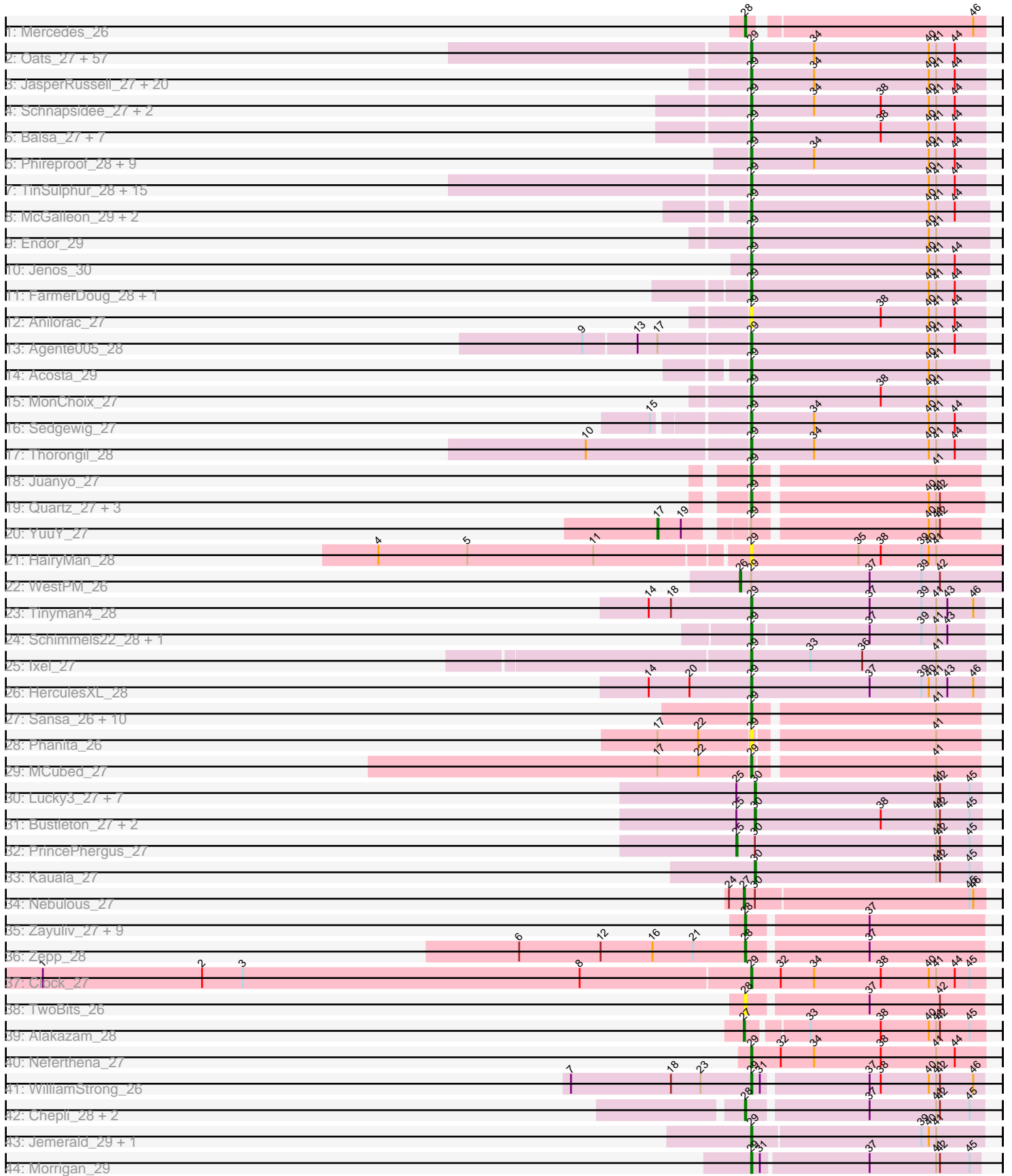


# Pham 224311



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 224311 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224311 has 192 members, 19 are drafts.

Phages represented in each track:

- Track 1 : Mercedes\_26
- Track 2 : Oats\_27, Clancy\_27, Lovelyunicorn\_28, Espinosa\_27, Exploradora\_27, StirfryIV\_27, Jerbirus\_28, Renzie\_28, Oxtober96\_28, AranulaLuti\_27, Asta\_27, KannH\_27, MillyPhilly\_28, Aubergine\_27, Teagan\_28, Gargoyle\_28, Alyxandracam\_28, HankSprout\_28, Rog141\_27, Delphidian\_28, HanSolo\_27, Nagem\_28, Ludgate\_28, Winzigespinne\_27, Vispistious\_28, Janus167\_27, Peep\_28, AlexAdler\_28, Tenda\_27, Phriends\_28, AxiPup\_28, Velene\_28, Baines\_27, Antoinette\_28, Superfresh\_28, Papafritta\_27, SoilGremlin\_28, Dave\_28, Riyhil\_28, Gubbabump\_27, Blage\_28, ShaiHulud\_28, Den3\_28, Gershwin\_27, WildNOut\_28, MaeLinda\_28, PuppyEggo\_28, Bandik\_28, Greys\_28, OldNelly\_28, Figueroism\_28, Zada\_28, ManRay\_27, Robinson\_28, TeddyBear\_27, Christoph\_27, SJay\_28, BigRedClifford\_28
- Track 3 : JasperRussell\_27, Erla\_27, Ilzat\_27, Nattles\_27, SonOfLevi\_27, Garey24\_27, Chamuel\_27, Kale\_27, JeriBeth\_28, Chako\_27, Bonino\_27, Pocket\_27, RosieMae\_28, Calix\_27, Etta\_27, HungryHenry\_27, Gelo\_27, Klimt\_27, Benjalauen\_28, StingRay\_27, Duocatuli\_27
- Track 4 : Schnapsidee\_27, Peppino\_27, BeeBee8\_28
- Track 5 : Balsa\_27, Etna\_27, KingJulien\_27, Hamlet\_27, Raccoon\_27, Redfield\_27, Leafus\_27, Stormbreaker8\_27
- Track 6 : Phireproof\_28, Convict\_28, Knox\_28, Strathdee\_28, BonesMcCoy\_28, BeautPeep30\_28, Ioannes\_28, Raptor\_28, Thompsone\_28, Symere\_28
- Track 7 : TinSulphur\_28, Shee\_28, Inventa\_28, ParleG\_28, Kurt1\_28, TatarkaPM\_28, Rapheph\_28, Byron23\_28, Pherferi\_28, PhredFlintston\_28, Stanktossa\_28, NickSell\_28, Martin\_29, Dothraki\_28, MrWorldwide\_28, Phiderman\_28
- Track 8 : McGalleon\_29, CarisSwetlik\_31, JasonD\_32
- Track 9 : Endor\_29
- Track 10 : Jenos\_30
- Track 11 : FarmerDoug\_28, GardenB\_27
- Track 12 : Anilorac\_27
- Track 13 : Agente005\_28
- Track 14 : Acosta\_29
- Track 15 : MonChoix\_27
- Track 16 : Sedgewig\_27
- Track 17 : Thorongil\_28
- Track 18 : Juanyo\_27
- Track 19 : Quartz\_27, Mandalorian\_27, Nucci\_27, Carostasia\_27

