59515), (101, 59533),

Gene: Lilac\_107 Start: 62947, Stop: 63237, Start Num: 38

Candidate Starts for Lilac\_107:

(Start: 38 @62947 has 120 MA's), (65, 63076), (70, 63100), (81, 63160), (87, 63208),

Gene: Lilizi\_106 Start: 62233, Stop: 62523, Start Num: 38

Candidate Starts for Lilizi\_106:

(Start: 38 @62233 has 120 MA's), (65, 62362), (70, 62386), (81, 62446), (87, 62494),

Gene: Lilpickle\_105 Start: 61645, Stop: 61935, Start Num: 38

Candidate Starts for Lilpickle\_105:

(Start: 38 @61645 has 120 MA's), (65, 61774), (70, 61798), (81, 61858), (87, 61906),

Gene: LilyPad\_61 Start: 44847, Stop: 45245, Start Num: 9

Candidate Starts for LilyPad\_61:

(Start: 9 @44847 has 1 MA's), (11, 44853), (43, 44955), (59, 45030), (74, 45090), (80, 45123), (83, 45150), (85, 45165), (90, 45201),

Gene: LiyuLake\_91 Start: 59329, Stop: 59736, Start Num: 10

Candidate Starts for LiyuLake\_91:

(Start: 10 @59329 has 69 MA's), (Start: 20 @59350 has 1 MA's), (44, 59434), (54, 59479), (55, 59482), (72, 59560), (79, 59596), (91, 59683), (95, 59710),

Gene: Loadrie\_94 Start: 59619, Stop: 60032, Start Num: 10

Candidate Starts for Loadrie\_94:

(Start: 10 @59619 has 69 MA's), (44, 59730), (52, 59769), (55, 59778), (72, 59856), (84, 59928), (95, 60006), (101, 60024),

Gene: Lolly9\_91 Start: 59420, Stop: 59827, Start Num: 10

Candidate Starts for Lolly9\_91:

(Start: 10 @59420 has 69 MA's), (Start: 20 @59441 has 1 MA's), (44, 59525), (54, 59570), (72, 59651), (79, 59687), (91, 59774), (95, 59801),

Gene: Lumos\_92 Start: 59232, Stop: 59639, Start Num: 10

Candidate Starts for Lumos\_92:

(Start: 10 @59232 has 69 MA's), (Start: 20 @59253 has 1 MA's), (54, 59382), (55, 59385), (72, 59463), (79, 59499), (91, 59586), (95, 59613),

Gene: MAckerman\_89 Start: 56285, Stop: 56695, Start Num: 10

Candidate Starts for MAckerman\_89:

(Start: 10 @56285 has 69 MA's), (24, 56315), (26, 56318), (41, 56363), (55, 56441), (65, 56483), (72, 56519), (80, 56561), (81, 56567), (87, 56615), (94, 56660), (101, 56687),

Gene: MISSy\_107 Start: 62930, Stop: 63220, Start Num: 38

Candidate Starts for MISSy\_107:

(Start: 38 @62930 has 120 MA's), (65, 63059), (70, 63083), (81, 63143), (87, 63191),

Gene: MPhalcon\_107 Start: 62348, Stop: 62638, Start Num: 38

Candidate Starts for MPhalcon\_107:

(Start: 38 @62348 has 120 MA's), (65, 62477), (70, 62501), (81, 62561), (87, 62609),

Gene: MadamMonkfish\_105 Start: 61655, Stop: 61945, Start Num: 38

Candidate Starts for MadamMonkfish\_105:

(Start: 38 @61655 has 120 MA's), (65, 61784), (70, 61808), (81, 61868), (87, 61916),

Gene: Manda\_107 Start: 62385, Stop: 62675, Start Num: 38

Candidate Starts for Manda\_107:

(Start: 38 @62385 has 120 MA's), (65, 62514), (70, 62538), (81, 62598), (87, 62646),

Gene: Marshmallow\_103 Start: 62343, Stop: 62633, Start Num: 38  
Candidate Starts for Marshmallow\_103:  
(Start: 38 @62343 has 120 MA's), (65, 62472), (70, 62496), (81, 62556), (87, 62604),

