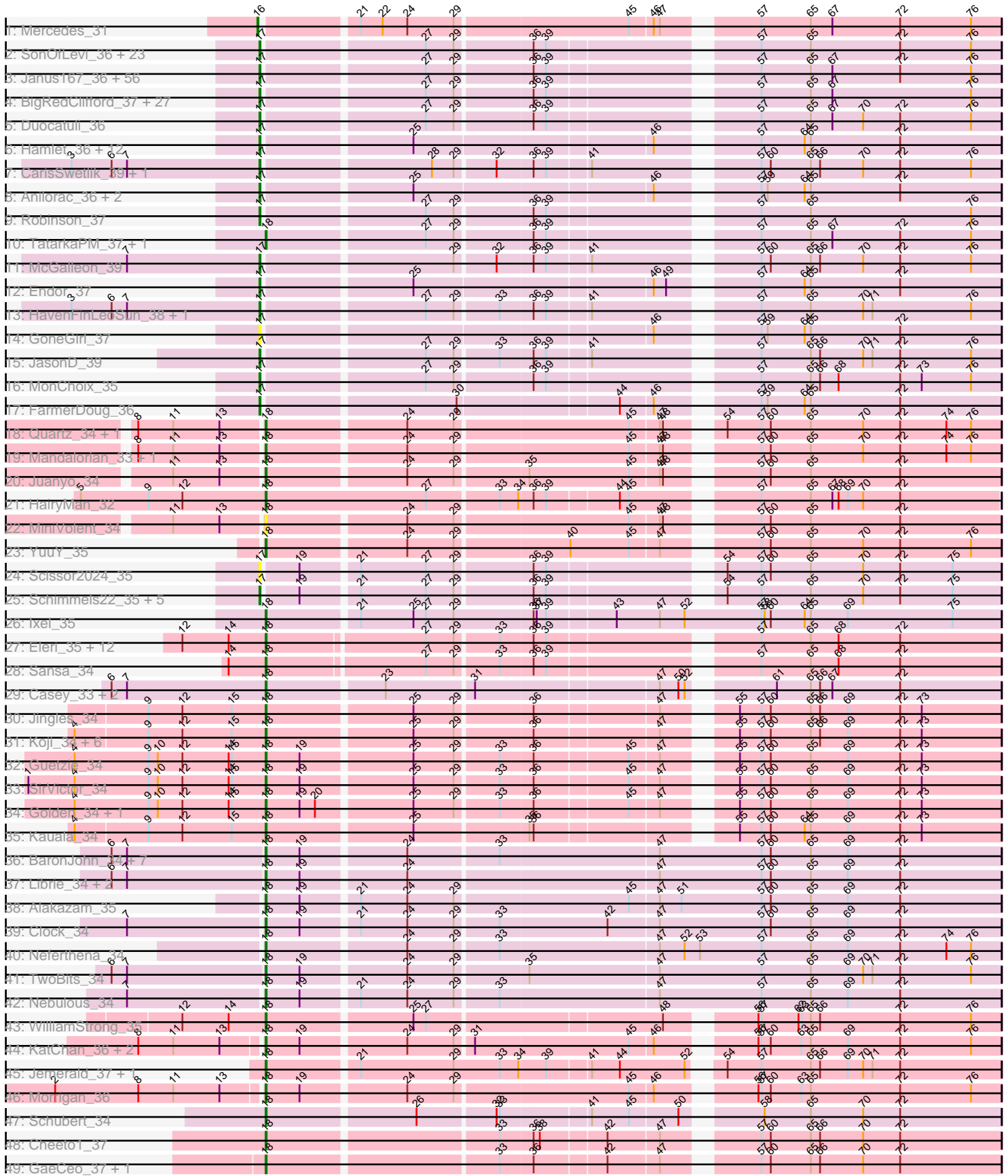


Pham 304721



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 304721 Report

This analysis was run 06/12/26 on database version 650.

Pham number 304721 has 213 members, 16 are drafts.