- Track 20 : YuuY\_27
- Track 21 : HairyMan\_28
- Track 22 : WestPM\_26
- Track 23 : Tinyman4\_28
- Track 24 : Schimmels22\_28, Scissor2024\_28
- Track 25 : Ixel\_27
- Track 26 : HerculesXL\_28
- Track 27 : Sansa\_26, Andromedas\_27, ChikPic\_27, Eleri\_27, Glamour\_26, Finny\_27, PSirce\_26, Zenitsu\_27, Saratos\_27, Shamu\_27, ColaCorta\_27
- Track 28 : Phanita\_26
- Track 29 : MCubed\_27
- Track 30 : Lucky3\_27, Guetzie\_27, Koji\_27, BouleyBill\_27, Jingles\_27, SirVictor\_27, RenegadeRaider\_28, Golden\_27
- Track 31 : Bustleton\_27, Pherbot\_27, Sinatra\_27
- Track 32 : PrincePhergus\_27
- Track 33 : Kauala\_27
- Track 34 : Nebulous\_27
- Track 35 : Zayuliv\_27, LilTerminator\_28, Librie\_27, Fulton\_27, CaptainRex\_27, Greenlvy\_27, Wardwill\_29, QuadZero\_27, BaronJohn\_28, Hasitha\_27
- Track 36 : Zepp\_28
- Track 37 : Clock\_27
- Track 38 : TwoBits\_26
- Track 39 : Alakazam\_28
- Track 40 : Neferthena\_27
- Track 41 : WilliamStrong\_26
- Track 42 : Chepli\_28, KatChan\_28, Luna18\_28
- Track 43 : Jemerald\_29, Juicer\_29
- Track 44 : Morigan\_29

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

The start number called the most often in the published annotations is 29, it was called in 146 of the 173 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acosta\_29, Agente005\_28, AlexAdler\_28, Alyxandracam\_28, Andromedas\_27, Anilorac\_27, Antoinette\_28, AranulaLuti\_27, Asta\_27, Aubergine\_27, AxiPup\_28, Baines\_27, Balsa\_27, Bandik\_28, BeautPeep30\_28, BeeBee8\_28, Benjalauren\_28, BigRedClifford\_28, Blage\_28, BonesMcCoy\_28, Bonino\_27, Byron23\_28, Calix\_27, CarisSwetlik\_31, Carostasia\_27, Chako\_27, Chamuel\_27, ChikPic\_27, Christoph\_27, Clancy\_27, Clock\_27, ColaCorta\_27, Convict\_28, Dave\_28, Delphidian\_28, Den3\_28, Dothraki\_28, Duocatuli\_27, Eleri\_27, Endor\_29, Erla\_27, Espinosa\_27, Etna\_27, Etta\_27, Exploradora\_27, FarmerDoug\_28, Figueroism\_28, Finny\_27, GardenB\_27, Garey24\_27, Gargoyle\_28, Gelo\_27, Gershwin\_27, Glamour\_26, Greys\_28, Gubbabump\_27, HairyMan\_28, Hamlet\_27, HanSolo\_27, HankSprout\_28, HerculesXL\_28, HungryHenry\_27, Ilzat\_27, Inventa\_28, Ioannes\_28, Ixel\_27, Janus167\_27, JasonD\_32, JasperRussell\_27, Jemerald\_29, Jenos\_30, Jerbirus\_28, JeriBeth\_28, Juanyo\_27, Juicer\_29, Kale\_27, KannH\_27, KingJulien\_27, Klimt\_27, Knox\_28, Kurt1\_28, Leafus\_27, Lovelyunicorn\_28, Ludgate\_28, MCubed\_27, MaeLinda\_28, ManRay\_27, Mandalorian\_27, Martin\_29, McGalleon\_29,

MillyPhilly\_28, MonChoix\_27, Morigan\_29, MrWorldwide\_28, Nagem\_28, Nattles\_27, Neferthena\_27, NickSell\_28, Nucci\_27, Oats\_27, OldNelly\_28, Oxtober96\_28, PSirce\_26, Papafritta\_27, ParleG\_28, Peep\_28, Peppino\_27, Phanita\_26, Pherferi\_28, Phiderman\_28, Phireproof\_28, PhredFlintston\_28, Phriends\_28, Pocket\_27, PuppyEggo\_28, Quartz\_27, Raccoon\_27, Rapheph\_28, Raptor\_28, Redfield\_27, Renzie\_28, Riyhil\_28, Robinson\_28, Rog141\_27, RosieMae\_28, SJay\_28, Sansa\_26, Saratos\_27, Schimmels22\_28, Schnapsidee\_27, Scissor2024\_28, Sedgewig\_27, ShaiHulud\_28, Shamu\_27, Shee\_28, SoilGremlin\_28, SonOfLevi\_27, Stanktossa\_28, StingRay\_27, StirfryIV\_27, Stormbreaker8\_27, Strathdee\_28, Superfresh\_28, Symere\_28, TatarkaPM\_28, Teagan\_28, TeddyBear\_27, Tenda\_27, Thompsone\_28, Thorongil\_28, TinSulphur\_28, Tinyman4\_28, Velene\_28, Vispistious\_28, WildNOut\_28, WilliamStrong\_26, Winzigespinne\_27, Zada\_28, Zenitsu\_27,

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

- WestPM\_26, YuuY\_27,

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

- Alakazam\_28, BaronJohn\_28, BouleyBill\_27, Bustleton\_27, CaptainRex\_27, Chepli\_28, Fulton\_27, Golden\_27, GreenIvy\_27, Guetzie\_27, Hasitha\_27, Jingles\_27, KatChan\_28, Kauala\_27, Koji\_27, Librie\_27, LilTerminator\_28, Lucky3\_27, Luna18\_28, Mercedes\_26, Nebulous\_27, Pherbot\_27, PrincePhergus\_27, QuadZero\_27, RenegadeRaider\_28, Sinatra\_27, SirVictor\_27, TwoBits\_26, Wardwill\_29, Zayuliv\_27, Zepp\_28,

### Summary by start number:

Start 17:

- Found in 4 of 192 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 1 of 173
- Called 25.0% of time when present
- Phage (with cluster) where this start called: YuuY\_27 (EA10),

Start 25:

- Found in 12 of 192 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 1 of 173
- Called 8.3% of time when present
- Phage (with cluster) where this start called: PrincePhergus\_27 (EA4),

Start 26:

- Found in 1 of 192 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 173
- Called 100.0% of time when present
- Phage (with cluster) where this start called: WestPM\_26 (EA11),

Start 27:

- Found in 2 of 192 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 173
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alakazam\_28 (EA5), Nebulous\_27 (EA5),

Start 28:

- Found in 16 of 192 ( 8.3% ) of genes in pham
- Manual Annotations of this start: 12 of 173
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaronJohn\_28 (EA5), CaptainRex\_27 (EA5), Chepli\_28 (EA6), Fulton\_27 (EA5), Greenlvy\_27 (EA5), Hasitha\_27 (EA5), KatChan\_28 (EA6), Librie\_27 (EA5), LilTerminator\_28 (EA5), Luna18\_28 (EA6), Mercedes\_26 (EA), QuadZero\_27 (EA5), TwoBits\_26 (EA5), Wardwill\_29 (EA5), Zayuliv\_27 (EA5), Zepp\_28 (EA5),