Gene: Maxxinista\_107 Start: 62132, Stop: 62422, Start Num: 38  
Candidate Starts for Maxxinista\_107:  
(Start: 38 @62132 has 120 MA's), (65, 62261), (70, 62285), (81, 62345), (87, 62393),

Gene: Miley16\_95 Start: 59815, Stop: 60228, Start Num: 10  
Candidate Starts for Miley16\_95:  
(Start: 10 @59815 has 69 MA's), (44, 59926), (54, 59971), (55, 59974), (75, 60070), (84, 60124), (95, 60202), (101, 60220),

Gene: Mindy\_105 Start: 61664, Stop: 61954, Start Num: 38  
Candidate Starts for Mindy\_105:  
(Start: 38 @61664 has 120 MA's), (65, 61793), (70, 61817), (81, 61877), (87, 61925),

Gene: MiniLon\_96 Start: 59421, Stop: 59828, Start Num: 10  
Candidate Starts for MiniLon\_96:  
(Start: 10 @59421 has 69 MA's), (Start: 20 @59442 has 1 MA's), (44, 59526), (54, 59571), (72, 59652), (79, 59688), (91, 59775), (95, 59802),

Gene: MiniMac\_96 Start: 59416, Stop: 59823, Start Num: 10  
Candidate Starts for MiniMac\_96:  
(Start: 10 @59416 has 69 MA's), (Start: 20 @59437 has 1 MA's), (44, 59521), (54, 59566), (72, 59647), (79, 59683), (91, 59770), (95, 59797),

Gene: MiniMommy\_31 Start: 22618, Stop: 23001, Start Num: 25  
Candidate Starts for MiniMommy\_31:  
(1, 22438), (Start: 25 @22618 has 4 MA's), (64, 22792), (75, 22852),

Gene: Miniwave\_101 Start: 61841, Stop: 62131, Start Num: 38  
Candidate Starts for Miniwave\_101:  
(Start: 38 @61841 has 120 MA's), (65, 61970), (70, 61994), (81, 62054), (87, 62102),

Gene: Misfit\_107 Start: 63444, Stop: 63734, Start Num: 38  
Candidate Starts for Misfit\_107:  
(Start: 38 @63444 has 120 MA's), (65, 63573), (70, 63597), (81, 63657), (87, 63705),

Gene: MkaliMitinis3\_97 Start: 59582, Stop: 59995, Start Num: 10  
Candidate Starts for MkaliMitinis3\_97:  
(Start: 10 @59582 has 69 MA's), (44, 59693), (52, 59732), (55, 59741), (72, 59819), (84, 59891), (95, 59969), (101, 59987),

Gene: Moldemort\_108 Start: 62113, Stop: 62403, Start Num: 38  
Candidate Starts for Moldemort\_108:  
(Start: 38 @62113 has 120 MA's), (65, 62242), (70, 62266), (81, 62326), (87, 62374),

Gene: Mollymur\_109 Start: 70923, Stop: 71270, Start Num: 25  
Candidate Starts for Mollymur\_109:  
(3, 70821), (5, 70833), (Start: 25 @70923 has 4 MA's), (61, 71088), (74, 71142), (82, 71184), (88, 71235),

Gene: Moostard\_89 Start: 59339, Stop: 59746, Start Num: 10

Candidate Starts for Moostard\_89:

(Start: 10 @59339 has 69 MA's), (Start: 20 @59360 has 1 MA's), (54, 59489), (55, 59492), (72, 59570), (79, 59606), (91, 59693), (95, 59720),

Gene: Mosby\_102 Start: 61808, Stop: 62098, Start Num: 38

Candidate Starts for Mosby\_102:

(Start: 38 @61808 has 120 MA's), (65, 61937), (70, 61961), (81, 62021), (87, 62069),

Gene: MsGreen\_92 Start: 59234, Stop: 59641, Start Num: 10

Candidate Starts for MsGreen\_92:

(Start: 10 @59234 has 69 MA's), (Start: 20 @59255 has 1 MA's), (54, 59384), (55, 59387), (72, 59465), (79, 59501), (91, 59588), (95, 59615),

Gene: Murica\_109 Start: 64147, Stop: 64437, Start Num: 38

Candidate Starts for Murica\_109:

(Start: 38 @64147 has 120 MA's), (65, 64276), (70, 64300), (81, 64360), (87, 64408),

Gene: Murphy\_105 Start: 62505, Stop: 62795, Start Num: 38

Candidate Starts for Murphy\_105:

(Start: 38 @62505 has 120 MA's), (65, 62634), (70, 62658), (81, 62718), (87, 62766),

Gene: Myrale\_106 Start: 62482, Stop: 62772, Start Num: 38

Candidate Starts for Myrale\_106:

(Start: 38 @62482 has 120 MA's), (65, 62611), (70, 62635), (81, 62695), (87, 62743),

Gene: Nala\_108 Start: 62857, Stop: 63147, Start Num: 38

Candidate Starts for Nala\_108:

(Start: 38 @62857 has 120 MA's), (65, 62986), (70, 63010), (81, 63070), (87, 63118),

Gene: NelitzaMV\_103 Start: 60830, Stop: 61120, Start Num: 38

Candidate Starts for NelitzaMV\_103:

(Start: 38 @60830 has 120 MA's), (65, 60959), (70, 60983), (81, 61043), (87, 61091),

Gene: Netyap\_94 Start: 59453, Stop: 59866, Start Num: 10

Candidate Starts for Netyap\_94:

(Start: 10 @59453 has 69 MA's), (44, 59564), (54, 59609), (55, 59612), (75, 59708), (84, 59762), (95, 59840), (101, 59858),

Gene: Nicholas\_90 Start: 59344, Stop: 59751, Start Num: 10

Candidate Starts for Nicholas\_90:

(Start: 10 @59344 has 69 MA's), (Start: 20 @59365 has 1 MA's), (54, 59494), (55, 59497), (72, 59575), (79, 59611), (91, 59698), (95, 59725),

Gene: Nicholasp3\_95 Start: 59299, Stop: 59712, Start Num: 10

Candidate Starts for Nicholasp3\_95:

(Start: 10 @59299 has 69 MA's), (44, 59410), (52, 59449), (55, 59458), (72, 59536), (84, 59608), (95, 59686), (101, 59704),

Gene: Nimrod\_106 Start: 62491, Stop: 62781, Start Num: 38

Candidate Starts for Nimrod\_106:

(Start: 38 @62491 has 120 MA's), (65, 62620), (70, 62644), (81, 62704), (87, 62752),

Gene: NoSleep\_106 Start: 61665, Stop: 61955, Start Num: 38  
Candidate Starts for NoSleep\_106:  
(Start: 38 @61665 has 120 MA's), (65, 61794), (70, 61818), (81, 61878), (87, 61926),

Gene: OhShagHennessy\_74 Start: 50528, Stop: 50932, Start Num: 16  
Candidate Starts for OhShagHennessy\_74:  
(4, 50453), (13, 50519), (Start: 16 @50528 has 2 MA's), (36, 50579), (40, 50597), (48, 50654), (50, 50657), (60, 50714), (71, 50756), (72, 50765), (73, 50768), (81, 50813), (82, 50816),

Gene: OhShagHennessy\_87 Start: 56542, Stop: 56952, Start Num: 10  
Candidate Starts for OhShagHennessy\_87:  
(Start: 10 @56542 has 69 MA's), (24, 56572), (26, 56575), (41, 56620), (55, 56698), (65, 56740), (72, 56776), (80, 56818), (81, 56824), (87, 56872), (94, 56917), (101, 56944),

Gene: OrionPax\_104 Start: 61738, Stop: 62028, Start Num: 38  
Candidate Starts for OrionPax\_104:  
(Start: 38 @61738 has 120 MA's), (65, 61867), (70, 61891), (81, 61951), (87, 61999),