Phages represented in each track:

- Track 1 : Mercedes\_31
- Track 2 : SonOfLevi\_36, Ludgate\_37, Asta\_36, Nattles\_36, TeddyBear\_36, Etta\_36, Erla\_36, Raptor\_37, Chamuel\_36, Alyxandracam\_37, Kouch\_36, RosieMae\_36, Shee\_37, Calix\_36, Nagem\_37, Gershwin\_36, Baines\_36, Pocket\_36, SJay\_37, Gelo\_36, Exploradora\_36, Bonino\_36, Klimt\_36, Kale\_36
- Track 3 : Janus167\_36, Thorongil\_37, Strathdee\_37, ManRay\_36, Phiderman\_37, Christoph\_36, MrWorldwide\_37, Espinosa\_36, Clancy\_36, MillyPhilly\_37, HankSprout\_37, StirfryIV\_36, Jerbirus\_37, Kurt1\_37, HungryHenry\_36, AranulaLuti\_36, PhredFlintston\_37, KannH\_36, TinSulphur\_37, Symere\_36, JeriBeth\_36, AxiPup\_37, Aubergine\_36, Pherferi\_37, Gargoyle\_37, Byron23\_37, Rog141\_36, KellyGreen\_37, Garey24\_36, Rappheph\_37, HanSolo\_36, Gubbabump\_36, Zada\_37, Winzigespinne\_36, Stanktossa\_37, PuppyEggo\_37, Vispistious\_37, Ilzat\_36, Martin\_38, Papafritta\_36, Inventa\_37, Bandik\_37, Chako\_36, Sedgewig\_36, WildNOut\_37, Figueroism\_37, Riyhil\_37, Tenda\_36, Ioannes\_37, StingRay\_36, Benjalauren\_37, Oats\_36, Dothraki\_37, ParleG\_37, JasperRussell\_36, CoraRita\_37, Greys\_37
- Track 4 : BigRedClifford\_37, BeautPeep30\_37, Oxtober96\_37, Phireproof\_37, Blage\_37, Phriends\_37, GoingMerry\_37, MaeLinda\_37, Teagan\_37, Superfresh\_37, SolidSnake\_38, Velene\_37, ShaiHulud\_37, Antoinette\_37, Lovelyunicorn\_37, BonesMcCoy\_37, Convict\_37, AlexAdler\_37, OldNelly\_37, Dave\_37, Peep\_37, Den3\_37, Knox\_37, Delphidian\_37, Merida02\_38, Thompsone\_37, Renzie\_37, SoilGremlin\_37
- Track 5 : Duocatuli\_36
- Track 6 : Hamlet\_36, Peppino\_36, Raccoon\_36, Redfield\_36, Etna\_36, KingJulien\_36, PhillyPhantom\_36, BeeBee8\_37, Stormbreaker8\_36, Balsa\_36, Soror1\_36, Leafus\_36, Schnapsidee\_36
- Track 7 : CarisSwetlik\_39, Jenos\_40
- Track 8 : Anilorac\_36, Agente005\_37, GardenB\_36
- Track 9 : Robinson\_37
- Track 10 : TatarkaPM\_37, NickSell\_37
- Track 11 : McGalleon\_39
- Track 12 : Endor\_37
- Track 13 : HavenFinLeoSun\_38, Acosta\_38
- Track 14 : GoneGirl\_37
- Track 15 : JasonD\_39
- Track 16 : MonChoix\_35
- Track 17 : FarmerDoug\_36