#### Start 29:

- Found in 161 of 192 ( 83.9% ) of genes in pham
- Manual Annotations of this start: 146 of 173
- Called 98.8% of time when present
- Phage (with cluster) where this start called: Acosta\_29 (EA1), Agente005\_28 (EA1), AlexAdler\_28 (EA1), Alyxandracam\_28 (EA1), Andromedas\_27 (EA2), Anilorac\_27 (EA1), Antoinette\_28 (EA1), AranulaLuti\_27 (EA1), Asta\_27 (EA1), Aubergine\_27 (EA1), AxiPup\_28 (EA1), Baines\_27 (EA1), Balsa\_27 (EA1), Bandik\_28 (EA1), BeautPeep30\_28 (EA1), BeeBee8\_28 (EA1), Benjalauen\_28 (EA1), BigRedClifford\_28 (EA1), Blage\_28 (EA1), BonesMcCoy\_28 (EA1), Bonino\_27 (EA1), Byron23\_28 (EA1), Calix\_27 (EA1), CarisSwetlik\_31 (EA1), Carostasia\_27 (EA10), Chako\_27 (EA1), Chamuel\_27 (EA1), ChikPic\_27 (EA2), Christoph\_27 (EA1), Clancy\_27 (EA1), Clock\_27 (EA5), ColaCorta\_27 (EA2), Convict\_28 (EA1), Dave\_28 (EA1), Delphidian\_28 (EA1), Den3\_28 (EA1), Dothraki\_28 (EA1), Duocatuli\_27 (EA1), Eleri\_27 (EA2), Endor\_29 (EA1), Eria\_27 (EA1), Espinosa\_27 (EA1), Etna\_27 (EA1), Etta\_27 (EA1), Exploradora\_27 (EA1), FarmerDoug\_28 (EA1), Figueroism\_28 (EA1), Finny\_27 (EA2), GardenB\_27 (EA1), Garey24\_27 (EA1), Gargoyle\_28 (EA1), Gelo\_27 (EA1), Gershwin\_27 (EA1), Glamour\_26 (EA2), Greys\_28 (EA1), Gubbabump\_27 (EA1), HairyMan\_28 (EA10), Hamlet\_27 (EA1), HanSolo\_27 (EA1), HankSprout\_28 (EA1), HerculesXL\_28 (EA11), HungryHenry\_27 (EA1), Ilzat\_27 (EA1), Inventa\_28 (EA1), Ioannes\_28 (EA1), Ixel\_27 (EA11), Janus167\_27 (EA1), JasonD\_32 (EA1), JasperRussell\_27 (EA1), Jemerald\_29 (EA6), Jenos\_30 (EA1), Jerbirus\_28 (EA1), JeriBeth\_28 (EA1), Juanyo\_27 (EA10), Juicer\_29 (EA6), Kale\_27 (EA1), KannH\_27 (EA1), KingJulien\_27 (EA1), Klimt\_27 (EA1), Knox\_28 (EA1), Kurt1\_28 (EA1), Leafus\_27 (EA1), Lovelyunicorn\_28 (EA1), Ludgate\_28 (EA1), MCubed\_27 (EA2), MaeLinda\_28 (EA1), ManRay\_27 (EA1), Mandalorian\_27 (EA10), Martin\_29 (EA1), McGalleon\_29 (EA1), MillyPhilly\_28 (EA1), MonChoix\_27 (EA1), Morrigan\_29 (EA6), MrWorldwide\_28 (EA1), Nagem\_28 (EA1), Nattles\_27 (EA1), Neferthena\_27 (EA5), NickSell\_28 (EA1), Nucci\_27 (EA10), Oats\_27 (EA1), OldNelly\_28 (EA1), Oxtober96\_28 (EA1), PSirce\_26 (EA2), Papafritta\_27 (EA1), ParleG\_28 (EA1), Peep\_28 (EA1), Peppino\_27 (EA1), Phanita\_26 (EA2), Pherferi\_28 (EA1), Phiderman\_28 (EA1), Phireproof\_28 (EA1), PhredFlintston\_28 (EA1), Phriends\_28 (EA1), Pocket\_27 (EA1), PuppyEggo\_28 (EA1), Quartz\_27 (EA10), Raccoon\_27 (EA1), Rappheph\_28 (EA1), Raptor\_28 (EA1), Redfield\_27 (EA1), Renzie\_28 (EA1), Riyhil\_28 (EA1), Robinson\_28 (EA1), Rog141\_27 (EA1), RosieMae\_28 (EA1), SJay\_28 (EA1), Sansa\_26 (EA2), Saratos\_27 (EA2), Schimmels22\_28 (EA11), Schnapsidee\_27 (EA1), Scissor2024\_28 (EA11), Sedgewig\_27 (EA1), ShaiHulud\_28 (EA1), Shamu\_27 (EA2), Shee\_28 (EA1), SoilGremlin\_28 (EA1), SonOfLevi\_27 (EA1), Stanktossa\_28 (EA1), StingRay\_27 (EA1), StirfryIV\_27 (EA1), Stormbreaker8\_27 (EA1), Strathdee\_28 (EA1), Superfresh\_28 (EA1), Symere\_28 (EA1), TatarkaPM\_28 (EA1), Teagan\_28 (EA1), TeddyBear\_27 (EA1), Tenda\_27 (EA1), Thompsone\_28 (EA1), Thorongil\_28 (EA1), TinSulphur\_28 (EA1), Tinyman4\_28 (EA11), Velene\_28 (EA1), Vispistious\_28 (EA1), WildNOut\_28 (EA1), WilliamStrong\_26 (EA6), Winzigespinne\_27 (EA1), Zada\_28

(EA1), Zenitsu\_27 (EA2),

Start 30:

- Found in 14 of 192 ( 7.3% ) of genes in pham
- Manual Annotations of this start: 10 of 173
- Called 85.7% of time when present
- Phage (with cluster) where this start called: BouleyBill\_27 (EA4), Bustleton\_27 (EA4), Golden\_27 (EA4), Guetzie\_27 (EA4), Jingles\_27 (EA4), Kauala\_27 (EA4), Koji\_27 (EA4), Lucky3\_27 (EA4), Pherbot\_27 (EA4), RenegadeRaider\_28 (EA4), Sinatra\_27 (EA4), SirVictor\_27 (EA4),

### **Summary by clusters:**

There are 8 clusters represented in this pham: EA11, EA10, EA, EA1, EA2, EA5, EA4, EA6,

Info for manual annotations of cluster EA:

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

Info for manual annotations of cluster EA1:

- Start number 29 was manually annotated 120 times for cluster EA1.

Info for manual annotations of cluster EA10:

- Start number 17 was manually annotated 1 time for cluster EA10.
- Start number 29 was manually annotated 5 times for cluster EA10.

Info for manual annotations of cluster EA11:

- Start number 26 was manually annotated 1 time for cluster EA11.
- Start number 29 was manually annotated 4 times for cluster EA11.

Info for manual annotations of cluster EA2:

- Start number 29 was manually annotated 11 times for cluster EA2.

Info for manual annotations of cluster EA4:

- Start number 25 was manually annotated 1 time for cluster EA4.
- Start number 30 was manually annotated 10 times for cluster EA4.

Info for manual annotations of cluster EA5:

- Start number 27 was manually annotated 2 times for cluster EA5.
- Start number 28 was manually annotated 8 times for cluster EA5.
- Start number 29 was manually annotated 2 times for cluster EA5.

Info for manual annotations of cluster EA6:

- Start number 28 was manually annotated 3 times for cluster EA6.
- Start number 29 was manually annotated 4 times for cluster EA6.

### **Gene Information:**

Gene: Acosta\_29 Start: 20845, Stop: 20654, Start Num: 29

Candidate Starts for Acosta\_29:

(Start: 29 @20845 has 146 MA's), (40, 20701), (41, 20695),

Gene: Agente005\_28 Start: 20551, Stop: 20363, Start Num: 29  
Candidate Starts for Agente005\_28:  
(9, 20677), (13, 20635), (Start: 17 @20620 has 1 MA's), (Start: 29 @20551 has 146 MA's), (40, 20407),  
(41, 20401), (44, 20386),

Gene: Alakazam\_28 Start: 20771, Stop: 20586, Start Num: 27  
Candidate Starts for Alakazam\_28:  
(Start: 27 @20771 has 2 MA's), (33, 20726), (38, 20669), (40, 20630), (41, 20624), (42, 20621), (45,  
20597),

Gene: AlexAdler\_28 Start: 20552, Stop: 20364, Start Num: 29  
Candidate Starts for AlexAdler\_28:  
(Start: 29 @20552 has 146 MA's), (34, 20501), (40, 20408), (41, 20402), (44, 20387),

Gene: Alyxandracam\_28 Start: 20561, Stop: 20373, Start Num: 29  
Candidate Starts for Alyxandracam\_28:  
(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Andromedas\_27 Start: 20591, Stop: 20415, Start Num: 29  
Candidate Starts for Andromedas\_27:  
(Start: 29 @20591 has 146 MA's), (41, 20450),

Gene: Anilorac\_27 Start: 20402, Stop: 20214, Start Num: 29  
Candidate Starts for Anilorac\_27:  
(Start: 29 @20402 has 146 MA's), (38, 20297), (40, 20258), (41, 20252), (44, 20237),

Gene: Antoinette\_28 Start: 20549, Stop: 20361, Start Num: 29  
Candidate Starts for Antoinette\_28:  
(Start: 29 @20549 has 146 MA's), (34, 20498), (40, 20405), (41, 20399), (44, 20384),