Gene: PYPDinur\_96 Start: 59772, Stop: 60179, Start Num: 10  
Candidate Starts for PYPDinur\_96:  
(Start: 10 @59772 has 69 MA's), (Start: 20 @59793 has 1 MA's), (55, 59925), (75, 60021), (84, 60075), (91, 60126), (95, 60153), (97, 60156), (101, 60171),

Gene: Paperbeatsrock\_105 Start: 62519, Stop: 62809, Start Num: 38  
Candidate Starts for Paperbeatsrock\_105:  
(Start: 38 @62519 has 120 MA's), (65, 62648), (70, 62672), (81, 62732), (87, 62780),

Gene: Pat3\_103 Start: 61036, Stop: 61323, Start Num: 38  
Candidate Starts for Pat3\_103:  
(Start: 38 @61036 has 120 MA's), (65, 61165), (70, 61189), (81, 61249), (87, 61297),

Gene: Phaja\_104 Start: 61723, Stop: 62013, Start Num: 38  
Candidate Starts for Phaja\_104:  
(Start: 38 @61723 has 120 MA's), (65, 61852), (70, 61876), (81, 61936), (87, 61984),

Gene: Pharsalus\_103 Start: 62218, Stop: 62508, Start Num: 38  
Candidate Starts for Pharsalus\_103:  
(Start: 38 @62218 has 120 MA's), (65, 62347), (70, 62371), (81, 62431), (87, 62479),

Gene: PhatBacter\_109 Start: 62887, Stop: 63177, Start Num: 38  
Candidate Starts for PhatBacter\_109:  
(Start: 38 @62887 has 120 MA's), (65, 63016), (70, 63040), (81, 63100), (87, 63148),

Gene: Phaux\_108 Start: 63447, Stop: 63737, Start Num: 38  
Candidate Starts for Phaux\_108:  
(Start: 38 @63447 has 120 MA's), (65, 63576), (70, 63600), (81, 63660), (87, 63708),

Gene: Phrux\_102 Start: 61525, Stop: 61815, Start Num: 38  
Candidate Starts for Phrux\_102:  
(Start: 38 @61525 has 120 MA's), (65, 61654), (70, 61678), (81, 61738), (87, 61786),

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

(22, 44587), (31, 44605), (32, 44608), (37, 44626), (39, 44629), (56, 44716), (67, 44782), (72, 44803), (73, 44806), (75, 44821), (78, 44833), (85, 44884), (92, 44932), (96, 44950),

Gene: Porky\_104 Start: 61269, Stop: 61559, Start Num: 38

Candidate Starts for Porky\_104:

(Start: 38 @61269 has 120 MA's), (65, 61398), (70, 61422), (81, 61482), (87, 61530),

Gene: Pumpkin\_107 Start: 61865, Stop: 62155, Start Num: 38

Candidate Starts for Pumpkin\_107:

(Start: 38 @61865 has 120 MA's), (65, 61994), (70, 62018), (81, 62078), (87, 62126),

Gene: Quby\_96 Start: 59183, Stop: 59590, Start Num: 10

Candidate Starts for Quby\_96:

(Start: 10 @59183 has 69 MA's), (55, 59336), (75, 59432), (84, 59486), (91, 59537), (95, 59564), (97, 59567), (101, 59582),

Gene: Rakim\_107 Start: 61934, Stop: 62221, Start Num: 38

Candidate Starts for Rakim\_107:

(Start: 38 @61934 has 120 MA's), (65, 62063), (70, 62087), (81, 62147), (87, 62195),

Gene: RedWattleHog\_18 Start: 21845, Stop: 22282, Start Num: 18

Candidate Starts for RedWattleHog\_18:

(Start: 18 @21845 has 1 MA's), (40, 21908), (46, 21947), (47, 21950), (52, 21968), (86, 22148), (100, 22226), (103, 22271),

Gene: Rimmer\_104 Start: 62324, Stop: 62614, Start Num: 38

Candidate Starts for Rimmer\_104:

(Start: 38 @62324 has 120 MA's), (65, 62453), (70, 62477), (81, 62537), (87, 62585),

Gene: RiverMonster\_105 Start: 62420, Stop: 62710, Start Num: 38

Candidate Starts for RiverMonster\_105:

(Start: 38 @62420 has 120 MA's), (65, 62549), (70, 62573), (81, 62633), (87, 62681),

Gene: Rose5\_92 Start: 57809, Stop: 58219, Start Num: 10

Candidate Starts for Rose5\_92:

(Start: 10 @57809 has 69 MA's), (24, 57839), (26, 57842), (41, 57887), (55, 57965), (65, 58007), (72, 58043), (80, 58085), (81, 58091), (87, 58139), (94, 58184), (101, 58211),

Gene: Rumpelstiltskin\_91 Start: 59092, Stop: 59505, Start Num: 10

Candidate Starts for Rumpelstiltskin\_91:

(Start: 10 @59092 has 69 MA's), (44, 59203), (52, 59242), (55, 59251), (72, 59329), (84, 59401), (95, 59479), (101, 59497),

Gene: Saints25\_102 Start: 60350, Stop: 60640, Start Num: 38

Candidate Starts for Saints25\_102:

(Start: 38 @60350 has 120 MA's), (65, 60479), (70, 60503), (81, 60563), (87, 60611),

Gene: Samty\_91 Start: 59332, Stop: 59739, Start Num: 10

Candidate Starts for Samty\_91:

(Start: 10 @59332 has 69 MA's), (Start: 20 @59353 has 1 MA's), (54, 59482), (55, 59485), (72, 59563), (79, 59599), (91, 59686), (95, 59713),

Gene: Sarshaun\_96 Start: 60210, Stop: 60623, Start Num: 10

Candidate Starts for Sarshaun\_96:

(Start: 10 @60210 has 69 MA's), (44, 60321), (52, 60360), (55, 60369), (72, 60447), (84, 60519), (95, 60597), (101, 60615),

Gene: Sassay\_101 Start: 60770, Stop: 61060, Start Num: 38

Candidate Starts for Sassay\_101:

(Start: 38 @60770 has 120 MA's), (65, 60899), (70, 60923), (81, 60983), (87, 61031),

Gene: ShakeltOph\_31 Start: 22617, Stop: 23000, Start Num: 25

Candidate Starts for ShakeltOph\_31:

(1, 22437), (Start: 25 @22617 has 4 MA's), (64, 22791), (75, 22851),

Gene: ShamWow\_106 Start: 62698, Stop: 62988, Start Num: 38

Candidate Starts for ShamWow\_106:

(Start: 38 @62698 has 120 MA's), (65, 62827), (70, 62851), (81, 62911), (87, 62959),

Gene: Sheng711\_97 Start: 59248, Stop: 59655, Start Num: 10

Candidate Starts for Sheng711\_97:

(Start: 10 @59248 has 69 MA's), (Start: 20 @59269 has 1 MA's), (55, 59401), (75, 59497), (84, 59551), (91, 59602), (95, 59629), (97, 59632), (101, 59647),

Gene: ShereKhan\_104 Start: 63179, Stop: 63469, Start Num: 38

Candidate Starts for ShereKhan\_104:

(Start: 38 @63179 has 120 MA's), (65, 63308), (70, 63332), (81, 63392), (87, 63440),

Gene: Silverleaf\_90 Start: 57305, Stop: 57715, Start Num: 10

Candidate Starts for Silverleaf\_90:

(Start: 10 @57305 has 69 MA's), (24, 57335), (26, 57338), (41, 57383), (55, 57461), (65, 57503), (72, 57539), (80, 57581), (81, 57587), (87, 57635), (94, 57680), (101, 57707),

Gene: Simpliphy\_104 Start: 61991, Stop: 62281, Start Num: 38

Candidate Starts for Simpliphy\_104:

(Start: 38 @61991 has 120 MA's), (65, 62120), (70, 62144), (81, 62204), (87, 62252),