- Track 18 : Quartz\_34, Carostasia\_33
- Track 19 : Mandalorian\_33, Nucci\_33
- Track 20 : Juanyo\_34
- Track 21 : HairyMan\_32
- Track 22 : MiniVolent\_34
- Track 23 : YuuY\_35
- Track 24 : Scissor2024\_35
- Track 25 : Schimmels22\_35, Tinyman4\_35, HerculesXL\_35, Kavo\_34, Penta\_33, WestPM\_33
- Track 26 : Ixel\_35
- Track 27 : Eleri\_35, Shamu\_35, ColaCorta\_35, ChikPic\_35, Finny\_35, Andromedas\_35, Glamour\_34, MCubed\_35, Xebius\_35, Phanita\_35, Saratos\_35, PSirce\_35, Zenitsu\_35
- Track 28 : Sansa\_34
- Track 29 : Casey\_33, Pajaza\_33, Pikmin\_33
- Track 30 : Jingles\_34
- Track 31 : Koji\_34, Bustleton\_34, BouleyBill\_34, PrincePhergus\_34, RenegadeRaider\_35, Sinatra\_34, Pherbot\_34
- Track 32 : Guetzie\_34
- Track 33 : SirVictor\_34
- Track 34 : Golden\_34, Lucky3\_34
- Track 35 : Kauala\_34
- Track 36 : BaronJohn\_34, Zepp\_35, QuadZero\_34, Zayuliv\_34, Wardwill\_36, LilTerminator\_34, GreenIvy\_34, Hasitha\_34
- Track 37 : Librie\_34, CaptainRex\_34, Fulton\_34
- Track 38 : Alakazam\_35
- Track 39 : Clock\_34
- Track 40 : Neferthena\_34
- Track 41 : TwoBits\_34
- Track 42 : Nebulous\_34
- Track 43 : WilliamStrong\_35
- Track 44 : KatChan\_36, Chepli\_36, Luna18\_36
- Track 45 : Jemerald\_37, Juicer\_37
- Track 46 : Morigan\_36
- Track 47 : Schubert\_34
- Track 48 : Cheeto1\_37
- Track 49 : GaeCeo\_37, ChickenKing\_36

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

The start number called the most often in the published annotations is 17, it was called in 131 of the 197 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acosta\_38, Agente005\_37, AlexAdler\_37, Alyxandracam\_37, Anilorac\_36, Antoinette\_37, AranulaLuti\_36, Asta\_36, Aubergine\_36, AxiPup\_37, Baines\_36, Balsa\_36, Bandik\_37, BeautPeep30\_37, BeeBee8\_37, Benjalauren\_37, BigRedClifford\_37, Blage\_37, BonesMcCoy\_37, Bonino\_36, Byron23\_37, Calix\_36, CarisSwetlik\_39, Chako\_36, Chamuel\_36, Christoph\_36, Clancy\_36, Convict\_37, CoraRita\_37, Dave\_37, Delphidian\_37, Den3\_37, Dothraki\_37, Duocatuli\_36,

Endor\_37, Erla\_36, Espinosa\_36, Etna\_36, Etta\_36, Exploradora\_36, FarmerDoug\_36, Figueroism\_37, GardenB\_36, Garey24\_36, Gargoyle\_37, Gelo\_36, Gershwin\_36, GoingMerry\_37, GoneGirl\_37, Greys\_37, Gubbabump\_36, Hamlet\_36, HanSolo\_36, HankSprout\_37, HavenFinLeoSun\_38, HerculesXL\_35, HungryHenry\_36, Ilzat\_36, Inventa\_37, Ioannes\_37, Janus167\_36, JasonD\_39, JasperRussell\_36, Jenos\_40, Jerbirus\_37, JeriBeth\_36, Kale\_36, KannH\_36, Kavo\_34, KellyGreen\_37, KingJulien\_36, Klimt\_36, Knox\_37, Kouch\_36, Kurt1\_37, Leafus\_36, Lovelyunicorn\_37, Ludgate\_37, MaeLinda\_37, ManRay\_36, Martin\_38, McGalleon\_39, Merida02\_38, MillyPhilly\_37, MonChoix\_35, MrWorldwide\_37, Nagem\_37, Nattles\_36, Oats\_36, OldNelly\_37, Oxtober96\_37, Papafritta\_36, ParleG\_37, Peep\_37, Penta\_33, Peppino\_36, Pherferi\_37, Phiderman\_37, PhillyPhantom\_36, Phireproof\_37, PhredFlintston\_37, Phriends\_37, Pocket\_36, PuppyEggo\_37, Raccoon\_36, Rapheph\_37, Raptor\_37, Redfield\_36, Renzie\_37, Riyhil\_37, Robinson\_37, Rog141\_36, RosieMae\_36, SJay\_37, Schimmels22\_35, Schnapsidee\_36, Scissor2024\_35, Sedgewig\_36, ShaiHulud\_37, Shee\_37, SoilGremlin\_37, SolidSnake\_38, SonOfLevi\_36, Soror1\_36, Stanktossa\_37, StingRay\_36, StirfryIV\_36, Stormbreaker8\_36, Strathdee\_37, Superfresh\_37, Symere\_36, Teagan\_37, TeddyBear\_36, Tenda\_36, Thompsone\_37, Thorongil\_37, TinSulphur\_37, Tinyman4\_35, Velene\_37, Vispistious\_37, WestPM\_33, WildNOut\_37, Winzigespinne\_36, Zada\_37,