Gene: AranulaLuti\_27 Start: 20363, Stop: 20175, Start Num: 29  
Candidate Starts for AranulaLuti\_27:  
(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: Asta\_27 Start: 20376, Stop: 20188, Start Num: 29  
Candidate Starts for Asta\_27:  
(Start: 29 @20376 has 146 MA's), (34, 20325), (40, 20232), (41, 20226), (44, 20211),

Gene: Aubergine\_27 Start: 20376, Stop: 20188, Start Num: 29  
Candidate Starts for Aubergine\_27:  
(Start: 29 @20376 has 146 MA's), (34, 20325), (40, 20232), (41, 20226), (44, 20211),

Gene: AxiPup\_28 Start: 20561, Stop: 20373, Start Num: 29  
Candidate Starts for AxiPup\_28:  
(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Baines\_27 Start: 20363, Stop: 20175, Start Num: 29  
Candidate Starts for Baines\_27:  
(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: Balsa\_27 Start: 20396, Stop: 20208, Start Num: 29  
Candidate Starts for Balsa\_27:

(Start: 29 @20396 has 146 MA's), (38, 20291), (40, 20252), (41, 20246), (44, 20231),

Gene: Bandik\_28 Start: 20557, Stop: 20369, Start Num: 29

Candidate Starts for Bandik\_28:

(Start: 29 @20557 has 146 MA's), (34, 20506), (40, 20413), (41, 20407), (44, 20392),

Gene: BaronJohn\_28 Start: 19871, Stop: 19686, Start Num: 28

Candidate Starts for BaronJohn\_28:

(Start: 28 @19871 has 12 MA's), (37, 19778),

Gene: BeautPeep30\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for BeautPeep30\_28:

(Start: 29 @20563 has 146 MA's), (34, 20512), (40, 20419), (41, 20413), (44, 20398),

Gene: BeeBee8\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for BeeBee8\_28:

(Start: 29 @20563 has 146 MA's), (34, 20512), (38, 20458), (40, 20419), (41, 20413), (44, 20398),

Gene: Benjalauren\_28 Start: 20373, Stop: 20185, Start Num: 29

Candidate Starts for Benjalauren\_28:

(Start: 29 @20373 has 146 MA's), (34, 20322), (40, 20229), (41, 20223), (44, 20208),

Gene: BigRedClifford\_28 Start: 20561, Stop: 20373, Start Num: 29

Candidate Starts for BigRedClifford\_28:

(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Blage\_28 Start: 20561, Stop: 20373, Start Num: 29

Candidate Starts for Blage\_28:

(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: BonesMcCoy\_28 Start: 20561, Stop: 20373, Start Num: 29

Candidate Starts for BonesMcCoy\_28:

(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Bonino\_27 Start: 20352, Stop: 20164, Start Num: 29

Candidate Starts for Bonino\_27:

(Start: 29 @20352 has 146 MA's), (34, 20301), (40, 20208), (41, 20202), (44, 20187),

Gene: BouleyBill\_27 Start: 20560, Stop: 20378, Start Num: 30

Candidate Starts for BouleyBill\_27:

(Start: 25 @20575 has 1 MA's), (Start: 30 @20560 has 10 MA's), (41, 20413), (42, 20410), (45, 20386),

Gene: Bustleton\_27 Start: 20560, Stop: 20378, Start Num: 30

Candidate Starts for Bustleton\_27:

(Start: 25 @20575 has 1 MA's), (Start: 30 @20560 has 10 MA's), (38, 20458), (41, 20413), (42, 20410), (45, 20386),

Gene: Byron23\_28 Start: 20566, Stop: 20378, Start Num: 29

Candidate Starts for Byron23\_28:

(Start: 29 @20566 has 146 MA's), (40, 20422), (41, 20416), (44, 20401),

Gene: Calix\_27 Start: 20356, Stop: 20168, Start Num: 29

Candidate Starts for Calix\_27:



(Start: 29 @20356 has 146 MA's), (34, 20305), (40, 20212), (41, 20206), (44, 20191),

Gene: CaptainRex\_27 Start: 19283, Stop: 19098, Start Num: 28

Candidate Starts for CaptainRex\_27:

(Start: 28 @19283 has 12 MA's), (37, 19190),

Gene: CarisSwetlik\_31 Start: 21341, Stop: 21150, Start Num: 29

Candidate Starts for CarisSwetlik\_31:

(Start: 29 @21341 has 146 MA's), (40, 21197), (41, 21191), (44, 21176),

Gene: Carostasia\_27 Start: 20900, Stop: 20721, Start Num: 29

Candidate Starts for Carostasia\_27:

(Start: 29 @20900 has 146 MA's), (40, 20765), (41, 20759), (42, 20756),

Gene: Chako\_27 Start: 20363, Stop: 20175, Start Num: 29

Candidate Starts for Chako\_27:

(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: Chamuel\_27 Start: 20358, Stop: 20170, Start Num: 29

Candidate Starts for Chamuel\_27:

(Start: 29 @20358 has 146 MA's), (34, 20307), (40, 20214), (41, 20208), (44, 20193),

Gene: Chepli\_28 Start: 20036, Stop: 19851, Start Num: 28

Candidate Starts for Chepli\_28:

(Start: 28 @20036 has 12 MA's), (37, 19943), (41, 19889), (42, 19886), (45, 19862),

Gene: ChikPic\_27 Start: 20607, Stop: 20431, Start Num: 29

Candidate Starts for ChikPic\_27:

(Start: 29 @20607 has 146 MA's), (41, 20466),

Gene: Christoph\_27 Start: 20374, Stop: 20186, Start Num: 29

Candidate Starts for Christoph\_27:

(Start: 29 @20374 has 146 MA's), (34, 20323), (40, 20230), (41, 20224), (44, 20209),

Gene: Clancy\_27 Start: 20363, Stop: 20175, Start Num: 29

Candidate Starts for Clancy\_27:

(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: Clock\_27 Start: 21158, Stop: 20970, Start Num: 29

Candidate Starts for Clock\_27:

(1, 21728), (2, 21599), (3, 21566), (8, 21293), (Start: 29 @21158 has 146 MA's), (32, 21134), (34, 21107), (38, 21053), (40, 21014), (41, 21008), (44, 20993), (45, 20981),

Gene: ColaCorta\_27 Start: 20591, Stop: 20415, Start Num: 29

Candidate Starts for ColaCorta\_27:

(Start: 29 @20591 has 146 MA's), (41, 20450),

Gene: Convict\_28 Start: 20561, Stop: 20373, Start Num: 29

Candidate Starts for Convict\_28:

(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Dave\_28 Start: 20549, Stop: 20361, Start Num: 29

Candidate Starts for Dave\_28:

(Start: 29 @20549 has 146 MA's), (34, 20498), (40, 20405), (41, 20399), (44, 20384),

Gene: Delphidian\_28 Start: 20560, Stop: 20372, Start Num: 29

Candidate Starts for Delphidian\_28:

(Start: 29 @20560 has 146 MA's), (34, 20509), (40, 20416), (41, 20410), (44, 20395),

Gene: Den3\_28 Start: 20565, Stop: 20377, Start Num: 29

Candidate Starts for Den3\_28:

(Start: 29 @20565 has 146 MA's), (34, 20514), (40, 20421), (41, 20415), (44, 20400),

Gene: Dothraki\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for Dothraki\_28:

(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: Duocatuli\_27 Start: 20363, Stop: 20175, Start Num: 29

Candidate Starts for Duocatuli\_27:

(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: Eleri\_27 Start: 20604, Stop: 20428, Start Num: 29

Candidate Starts for Eleri\_27:

(Start: 29 @20604 has 146 MA's), (41, 20463),

Gene: Endor\_29 Start: 20967, Stop: 20776, Start Num: 29

Candidate Starts for Endor\_29:

(Start: 29 @20967 has 146 MA's), (40, 20823), (41, 20817),

Gene: Erla\_27 Start: 20356, Stop: 20168, Start Num: 29

Candidate Starts for Erla\_27:

(Start: 29 @20356 has 146 MA's), (34, 20305), (40, 20212), (41, 20206), (44, 20191),

Gene: Espinosa\_27 Start: 20374, Stop: 20186, Start Num: 29

Candidate Starts for Espinosa\_27:

(Start: 29 @20374 has 146 MA's), (34, 20323), (40, 20230), (41, 20224), (44, 20209),

Gene: Etna\_27 Start: 20389, Stop: 20201, Start Num: 29

Candidate Starts for Etna\_27:

(Start: 29 @20389 has 146 MA's), (38, 20284), (40, 20245), (41, 20239), (44, 20224),

Gene: Etta\_27 Start: 20360, Stop: 20172, Start Num: 29

Candidate Starts for Etta\_27:

(Start: 29 @20360 has 146 MA's), (34, 20309), (40, 20216), (41, 20210), (44, 20195),

Gene: Exploradora\_27 Start: 20363, Stop: 20175, Start Num: 29

Candidate Starts for Exploradora\_27:

(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: FarmerDoug\_28 Start: 20586, Stop: 20398, Start Num: 29

Candidate Starts for FarmerDoug\_28:

(Start: 29 @20586 has 146 MA's), (40, 20442), (41, 20436), (44, 20421),

Gene: Figueroism\_28 Start: 20548, Stop: 20360, Start Num: 29

Candidate Starts for Figueroism\_28:

(Start: 29 @20548 has 146 MA's), (34, 20497), (40, 20404), (41, 20398), (44, 20383),

Gene: Finny\_27 Start: 20587, Stop: 20414, Start Num: 29

Candidate Starts for Finny\_27:

(Start: 29 @20587 has 146 MA's), (41, 20449),

Gene: Fulton\_27 Start: 19287, Stop: 19102, Start Num: 28

Candidate Starts for Fulton\_27:

(Start: 28 @19287 has 12 MA's), (37, 19194),

Gene: GardenB\_27 Start: 20398, Stop: 20210, Start Num: 29

Candidate Starts for GardenB\_27:

(Start: 29 @20398 has 146 MA's), (40, 20254), (41, 20248), (44, 20233),

Gene: Garey24\_27 Start: 20339, Stop: 20151, Start Num: 29

Candidate Starts for Garey24\_27:

(Start: 29 @20339 has 146 MA's), (34, 20288), (40, 20195), (41, 20189), (44, 20174),

Gene: Gargoyle\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for Gargoyle\_28:

(Start: 29 @20563 has 146 MA's), (34, 20512), (40, 20419), (41, 20413), (44, 20398),

Gene: Gelo\_27 Start: 20360, Stop: 20172, Start Num: 29

Candidate Starts for Gelo\_27:

(Start: 29 @20360 has 146 MA's), (34, 20309), (40, 20216), (41, 20210), (44, 20195),

Gene: Gershwin\_27 Start: 20376, Stop: 20188, Start Num: 29

Candidate Starts for Gershwin\_27:

(Start: 29 @20376 has 146 MA's), (34, 20325), (40, 20232), (41, 20226), (44, 20211),

Gene: Glamour\_26 Start: 20592, Stop: 20416, Start Num: 29

Candidate Starts for Glamour\_26:

(Start: 29 @20592 has 146 MA's), (41, 20451),

Gene: Golden\_27 Start: 20665, Stop: 20483, Start Num: 30

Candidate Starts for Golden\_27:

(Start: 25 @20680 has 1 MA's), (Start: 30 @20665 has 10 MA's), (41, 20518), (42, 20515), (45, 20491),

Gene: Greenlvy\_27 Start: 19873, Stop: 19688, Start Num: 28

Candidate Starts for Greenlvy\_27:

(Start: 28 @19873 has 12 MA's), (37, 19780),

Gene: Greys\_28 Start: 20558, Stop: 20370, Start Num: 29

Candidate Starts for Greys\_28:

(Start: 29 @20558 has 146 MA's), (34, 20507), (40, 20414), (41, 20408), (44, 20393),

Gene: Gubbabump\_27 Start: 20365, Stop: 20177, Start Num: 29

Candidate Starts for Gubbabump\_27:

(Start: 29 @20365 has 146 MA's), (34, 20314), (40, 20221), (41, 20215), (44, 20200),

Gene: Guetzie\_27 Start: 20653, Stop: 20471, Start Num: 30

Candidate Starts for Guetzie\_27:

(Start: 25 @20668 has 1 MA's), (Start: 30 @20653 has 10 MA's), (41, 20506), (42, 20503), (45, 20479),

Gene: HairyMan\_28 Start: 20566, Stop: 20363, Start Num: 29  
Candidate Starts for HairyMan\_28:  
(4, 20857), (5, 20785), (11, 20683), (Start: 29 @20566 has 146 MA's), (35, 20479), (38, 20461), (39, 20428), (40, 20422), (41, 20416),

Gene: Hamlet\_27 Start: 20396, Stop: 20208, Start Num: 29  
Candidate Starts for Hamlet\_27:  
(Start: 29 @20396 has 146 MA's), (38, 20291), (40, 20252), (41, 20246), (44, 20231),

Gene: HanSolo\_27 Start: 20363, Stop: 20175, Start Num: 29  
Candidate Starts for HanSolo\_27:  
(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: HankSprout\_28 Start: 20243, Stop: 20055, Start Num: 29  
Candidate Starts for HankSprout\_28:  
(Start: 29 @20243 has 146 MA's), (34, 20192), (40, 20099), (41, 20093), (44, 20078),

Gene: Hasitha\_27 Start: 19299, Stop: 19114, Start Num: 28  
Candidate Starts for Hasitha\_27:  
(Start: 28 @19299 has 12 MA's), (37, 19206),

Gene: HerculesXL\_28 Start: 19517, Stop: 19329, Start Num: 29  
Candidate Starts for HerculesXL\_28:  
(14, 19598), (20, 19565), (Start: 29 @19517 has 146 MA's), (37, 19421), (39, 19379), (40, 19373), (41, 19367), (43, 19358), (46, 19337),

Gene: HungryHenry\_27 Start: 20374, Stop: 20186, Start Num: 29  
Candidate Starts for HungryHenry\_27:  
(Start: 29 @20374 has 146 MA's), (34, 20323), (40, 20230), (41, 20224), (44, 20209),

Gene: Ilzat\_27 Start: 20373, Stop: 20185, Start Num: 29  
Candidate Starts for Ilzat\_27:  
(Start: 29 @20373 has 146 MA's), (34, 20322), (40, 20229), (41, 20223), (44, 20208),

Gene: Inventa\_28 Start: 20563, Stop: 20375, Start Num: 29  
Candidate Starts for Inventa\_28:  
(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: loannes\_28 Start: 20561, Stop: 20373, Start Num: 29  
Candidate Starts for loannes\_28:  
(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Ixel\_27 Start: 19192, Stop: 19004, Start Num: 29  
Candidate Starts for Ixel\_27:  
(Start: 29 @19192 has 146 MA's), (33, 19144), (36, 19102), (41, 19042),

Gene: Janus167\_27 Start: 20363, Stop: 20175, Start Num: 29  
Candidate Starts for Janus167\_27:  
(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: JasonD\_32 Start: 21007, Stop: 20819, Start Num: 29  
Candidate Starts for JasonD\_32:  
(Start: 29 @21007 has 146 MA's), (40, 20863), (41, 20857), (44, 20842),

Gene: JasperRussell\_27 Start: 20363, Stop: 20175, Start Num: 29  
Candidate Starts for JasperRussell\_27:  
(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: Jemerald\_29 Start: 21031, Stop: 20846, Start Num: 29  
Candidate Starts for Jemerald\_29:  
(Start: 29 @21031 has 146 MA's), (39, 20896), (40, 20890), (41, 20884),

Gene: Jenos\_30 Start: 21283, Stop: 21092, Start Num: 29  
Candidate Starts for Jenos\_30:  
(Start: 29 @21283 has 146 MA's), (40, 21139), (41, 21133), (44, 21118),