Gene: SirDuracell\_106 Start: 61536, Stop: 61823, Start Num: 38

Candidate Starts for SirDuracell\_106:

(Start: 38 @61536 has 120 MA's), (65, 61665), (70, 61689), (81, 61749), (87, 61797),

Gene: Sleepyhead\_60 Start: 39674, Stop: 40021, Start Num: 15

Candidate Starts for Sleepyhead\_60:

(Start: 15 @39674 has 1 MA's), (72, 39896), (80, 39935), (89, 40004),

Gene: Snenia\_91 Start: 59236, Stop: 59643, Start Num: 10

Candidate Starts for Snenia\_91:

(Start: 10 @59236 has 69 MA's), (Start: 20 @59257 has 1 MA's), (54, 59386), (55, 59389), (72, 59467), (79, 59503), (91, 59590), (95, 59617),

Gene: Soap141\_95 Start: 60210, Stop: 60623, Start Num: 10

Candidate Starts for Soap141\_95:

(Start: 10 @60210 has 69 MA's), (44, 60321), (52, 60360), (55, 60369), (72, 60447), (84, 60519), (95, 60597), (101, 60615),

Gene: SophKB\_104 Start: 61980, Stop: 62270, Start Num: 38



Candidate Starts for SophKB\_104:

(Start: 38 @61980 has 120 MA's), (65, 62109), (70, 62133), (81, 62193), (87, 62241),

Gene: Sotrice96\_107 Start: 62444, Stop: 62734, Start Num: 38

Candidate Starts for Sotrice96\_107:

(Start: 38 @62444 has 120 MA's), (65, 62573), (70, 62597), (81, 62657), (87, 62705),

Gene: SpeedDemon\_1110 Start: 72859, Stop: 73215, Start Num: 21

Candidate Starts for SpeedDemon\_1110:

(7, 72799), (Start: 21 @72859 has 2 MA's), (61, 73030), (70, 73066), (88, 73177), (89, 73186),

Gene: Stank\_108 Start: 62218, Stop: 62508, Start Num: 38

Candidate Starts for Stank\_108:

(Start: 38 @62218 has 120 MA's), (65, 62347), (70, 62371), (81, 62431), (87, 62479),

Gene: Stark\_106 Start: 62304, Stop: 62594, Start Num: 38

Candidate Starts for Stark\_106:

(Start: 38 @62304 has 120 MA's), (65, 62433), (70, 62457), (81, 62517), (87, 62565),

Gene: StellaBean\_105 Start: 62601, Stop: 62891, Start Num: 38

Candidate Starts for StellaBean\_105:

(Start: 38 @62601 has 120 MA's), (65, 62730), (70, 62754), (81, 62814), (87, 62862),

Gene: StolenFromERC\_108 Start: 62143, Stop: 62433, Start Num: 38

Candidate Starts for StolenFromERC\_108:

(Start: 38 @62143 has 120 MA's), (65, 62272), (70, 62296), (81, 62356), (87, 62404),

Gene: TBrady12\_109 Start: 61655, Stop: 61945, Start Num: 38

Candidate Starts for TBrady12\_109:

(Start: 38 @61655 has 120 MA's), (65, 61784), (70, 61808), (81, 61868), (87, 61916),

Gene: Tarkin\_105 Start: 63044, Stop: 63334, Start Num: 38

Candidate Starts for Tarkin\_105:

(Start: 38 @63044 has 120 MA's), (65, 63173), (70, 63197), (81, 63257), (87, 63305),

Gene: TeardropMSU\_102 Start: 61546, Stop: 61836, Start Num: 38

Candidate Starts for TeardropMSU\_102:

(Start: 38 @61546 has 120 MA's), (65, 61675), (70, 61699), (81, 61759), (87, 61807),

Gene: Teaspoon\_106 Start: 62203, Stop: 62493, Start Num: 38

Candidate Starts for Teaspoon\_106:

(Start: 38 @62203 has 120 MA's), (65, 62332), (70, 62356), (81, 62416), (87, 62464),