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

- 

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

- Alakazam\_35, Andromedas\_35, BaronJohn\_34, BouleyBill\_34, Bustleton\_34, CaptainRex\_34, Carostasia\_33, Casey\_33, Cheeto1\_37, Chepli\_36, ChickenKing\_36, ChikPic\_35, Clock\_34, ColaCorta\_35, Eleri\_35, Finny\_35, Fulton\_34, GaeCeo\_37, Glamour\_34, Golden\_34, Greenlvy\_34, Guetzie\_34, HairyMan\_32, Hasitha\_34, Ixel\_35, Jemerald\_37, Jingles\_34, Juanyo\_34, Juicer\_37, KatChan\_36, Kauala\_34, Koji\_34, Librie\_34, LilTerminator\_34, Lucky3\_34, Luna18\_36, MCubed\_35, Mandalorian\_33, Mercedes\_31, MiniVolent\_34, Morrigan\_36, Nebulous\_34, Neferthena\_34, NickSell\_37, Nucci\_33, PSirce\_35, Pajaza\_33, Phanita\_35, Pherbot\_34, Pikmin\_33, PrincePhergus\_34, QuadZero\_34, Quartz\_34, RenegadeRaider\_35, Sansa\_34, Saratos\_35, Schubert\_34, Shamu\_35, Sinatra\_34, SirVictor\_34, TatarkaPM\_37, TwoBits\_34, Wardwill\_36, WilliamStrong\_35, Xebius\_35, YuuY\_35, Zayuliv\_34, Zenitsu\_35, Zepp\_35,

### Summary by start number:

Start 16:

- Found in 1 of 213 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 197
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mercedes\_31 (EA),

Start 17:

- Found in 144 of 213 ( 67.6% ) of genes in pham
- Manual Annotations of this start: 131 of 197
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acosta\_38 (EA1), Agente005\_37 (EA1), AlexAdler\_37 (EA1), Alyxandracam\_37 (EA1), Anilorac\_36 (EA1), Antoinette\_37 (EA1), AranulaLuti\_36 (EA1), Asta\_36 (EA1), Aubergine\_36 (EA1), AxiPup\_37 (EA1),