Gene: Jerbirus\_28 Start: 20363, Stop: 20175, Start Num: 29  
Candidate Starts for Jerbirus\_28:  
(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: JeriBeth\_28 Start: 20220, Stop: 20032, Start Num: 29  
Candidate Starts for JeriBeth\_28:  
(Start: 29 @20220 has 146 MA's), (34, 20169), (40, 20076), (41, 20070), (44, 20055),

Gene: Jingles\_27 Start: 20567, Stop: 20385, Start Num: 30  
Candidate Starts for Jingles\_27:  
(Start: 25 @20582 has 1 MA's), (Start: 30 @20567 has 10 MA's), (41, 20420), (42, 20417), (45, 20393),

Gene: Juanyo\_27 Start: 20814, Stop: 20638, Start Num: 29  
Candidate Starts for Juanyo\_27:  
(Start: 29 @20814 has 146 MA's), (41, 20673),

Gene: Juicer\_29 Start: 21031, Stop: 20846, Start Num: 29  
Candidate Starts for Juicer\_29:  
(Start: 29 @21031 has 146 MA's), (39, 20896), (40, 20890), (41, 20884),

Gene: Kale\_27 Start: 20378, Stop: 20190, Start Num: 29  
Candidate Starts for Kale\_27:  
(Start: 29 @20378 has 146 MA's), (34, 20327), (40, 20234), (41, 20228), (44, 20213),

Gene: KannH\_27 Start: 20363, Stop: 20175, Start Num: 29  
Candidate Starts for KannH\_27:  
(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: KatChan\_28 Start: 20042, Stop: 19857, Start Num: 28  
Candidate Starts for KatChan\_28:  
(Start: 28 @20042 has 12 MA's), (37, 19949), (41, 19895), (42, 19892), (45, 19868),

Gene: Kauala\_27 Start: 20564, Stop: 20382, Start Num: 30  
Candidate Starts for Kauala\_27:  
(Start: 30 @20564 has 10 MA's), (41, 20417), (42, 20414), (45, 20390),

Gene: KingJulien\_27 Start: 20392, Stop: 20204, Start Num: 29  
Candidate Starts for KingJulien\_27:  
(Start: 29 @20392 has 146 MA's), (38, 20287), (40, 20248), (41, 20242), (44, 20227),

Gene: Klimt\_27 Start: 20358, Stop: 20170, Start Num: 29  
Candidate Starts for Klimt\_27:  
(Start: 29 @20358 has 146 MA's), (34, 20307), (40, 20214), (41, 20208), (44, 20193),

Gene: Knox\_28 Start: 20561, Stop: 20373, Start Num: 29  
Candidate Starts for Knox\_28:  
(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Koji\_27 Start: 20689, Stop: 20507, Start Num: 30  
Candidate Starts for Koji\_27:  
(Start: 25 @20704 has 1 MA's), (Start: 30 @20689 has 10 MA's), (41, 20542), (42, 20539), (45, 20515),

Gene: Kurt1\_28 Start: 20563, Stop: 20375, Start Num: 29  
Candidate Starts for Kurt1\_28:  
(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: Leafus\_27 Start: 20534, Stop: 20346, Start Num: 29  
Candidate Starts for Leafus\_27:  
(Start: 29 @20534 has 146 MA's), (38, 20429), (40, 20390), (41, 20384), (44, 20369),

Gene: Librie\_27 Start: 19283, Stop: 19098, Start Num: 28  
Candidate Starts for Librie\_27:  
(Start: 28 @19283 has 12 MA's), (37, 19190),

Gene: LilTerminator\_28 Start: 19305, Stop: 19120, Start Num: 28  
Candidate Starts for LilTerminator\_28:  
(Start: 28 @19305 has 12 MA's), (37, 19212),

Gene: Lovelyunicorn\_28 Start: 20561, Stop: 20373, Start Num: 29  
Candidate Starts for Lovelyunicorn\_28:  
(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Lucky3\_27 Start: 20665, Stop: 20483, Start Num: 30  
Candidate Starts for Lucky3\_27:  
(Start: 25 @20680 has 1 MA's), (Start: 30 @20665 has 10 MA's), (41, 20518), (42, 20515), (45, 20491),

Gene: Ludgate\_28 Start: 20557, Stop: 20369, Start Num: 29  
Candidate Starts for Ludgate\_28:  
(Start: 29 @20557 has 146 MA's), (34, 20506), (40, 20413), (41, 20407), (44, 20392),

Gene: Luna18\_28 Start: 20042, Stop: 19857, Start Num: 28  
Candidate Starts for Luna18\_28:  
(Start: 28 @20042 has 12 MA's), (37, 19949), (41, 19895), (42, 19892), (45, 19868),

Gene: MCubed\_27 Start: 20615, Stop: 20442, Start Num: 29  
Candidate Starts for MCubed\_27:  
(Start: 17 @20687 has 1 MA's), (22, 20654), (Start: 29 @20615 has 146 MA's), (41, 20477),

Gene: MaeLinda\_28 Start: 20563, Stop: 20375, Start Num: 29  
Candidate Starts for MaeLinda\_28:  
(Start: 29 @20563 has 146 MA's), (34, 20512), (40, 20419), (41, 20413), (44, 20398),

Gene: ManRay\_27 Start: 20376, Stop: 20188, Start Num: 29

Candidate Starts for ManRay\_27:

(Start: 29 @20376 has 146 MA's), (34, 20325), (40, 20232), (41, 20226), (44, 20211),

Gene: Mandalorian\_27 Start: 20898, Stop: 20719, Start Num: 29

Candidate Starts for Mandalorian\_27:

(Start: 29 @20898 has 146 MA's), (40, 20763), (41, 20757), (42, 20754),

Gene: Martin\_29 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for Martin\_29:

(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: McGalleon\_29 Start: 21442, Stop: 21251, Start Num: 29

Candidate Starts for McGalleon\_29:

(Start: 29 @21442 has 146 MA's), (40, 21298), (41, 21292), (44, 21277),

Gene: Mercedes\_26 Start: 19068, Stop: 18889, Start Num: 28

Candidate Starts for Mercedes\_26:

(Start: 28 @19068 has 12 MA's), (46, 18897),

Gene: MillyPhilly\_28 Start: 20560, Stop: 20372, Start Num: 29

Candidate Starts for MillyPhilly\_28:

(Start: 29 @20560 has 146 MA's), (34, 20509), (40, 20416), (41, 20410), (44, 20395),

Gene: MonChoix\_27 Start: 20513, Stop: 20325, Start Num: 29

Candidate Starts for MonChoix\_27:

(Start: 29 @20513 has 146 MA's), (38, 20408), (40, 20369), (41, 20363),

Gene: Morrigan\_29 Start: 20940, Stop: 20761, Start Num: 29

Candidate Starts for Morrigan\_29:

(Start: 29 @20940 has 146 MA's), (31, 20934), (37, 20850), (41, 20796), (42, 20793), (45, 20769),

Gene: MrWorldwide\_28 Start: 20564, Stop: 20376, Start Num: 29

Candidate Starts for MrWorldwide\_28:

(Start: 29 @20564 has 146 MA's), (40, 20420), (41, 20414), (44, 20399),

Gene: Nagem\_28 Start: 20557, Stop: 20369, Start Num: 29

Candidate Starts for Nagem\_28:

(Start: 29 @20557 has 146 MA's), (34, 20506), (40, 20413), (41, 20407), (44, 20392),

Gene: Nattles\_27 Start: 20363, Stop: 20175, Start Num: 29

Candidate Starts for Nattles\_27:

(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: Nebulous\_27 Start: 21343, Stop: 21152, Start Num: 27

Candidate Starts for Nebulous\_27:

(24, 21355), (Start: 27 @21343 has 2 MA's), (Start: 30 @21334 has 10 MA's), (45, 21163), (46, 21160),

Gene: Neferthema\_27 Start: 21189, Stop: 21001, Start Num: 29

Candidate Starts for Neferthema\_27:

(Start: 29 @21189 has 146 MA's), (32, 21165), (34, 21138), (38, 21084), (41, 21039), (44, 21024),

Gene: NickSell\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for NickSell\_28:

(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: Nucci\_27 Start: 20887, Stop: 20708, Start Num: 29

Candidate Starts for Nucci\_27:

(Start: 29 @20887 has 146 MA's), (40, 20752), (41, 20746), (42, 20743),

Gene: Oats\_27 Start: 20376, Stop: 20188, Start Num: 29

Candidate Starts for Oats\_27:

(Start: 29 @20376 has 146 MA's), (34, 20325), (40, 20232), (41, 20226), (44, 20211),

Gene: OldNelly\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for OldNelly\_28:

(Start: 29 @20563 has 146 MA's), (34, 20512), (40, 20419), (41, 20413), (44, 20398),

Gene: Oxtober96\_28 Start: 20561, Stop: 20373, Start Num: 29

Candidate Starts for Oxtober96\_28:

(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: PSirce\_26 Start: 20607, Stop: 20431, Start Num: 29

Candidate Starts for PSirce\_26:

(Start: 29 @20607 has 146 MA's), (41, 20466),

Gene: Papafritta\_27 Start: 20372, Stop: 20184, Start Num: 29

Candidate Starts for Papafritta\_27:

(Start: 29 @20372 has 146 MA's), (34, 20321), (40, 20228), (41, 20222), (44, 20207),

Gene: ParleG\_28 Start: 20564, Stop: 20376, Start Num: 29

Candidate Starts for ParleG\_28:

(Start: 29 @20564 has 146 MA's), (40, 20420), (41, 20414), (44, 20399),

Gene: Peep\_28 Start: 20549, Stop: 20361, Start Num: 29

Candidate Starts for Peep\_28:

(Start: 29 @20549 has 146 MA's), (34, 20498), (40, 20405), (41, 20399), (44, 20384),

Gene: Peppino\_27 Start: 20388, Stop: 20200, Start Num: 29

Candidate Starts for Peppino\_27:

(Start: 29 @20388 has 146 MA's), (34, 20337), (38, 20283), (40, 20244), (41, 20238), (44, 20223),

Gene: Phanita\_26 Start: 20588, Stop: 20415, Start Num: 29

Candidate Starts for Phanita\_26:

(Start: 17 @20660 has 1 MA's), (22, 20627), (Start: 29 @20588 has 146 MA's), (41, 20450),

Gene: Pherbot\_27 Start: 20559, Stop: 20377, Start Num: 30

Candidate Starts for Pherbot\_27:

(Start: 25 @20574 has 1 MA's), (Start: 30 @20559 has 10 MA's), (38, 20457), (41, 20412), (42, 20409), (45, 20385),

Gene: Pherferi\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for Pherferi\_28:

(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: Phiderman\_28 Start: 20560, Stop: 20372, Start Num: 29

Candidate Starts for Phiderman\_28:



(Start: 29 @20560 has 146 MA's), (40, 20416), (41, 20410), (44, 20395),

Gene: Phireproof\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for Phireproof\_28:

(Start: 29 @20563 has 146 MA's), (34, 20512), (40, 20419), (41, 20413), (44, 20398),

Gene: PhredFlintston\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for PhredFlintston\_28:

(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: Phriends\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for Phriends\_28:

(Start: 29 @20563 has 146 MA's), (34, 20512), (40, 20419), (41, 20413), (44, 20398),

Gene: Pocket\_27 Start: 20361, Stop: 20173, Start Num: 29

Candidate Starts for Pocket\_27:

(Start: 29 @20361 has 146 MA's), (34, 20310), (40, 20217), (41, 20211), (44, 20196),

Gene: PrincePhergus\_27 Start: 20577, Stop: 20380, Start Num: 25

Candidate Starts for PrincePhergus\_27:

(Start: 25 @20577 has 1 MA's), (Start: 30 @20562 has 10 MA's), (41, 20415), (42, 20412), (45, 20388),

Gene: PuppyEggo\_28 Start: 20561, Stop: 20373, Start Num: 29

Candidate Starts for PuppyEggo\_28:

(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: QuadZero\_27 Start: 19309, Stop: 19124, Start Num: 28

Candidate Starts for QuadZero\_27:

(Start: 28 @19309 has 12 MA's), (37, 19216),

Gene: Quartz\_27 Start: 20899, Stop: 20720, Start Num: 29

Candidate Starts for Quartz\_27:

(Start: 29 @20899 has 146 MA's), (40, 20764), (41, 20758), (42, 20755),

Gene: Raccoon\_27 Start: 20396, Stop: 20208, Start Num: 29

Candidate Starts for Raccoon\_27:

(Start: 29 @20396 has 146 MA's), (38, 20291), (40, 20252), (41, 20246), (44, 20231),

Gene: Rapheph\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for Rapheph\_28:

(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: Raptor\_28 Start: 20561, Stop: 20373, Start Num: 29

Candidate Starts for Raptor\_28:

(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Redfield\_27 Start: 20395, Stop: 20207, Start Num: 29

Candidate Starts for Redfield\_27:

(Start: 29 @20395 has 146 MA's), (38, 20290), (40, 20251), (41, 20245), (44, 20230),

Gene: RenegadeRaider\_28 Start: 20558, Stop: 20376, Start Num: 30

Candidate Starts for RenegadeRaider\_28:

(Start: 25 @20573 has 1 MA's), (Start: 30 @20558 has 10 MA's), (41, 20411), (42, 20408), (45, 20384),

Gene: Renzie\_28 Start: 20549, Stop: 20361, Start Num: 29

Candidate Starts for Renzie\_28:

(Start: 29 @20549 has 146 MA's), (34, 20498), (40, 20405), (41, 20399), (44, 20384),

Gene: Riyhil\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for Riyhil\_28:

(Start: 29 @20563 has 146 MA's), (34, 20512), (40, 20419), (41, 20413), (44, 20398),

Gene: Robinson\_28 Start: 20555, Stop: 20367, Start Num: 29

Candidate Starts for Robinson\_28:

(Start: 29 @20555 has 146 MA's), (34, 20504), (40, 20411), (41, 20405), (44, 20390),

Gene: Rog141\_27 Start: 20363, Stop: 20175, Start Num: 29

Candidate Starts for Rog141\_27:

(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: RosieMae\_28 Start: 20373, Stop: 20185, Start Num: 29

Candidate Starts for RosieMae\_28:

(Start: 29 @20373 has 146 MA's), (34, 20322), (40, 20229), (41, 20223), (44, 20208),

Gene: SJay\_28 Start: 20558, Stop: 20370, Start Num: 29

Candidate Starts for SJay\_28:

(Start: 29 @20558 has 146 MA's), (34, 20507), (40, 20414), (41, 20408), (44, 20393),

Gene: Sansa\_26 Start: 20614, Stop: 20438, Start Num: 29

Candidate Starts for Sansa\_26:

(Start: 29 @20614 has 146 MA's), (41, 20473),

Gene: Saratos\_27 Start: 20589, Stop: 20416, Start Num: 29

Candidate Starts for Saratos\_27:

(Start: 29 @20589 has 146 MA's), (41, 20451),

Gene: Schimmels22\_28 Start: 19876, Stop: 19691, Start Num: 29

Candidate Starts for Schimmels22\_28:

(Start: 29 @19876 has 146 MA's), (37, 19783), (39, 19741), (41, 19729), (43, 19720),

Gene: Schnapsidee\_27 Start: 20389, Stop: 20201, Start Num: 29

Candidate Starts for Schnapsidee\_27:

(Start: 29 @20389 has 146 MA's), (34, 20338), (38, 20284), (40, 20245), (41, 20239), (44, 20224),

Gene: Scissor2024\_28 Start: 19512, Stop: 19327, Start Num: 29

Candidate Starts for Scissor2024\_28:

(Start: 29 @19512 has 146 MA's), (37, 19419), (39, 19377), (41, 19365), (43, 19356),

Gene: Sedgewig\_27 Start: 20363, Stop: 20175, Start Num: 29

Candidate Starts for Sedgewig\_27:

(15, 20429), (Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: ShaiHulud\_28 Start: 20561, Stop: 20373, Start Num: 29