Gene: Terminus\_109 Start: 63444, Stop: 63734, Start Num: 38

Candidate Starts for Terminus\_109:

(Start: 38 @63444 has 120 MA's), (65, 63573), (70, 63597), (81, 63657), (87, 63705),

Gene: Thresher\_107 Start: 63084, Stop: 63374, Start Num: 38

Candidate Starts for Thresher\_107:

(Start: 38 @63084 has 120 MA's), (65, 63213), (70, 63237), (81, 63297), (87, 63345),

Gene: Tomaszewski\_101 Start: 61982, Stop: 62272, Start Num: 38

Candidate Starts for Tomaszewski\_101:

(Start: 38 @61982 has 120 MA's), (65, 62111), (70, 62135), (81, 62195), (87, 62243),

Gene: Toto\_104 Start: 62698, Stop: 62988, Start Num: 38

Candidate Starts for Toto\_104:

(Start: 38 @62698 has 120 MA's), (65, 62827), (70, 62851), (81, 62911), (87, 62959),

Gene: Tourach\_95 Start: 60189, Stop: 60602, Start Num: 10

Candidate Starts for Tourach\_95:

(Start: 10 @60189 has 69 MA's), (41, 60270), (44, 60300), (54, 60345), (55, 60348), (75, 60444), (84, 60498), (95, 60576), (101, 60594),

Gene: Traaww1\_102 Start: 61247, Stop: 61537, Start Num: 38

Candidate Starts for Traaww1\_102:

(Start: 38 @61247 has 120 MA's), (65, 61376), (70, 61400), (81, 61460), (87, 61508),

Gene: Tuco\_107 Start: 63605, Stop: 63895, Start Num: 38

Candidate Starts for Tuco\_107:

(Start: 38 @63605 has 120 MA's), (65, 63734), (70, 63758), (81, 63818), (87, 63866),

Gene: Tyson\_92 Start: 57702, Stop: 58112, Start Num: 10

Candidate Starts for Tyson\_92:

(Start: 10 @57702 has 69 MA's), (24, 57732), (26, 57735), (41, 57780), (55, 57858), (65, 57900), (72, 57936), (80, 57978), (81, 57984), (87, 58032), (94, 58077), (101, 58104),

Gene: UPIE\_90 Start: 57298, Stop: 57708, Start Num: 10

Candidate Starts for UPIE\_90:

(Start: 10 @57298 has 69 MA's), (24, 57328), (26, 57331), (41, 57376), (55, 57454), (65, 57496), (72, 57532), (80, 57574), (81, 57580), (87, 57628), (94, 57673), (101, 57700),

Gene: Ukulele\_100 Start: 61803, Stop: 62093, Start Num: 38

Candidate Starts for Ukulele\_100:

(Start: 38 @61803 has 120 MA's), (65, 61932), (70, 61956), (81, 62016), (87, 62064),

Gene: Vetric\_93 Start: 59073, Stop: 59486, Start Num: 10

Candidate Starts for Vetric\_93:

(Start: 10 @59073 has 69 MA's), (44, 59184), (52, 59223), (55, 59232), (72, 59310), (84, 59382), (95, 59460), (101, 59478),

Gene: VroomVroom\_30 Start: 22712, Stop: 23095, Start Num: 25

Candidate Starts for VroomVroom\_30:

(1, 22532), (Start: 25 @22712 has 4 MA's), (75, 22946),

Gene: Wamburgexpress\_90 Start: 57426, Stop: 57836, Start Num: 10

Candidate Starts for Wamburgexpress\_90:

(Start: 10 @57426 has 69 MA's), (24, 57456), (26, 57459), (41, 57504), (55, 57582), (65, 57624), (72, 57660), (80, 57702), (81, 57708), (87, 57756), (94, 57801), (101, 57828),

Gene: Whirlwind\_93 Start: 59575, Stop: 59982, Start Num: 10

Candidate Starts for Whirlwind\_93:

(Start: 10 @59575 has 69 MA's), (Start: 20 @59596 has 1 MA's), (54, 59725), (55, 59728), (72, 59806), (79, 59842), (91, 59929), (95, 59956),