Baines\_36 (EA1), Balsa\_36 (EA1), Bandik\_37 (EA1), BeautPeep30\_37 (EA1), BeeBee8\_37 (EA1), Benjalauen\_37 (EA1), BigRedClifford\_37 (EA1), Blage\_37 (EA1), BonesMcCoy\_37 (EA1), Bonino\_36 (EA1), Byron23\_37 (EA1), Calix\_36 (EA1), CarisSwetlik\_39 (EA1), Chako\_36 (EA1), Chamuel\_36 (EA1), Christoph\_36 (EA1), Clancy\_36 (EA1), Convict\_37 (EA1), CoraRita\_37 (EA1), Dave\_37 (EA1), Delphidian\_37 (EA1), Den3\_37 (EA1), Dothraki\_37 (EA1), Duocatuli\_36 (EA1), Endor\_37 (EA1), Erla\_36 (EA1), Espinosa\_36 (EA1), Etna\_36 (EA1), Etta\_36 (EA1), Exploradora\_36 (EA1), FarmerDoug\_36 (EA1), Figueroism\_37 (EA1), GardenB\_36 (EA1), Garey24\_36 (EA1), Gargoyle\_37 (EA1), Gelo\_36 (EA1), Gershwin\_36 (EA1), GoingMerry\_37 (EA1), GoneGirl\_37 (EA1), Greys\_37 (EA1), Gubbabump\_36 (EA1), Hamlet\_36 (EA1), HanSolo\_36 (EA1), HankSprout\_37 (EA1), HavenFinLeoSun\_38 (EA1), HerculesXL\_35 (EA11), HungryHenry\_36 (EA1), Ilzat\_36 (EA1), Inventa\_37 (EA1), Ioannes\_37 (EA1), Janus167\_36 (EA1), JasonD\_39 (EA1), JasperRussell\_36 (EA1), Jenos\_40 (EA1), Jerbirus\_37 (EA1), JeriBeth\_36 (EA1), Kale\_36 (EA1), KannH\_36 (EA1), Kavo\_34 (EA11), KellyGreen\_37 (EA1), KingJulien\_36 (EA1), Klimt\_36 (EA1), Knox\_37 (EA1), Kouch\_36 (EA1), Kurt1\_37 (EA1), Leafus\_36 (EA1), Lovelyunicorn\_37 (EA1), Ludgate\_37 (EA1), MaeLinda\_37 (EA1), ManRay\_36 (EA1), Martin\_38 (EA1), McGalleon\_39 (EA1), Merida02\_38 (EA1), MillyPhilly\_37 (EA1), MonChoix\_35 (EA1), MrWorldwide\_37 (EA1), Nagem\_37 (EA1), Nattles\_36 (EA1), Oats\_36 (EA1), OldNelly\_37 (EA1), Oxtober96\_37 (EA1), Papafritta\_36 (EA1), ParleG\_37 (EA1), Peep\_37 (EA1), Penta\_33 (EA11), Peppino\_36 (EA1), Pherferi\_37 (EA1), Phiderman\_37 (EA1), PhillyPhantom\_36 (EA1), Phireproof\_37 (EA1), PhredFlintston\_37 (EA1), Phriends\_37 (EA1), Pocket\_36 (EA1), PuppyEggo\_37 (EA1), Raccoon\_36 (EA1), Rapheph\_37 (EA1), Raptor\_37 (EA1), Redfield\_36 (EA1), Renzie\_37 (EA1), Rihhil\_37 (EA1), Robinson\_37 (EA1), Rog141\_36 (EA1), RosieMae\_36 (EA1), SJay\_37 (EA1), Schimmels22\_35 (EA11), Schnapsidee\_36 (EA1), Scissor2024\_35 (EA11), Sedgewig\_36 (EA1), ShaiHulud\_37 (EA1), Shee\_37 (EA1), SoilGremlin\_37 (EA1), SolidSnake\_38 (EA1), SonOfLevi\_36 (EA1), Soror1\_36 (EA1), Stanktossa\_37 (EA1), StingRay\_36 (EA1), StirfryIV\_36 (EA1), Stormbreaker8\_36 (EA1), Strathdee\_37 (EA1), Superfresh\_37 (EA1), Symere\_36 (EA1), Teagan\_37 (EA1), TeddyBear\_36 (EA1), Tenda\_36 (EA1), Thompsone\_37 (EA1), Thorongil\_37 (EA1), TinSulphur\_37 (EA1), Tinyman4\_35 (EA11), Velene\_37 (EA1), Vispistious\_37 (EA1), WestPM\_33 (EA11), WildNOut\_37 (EA1), Winzigespinne\_36 (EA1), Zada\_37 (EA1),

Start 18:

- Found in 68 of 213 ( 31.9% ) of genes in pham
- Manual Annotations of this start: 65 of 197
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alakazam\_35 (EA5), Andromedas\_35 (EA2), BaronJohn\_34 (EA5), BouleyBill\_34 (EA4), Bustleton\_34 (EA4), CaptainRex\_34 (EA5), Carostasia\_33 (EA10), Casey\_33 (EA3), Cheeto1\_37 (EA9), Chepli\_36 (EA6), ChickenKing\_36 (EA9), ChikPic\_35 (EA2), Clock\_34 (EA5), ColaCorta\_35 (EA2), Eleri\_35 (EA2), Finny\_35 (EA2), Fulton\_34 (EA5), GaeCeo\_37 (EA9), Glamour\_34 (EA2), Golden\_34 (EA4), Greenlvy\_34 (EA5), Guetzie\_34 (EA4), HairyMan\_32 (EA10), Hasitha\_34 (EA5), Ixel\_35 (EA11), Jemerald\_37 (EA6), Jingles\_34 (EA4), Juanyo\_34 (EA10), Juicer\_37 (EA6), KatChan\_36 (EA6), Kauala\_34 (EA4), Koji\_34 (EA4), Librie\_34 (EA5), LilTerminator\_34 (EA5), Lucky3\_34 (EA4), Luna18\_36 (EA6), MCubed\_35 (EA2), Mandalorian\_33 (EA10), MiniVolent\_34 (EA10), Morigan\_36 (EA6), Nebulous\_34 (EA5), Neferthena\_34 (EA5), NickSell\_37 (EA1), Nucci\_33 (EA10), PSirce\_35 (EA2), Pajaza\_33 (EA3), Phanita\_35 (EA2), Pherbot\_34 (EA4), Pikmin\_33 (EA3), PrincePhergus\_34 (EA4), QuadZero\_34 (EA5), Quartz\_34 (EA10), RenegadeRaider\_35 (EA4), Sansa\_34