Candidate Starts for ShaiHulud\_28:

(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Shamu\_27 Start: 20604, Stop: 20428, Start Num: 29

Candidate Starts for Shamu\_27:

(Start: 29 @20604 has 146 MA's), (41, 20463),

Gene: Shee\_28 Start: 20560, Stop: 20372, Start Num: 29

Candidate Starts for Shee\_28:

(Start: 29 @20560 has 146 MA's), (40, 20416), (41, 20410), (44, 20395),

Gene: Sinatra\_27 Start: 20559, Stop: 20377, Start Num: 30

Candidate Starts for Sinatra\_27:

(Start: 25 @20574 has 1 MA's), (Start: 30 @20559 has 10 MA's), (38, 20457), (41, 20412), (42, 20409), (45, 20385),

Gene: SirVictor\_27 Start: 20653, Stop: 20471, Start Num: 30

Candidate Starts for SirVictor\_27:

(Start: 25 @20668 has 1 MA's), (Start: 30 @20653 has 10 MA's), (41, 20506), (42, 20503), (45, 20479),

Gene: SoilGremlin\_28 Start: 20560, Stop: 20372, Start Num: 29

Candidate Starts for SoilGremlin\_28:

(Start: 29 @20560 has 146 MA's), (34, 20509), (40, 20416), (41, 20410), (44, 20395),

Gene: SonOfLevi\_27 Start: 20358, Stop: 20170, Start Num: 29

Candidate Starts for SonOfLevi\_27:

(Start: 29 @20358 has 146 MA's), (34, 20307), (40, 20214), (41, 20208), (44, 20193),

Gene: Stanktossa\_28 Start: 20563, Stop: 20375, Start Num: 29

Candidate Starts for Stanktossa\_28:

(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: StingRay\_27 Start: 20373, Stop: 20185, Start Num: 29

Candidate Starts for StingRay\_27:

(Start: 29 @20373 has 146 MA's), (34, 20322), (40, 20229), (41, 20223), (44, 20208),

Gene: StirfryIV\_27 Start: 20363, Stop: 20175, Start Num: 29

Candidate Starts for StirfryIV\_27:

(Start: 29 @20363 has 146 MA's), (34, 20312), (40, 20219), (41, 20213), (44, 20198),

Gene: Stormbreaker8\_27 Start: 20392, Stop: 20204, Start Num: 29

Candidate Starts for Stormbreaker8\_27:

(Start: 29 @20392 has 146 MA's), (38, 20287), (40, 20248), (41, 20242), (44, 20227),

Gene: Strathdee\_28 Start: 20562, Stop: 20374, Start Num: 29

Candidate Starts for Strathdee\_28:

(Start: 29 @20562 has 146 MA's), (34, 20511), (40, 20418), (41, 20412), (44, 20397),

Gene: Superfresh\_28 Start: 20549, Stop: 20361, Start Num: 29

Candidate Starts for Superfresh\_28:

(Start: 29 @20549 has 146 MA's), (34, 20498), (40, 20405), (41, 20399), (44, 20384),

Gene: Symere\_28 Start: 20360, Stop: 20172, Start Num: 29

Candidate Starts for Symere\_28:

(Start: 29 @20360 has 146 MA's), (34, 20309), (40, 20216), (41, 20210), (44, 20195),

Gene: TatarkaPM\_28 Start: 20563, Stop: 20375, Start Num: 29  
Candidate Starts for TatarkaPM\_28:  
(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: Teagan\_28 Start: 20557, Stop: 20369, Start Num: 29  
Candidate Starts for Teagan\_28:  
(Start: 29 @20557 has 146 MA's), (34, 20506), (40, 20413), (41, 20407), (44, 20392),

Gene: TeddyBear\_27 Start: 20376, Stop: 20188, Start Num: 29  
Candidate Starts for TeddyBear\_27:  
(Start: 29 @20376 has 146 MA's), (34, 20325), (40, 20232), (41, 20226), (44, 20211),

Gene: Tenda\_27 Start: 20374, Stop: 20186, Start Num: 29  
Candidate Starts for Tenda\_27:  
(Start: 29 @20374 has 146 MA's), (34, 20323), (40, 20230), (41, 20224), (44, 20209),

Gene: Thompsone\_28 Start: 20561, Stop: 20373, Start Num: 29  
Candidate Starts for Thompsone\_28:  
(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Thorongil\_28 Start: 20561, Stop: 20373, Start Num: 29  
Candidate Starts for Thorongil\_28:  
(10, 20687), (Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: TinSulphur\_28 Start: 20563, Stop: 20375, Start Num: 29  
Candidate Starts for TinSulphur\_28:  
(Start: 29 @20563 has 146 MA's), (40, 20419), (41, 20413), (44, 20398),

Gene: Tinyman4\_28 Start: 19517, Stop: 19329, Start Num: 29  
Candidate Starts for Tinyman4\_28:  
(14, 19598), (18, 19580), (Start: 29 @19517 has 146 MA's), (37, 19421), (39, 19379), (41, 19367), (43, 19358), (46, 19337),

Gene: TwoBits\_26 Start: 19686, Stop: 19501, Start Num: 28  
Candidate Starts for TwoBits\_26:  
(Start: 28 @19686 has 12 MA's), (37, 19593), (42, 19536),

Gene: Velene\_28 Start: 20561, Stop: 20373, Start Num: 29  
Candidate Starts for Velene\_28:  
(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Vispistious\_28 Start: 20561, Stop: 20373, Start Num: 29  
Candidate Starts for Vispistious\_28:  
(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: Wardwill\_29 Start: 19467, Stop: 19282, Start Num: 28  
Candidate Starts for Wardwill\_29:  
(Start: 28 @19467 has 12 MA's), (37, 19374),

Gene: WestPM\_26 Start: 19226, Stop: 19014, Start Num: 26  
Candidate Starts for WestPM\_26:  
(Start: 26 @19226 has 1 MA's), (Start: 29 @19217 has 146 MA's), (37, 19121), (39, 19079), (42, 19064),

Gene: WildNOut\_28 Start: 20561, Stop: 20373, Start Num: 29

Candidate Starts for WildNOut\_28:

(Start: 29 @20561 has 146 MA's), (34, 20510), (40, 20417), (41, 20411), (44, 20396),

Gene: WilliamStrong\_26 Start: 20940, Stop: 20761, Start Num: 29

Candidate Starts for WilliamStrong\_26:

(7, 21084), (18, 21003), (23, 20979), (Start: 29 @20940 has 146 MA's), (31, 20934), (37, 20853), (38, 20844), (40, 20805), (41, 20799), (42, 20796), (46, 20769),

Gene: Winzigespinne\_27 Start: 20362, Stop: 20174, Start Num: 29

Candidate Starts for Winzigespinne\_27:

(Start: 29 @20362 has 146 MA's), (34, 20311), (40, 20218), (41, 20212), (44, 20197),

Gene: YuuY\_27 Start: 20895, Stop: 20662, Start Num: 17

Candidate Starts for YuuY\_27:

(Start: 17 @20895 has 1 MA's), (19, 20877), (Start: 29 @20838 has 146 MA's), (40, 20703), (41, 20697), (42, 20694),

Gene: Zada\_28 Start: 20542, Stop: 20354, Start Num: 29

Candidate Starts for Zada\_28:

(Start: 29 @20542 has 146 MA's), (34, 20491), (40, 20398), (41, 20392), (44, 20377),

Gene: Zayuliv\_27 Start: 19895, Stop: 19710, Start Num: 28

Candidate Starts for Zayuliv\_27:

(Start: 28 @19895 has 12 MA's), (37, 19802),

Gene: Zenitsu\_27 Start: 20619, Stop: 20443, Start Num: 29

Candidate Starts for Zenitsu\_27:

(Start: 29 @20619 has 146 MA's), (41, 20478),

Gene: Zepp\_28 Start: 19293, Stop: 19108, Start Num: 28

Candidate Starts for Zepp\_28:

(6, 19473), (12, 19407), (16, 19365), (21, 19332), (Start: 28 @19293 has 12 MA's), (37, 19200),