Gene: Wiggin\_108 Start: 61648, Stop: 61938, Start Num: 38

Candidate Starts for Wiggin\_108:

(Start: 38 @61648 has 120 MA's), (65, 61777), (70, 61801), (81, 61861), (87, 61909),

Gene: Wigglewiggles\_95 Start: 59375, Stop: 59788, Start Num: 10

Candidate Starts for Wigglewiggles\_95:

(Start: 10 @59375 has 69 MA's), (44, 59486), (54, 59531), (55, 59534), (75, 59630), (84, 59684), (95, 59762), (101, 59780),

Gene: Wilder\_96 Start: 59217, Stop: 59630, Start Num: 10

Candidate Starts for Wilder\_96:

(Start: 10 @59217 has 69 MA's), (44, 59328), (52, 59367), (55, 59376), (72, 59454), (84, 59526), (95, 59604), (101, 59622),

Gene: Willez\_101 Start: 60770, Stop: 61060, Start Num: 38

Candidate Starts for Willez\_101:

(Start: 38 @60770 has 120 MA's), (65, 60899), (70, 60923), (81, 60983), (87, 61031),

Gene: Winky\_95 Start: 59815, Stop: 60228, Start Num: 10

Candidate Starts for Winky\_95:

(Start: 10 @59815 has 69 MA's), (44, 59926), (54, 59971), (55, 59974), (75, 60070), (84, 60124), (95, 60202), (101, 60220),

Gene: Wyatt2\_92 Start: 57733, Stop: 58143, Start Num: 10

Candidate Starts for Wyatt2\_92:

(Start: 10 @57733 has 69 MA's), (24, 57763), (26, 57766), (41, 57811), (55, 57889), (65, 57931), (72, 57967), (80, 58009), (81, 58015), (87, 58063), (94, 58108), (101, 58135),

Gene: YassJohnny\_103 Start: 60791, Stop: 61081, Start Num: 38

Candidate Starts for YassJohnny\_103:

(Start: 38 @60791 has 120 MA's), (65, 60920), (70, 60944), (81, 61004), (87, 61052),

Gene: Yotsuba\_70 Start: 47646, Stop: 48014, Start Num: 23

Candidate Starts for Yotsuba\_70:

(6, 47577), (14, 47628), (23, 47646), (32, 47667), (39, 47685), (42, 47700), (61, 47811), (67, 47838), (72, 47859), (75, 47877), (85, 47940), (96, 48006),

Gene: Youngblood\_109 Start: 62940, Stop: 63230, Start Num: 38

Candidate Starts for Youngblood\_109:

(Start: 38 @62940 has 120 MA's), (65, 63069), (70, 63093), (81, 63153), (87, 63201),

Gene: Zakai\_96 Start: 59860, Stop: 60273, Start Num: 10

Candidate Starts for Zakai\_96:

(Start: 10 @59860 has 69 MA's), (44, 59971), (52, 60010), (55, 60019), (72, 60097), (84, 60169), (95, 60247), (101, 60265),

Gene: Zaria\_91 Start: 56841, Stop: 57251, Start Num: 10

Candidate Starts for Zaria\_91:

(Start: 10 @56841 has 69 MA's), (24, 56871), (26, 56874), (41, 56919), (55, 56997), (65, 57039), (72, 57075), (80, 57117), (81, 57123), (87, 57171), (94, 57216), (101, 57243),

Gene: ZhongYanYuan\_92 Start: 59271, Stop: 59684, Start Num: 10

Candidate Starts for ZhongYanYuan\_92:

(Start: 10 @59271 has 69 MA's), (44, 59382), (52, 59421), (55, 59430), (72, 59508), (84, 59580), (95, 59658), (101, 59676),

Gene: xkcd\_109 Start: 63125, Stop: 63415, Start Num: 38

Candidate Starts for xkcd\_109:

(Start: 38 @63125 has 120 MA's), (65, 63254), (70, 63278), (81, 63338), (87, 63386),