(EA2), Saratos\_35 (EA2), Schubert\_34 (EA8), Shamu\_35 (EA2), Sinatra\_34 (EA4), SirVictor\_34 (EA4), TatarkaPM\_37 (EA1), TwoBits\_34 (EA5), Wardwill\_36 (EA5), WilliamStrong\_35 (EA6), Xebius\_35 (EA2), YuuY\_35 (EA10), Zayuliv\_34 (EA5), Zenitsu\_35 (EA2), Zepp\_35 (EA5),

### **Summary by clusters:**

There are 11 clusters represented in this pham: EA11, EA10, EA, EA9, EA8, EA1, EA3, EA2, EA5, EA4, EA6,

Info for manual annotations of cluster EA:

- Start number 16 was manually annotated 1 time for cluster EA.

Info for manual annotations of cluster EA1:

- Start number 17 was manually annotated 127 times for cluster EA1.
- Start number 18 was manually annotated 2 times for cluster EA1.

Info for manual annotations of cluster EA10:

- Start number 18 was manually annotated 7 times for cluster EA10.

Info for manual annotations of cluster EA11:

- Start number 17 was manually annotated 4 times for cluster EA11.
- Start number 18 was manually annotated 1 time for cluster EA11.

Info for manual annotations of cluster EA2:

- Start number 18 was manually annotated 13 times for cluster EA2.

Info for manual annotations of cluster EA3:

- Start number 18 was manually annotated 3 times for cluster EA3.

Info for manual annotations of cluster EA4:

- Start number 18 was manually annotated 12 times for cluster EA4.

Info for manual annotations of cluster EA5:

- Start number 18 was manually annotated 16 times for cluster EA5.

Info for manual annotations of cluster EA6:

- Start number 18 was manually annotated 7 times for cluster EA6.

Info for manual annotations of cluster EA8:

- Start number 18 was manually annotated 1 time for cluster EA8.

Info for manual annotations of cluster EA9:

- Start number 18 was manually annotated 3 times for cluster EA9.

### **Gene Information:**

Gene: Acosta\_38 Start: 26305, Stop: 25637, Start Num: 17

Candidate Starts for Acosta\_38:

(3, 26488), (6, 26449), (7, 26434), (Start: 17 @26305 has 131 MA's), (27, 26158), (29, 26131), (33, 26092), (36, 26062), (39, 26050), (41, 26011), (57, 25870), (65, 25822), (70, 25771), (71, 25762), (76,

25666),

Gene: Agente005\_37 Start: 26137, Stop: 25469, Start Num: 17

Candidate Starts for Agente005\_37:

(Start: 17 @26137 has 131 MA's), (25, 26002), (46, 25783), (57, 25702), (59, 25696), (64, 25660), (65, 25654), (72, 25567),

Gene: Alakazam\_35 Start: 25472, Stop: 24777, Start Num: 18

Candidate Starts for Alakazam\_35:

(Start: 18 @25472 has 65 MA's), (19, 25439), (21, 25388), (24, 25343), (29, 25298), (45, 25136), (47, 25109), (51, 25088), (57, 25010), (60, 25001), (65, 24962), (69, 24926), (72, 24875),

Gene: AlexAdler\_37 Start: 25901, Stop: 25233, Start Num: 17

Candidate Starts for AlexAdler\_37:

(Start: 17 @25901 has 131 MA's), (27, 25754), (29, 25727), (36, 25658), (39, 25646), (57, 25466), (65, 25418), (67, 25397), (76, 25262),

Gene: Alyxandracam\_37 Start: 25911, Stop: 25243, Start Num: 17

Candidate Starts for Alyxandracam\_37:

(Start: 17 @25911 has 131 MA's), (27, 25764), (29, 25737), (36, 25668), (39, 25656), (57, 25476), (65, 25428), (72, 25341), (76, 25272),

Gene: Andromedas\_35 Start: 25511, Stop: 24843, Start Num: 18

Candidate Starts for Andromedas\_35:

(12, 25589), (14, 25544), (Start: 18 @25511 has 65 MA's), (27, 25364), (29, 25337), (33, 25298), (36, 25268), (39, 25256), (57, 25076), (65, 25028), (68, 25001), (72, 24941),

Gene: Anilorac\_36 Start: 25981, Stop: 25313, Start Num: 17

Candidate Starts for Anilorac\_36:

(Start: 17 @25981 has 131 MA's), (25, 25846), (46, 25627), (57, 25546), (59, 25540), (64, 25504), (65, 25498), (72, 25411),

Gene: Antoinette\_37 Start: 25898, Stop: 25230, Start Num: 17

Candidate Starts for Antoinette\_37:

(Start: 17 @25898 has 131 MA's), (27, 25751), (29, 25724), (36, 25655), (39, 25643), (57, 25463), (65, 25415), (67, 25394), (76, 25259),

Gene: AranulaLuti\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for AranulaLuti\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (67, 25091), (72, 25025), (76, 24956),

Gene: Asta\_36 Start: 25608, Stop: 24940, Start Num: 17

Candidate Starts for Asta\_36:

(Start: 17 @25608 has 131 MA's), (27, 25461), (29, 25434), (36, 25365), (39, 25353), (57, 25173), (65, 25125), (72, 25038), (76, 24969),

Gene: Aubergine\_36 Start: 25608, Stop: 24940, Start Num: 17

Candidate Starts for Aubergine\_36:

(Start: 17 @25608 has 131 MA's), (27, 25461), (29, 25434), (36, 25365), (39, 25353), (57, 25173), (65, 25125), (67, 25104), (72, 25038), (76, 24969),

Gene: AxiPup\_37 Start: 25880, Stop: 25212, Start Num: 17

Candidate Starts for AxiPup\_37:

(Start: 17 @25880 has 131 MA's), (27, 25733), (29, 25706), (36, 25637), (39, 25625), (57, 25445), (65, 25397), (67, 25376), (72, 25310), (76, 25241),

Gene: Baines\_36 Start: 25598, Stop: 24930, Start Num: 17

Candidate Starts for Baines\_36:

(Start: 17 @25598 has 131 MA's), (27, 25451), (29, 25424), (36, 25355), (39, 25343), (57, 25163), (65, 25115), (72, 25028), (76, 24959),

Gene: Balsa\_36 Start: 26028, Stop: 25360, Start Num: 17

Candidate Starts for Balsa\_36:

(Start: 17 @26028 has 131 MA's), (25, 25893), (46, 25674), (57, 25593), (64, 25551), (65, 25545), (72, 25458),

Gene: Bandik\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for Bandik\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (67, 25402), (72, 25336), (76, 25267),

Gene: BaronJohn\_34 Start: 24387, Stop: 23692, Start Num: 18

Candidate Starts for BaronJohn\_34:

(6, 24534), (7, 24519), (Start: 18 @24387 has 65 MA's), (19, 24354), (24, 24258), (33, 24174), (47, 24024), (57, 23925), (60, 23916), (65, 23877), (69, 23841), (72, 23790),

Gene: BeautPeep30\_37 Start: 25912, Stop: 25244, Start Num: 17

Candidate Starts for BeautPeep30\_37:

(Start: 17 @25912 has 131 MA's), (27, 25765), (29, 25738), (36, 25669), (39, 25657), (57, 25477), (65, 25429), (67, 25408), (76, 25273),

Gene: BeeBee8\_37 Start: 26198, Stop: 25530, Start Num: 17

Candidate Starts for BeeBee8\_37:

(Start: 17 @26198 has 131 MA's), (25, 26063), (46, 25844), (57, 25763), (64, 25721), (65, 25715), (72, 25628),

Gene: Benjalauren\_37 Start: 25611, Stop: 24943, Start Num: 17

Candidate Starts for Benjalauren\_37:

(Start: 17 @25611 has 131 MA's), (27, 25464), (29, 25437), (36, 25368), (39, 25356), (57, 25176), (65, 25128), (67, 25107), (72, 25041), (76, 24972),

Gene: BigRedClifford\_37 Start: 25910, Stop: 25242, Start Num: 17

Candidate Starts for BigRedClifford\_37:

(Start: 17 @25910 has 131 MA's), (27, 25763), (29, 25736), (36, 25667), (39, 25655), (57, 25475), (65, 25427), (67, 25406), (76, 25271),

Gene: Blage\_37 Start: 25910, Stop: 25242, Start Num: 17

Candidate Starts for Blage\_37:

(Start: 17 @25910 has 131 MA's), (27, 25763), (29, 25736), (36, 25667), (39, 25655), (57, 25475), (65, 25427), (67, 25406), (76, 25271),

Gene: BonesMcCoy\_37 Start: 25910, Stop: 25242, Start Num: 17

Candidate Starts for BonesMcCoy\_37:

(Start: 17 @25910 has 131 MA's), (27, 25763), (29, 25736), (36, 25667), (39, 25655), (57, 25475), (65, 25427), (67, 25406), (76, 25271),

Gene: Bonino\_36 Start: 25584, Stop: 24916, Start Num: 17

Candidate Starts for Bonino\_36:

(Start: 17 @25584 has 131 MA's), (27, 25437), (29, 25410), (36, 25341), (39, 25329), (57, 25149), (65, 25101), (72, 25014), (76, 24945),

Gene: BouleyBill\_34 Start: 25365, Stop: 24700, Start Num: 18

Candidate Starts for BouleyBill\_34:

(4, 25548), (9, 25479), (12, 25446), (15, 25398), (Start: 18 @25365 has 65 MA's), (25, 25230), (29, 25191), (36, 25122), (47, 25008), (55, 24954), (57, 24933), (60, 24924), (65, 24885), (66, 24876), (69, 24849), (72, 24798), (73, 24777),

Gene: Bustleton\_34 Start: 25368, Stop: 24703, Start Num: 18

Candidate Starts for Bustleton\_34:

(4, 25551), (9, 25482), (12, 25449), (15, 25401), (Start: 18 @25368 has 65 MA's), (25, 25233), (29, 25194), (36, 25125), (47, 25011), (55, 24957), (57, 24936), (60, 24927), (65, 24888), (66, 24879), (69, 24852), (72, 24801), (73, 24780),

Gene: Byron23\_37 Start: 25909, Stop: 25241, Start Num: 17

Candidate Starts for Byron23\_37:

(Start: 17 @25909 has 131 MA's), (27, 25762), (29, 25735), (36, 25666), (39, 25654), (57, 25474), (65, 25426), (67, 25405), (72, 25339), (76, 25270),

Gene: Calix\_36 Start: 25591, Stop: 24923, Start Num: 17

Candidate Starts for Calix\_36:

(Start: 17 @25591 has 131 MA's), (27, 25444), (29, 25417), (36, 25348), (39, 25336), (57, 25156), (65, 25108), (72, 25021), (76, 24952),

Gene: CaptainRex\_34 Start: 23799, Stop: 23104, Start Num: 18

Candidate Starts for CaptainRex\_34:

(6, 23946), (7, 23931), (Start: 18 @23799 has 65 MA's), (19, 23766), (24, 23670), (47, 23436), (57, 23337), (60, 23328), (65, 23289), (69, 23253), (72, 23202),

Gene: CarisSwetlik\_39 Start: 26807, Stop: 26139, Start Num: 17

Candidate Starts for CarisSwetlik\_39:

(3, 26990), (6, 26951), (7, 26936), (Start: 17 @26807 has 131 MA's), (28, 26654), (29, 26633), (32, 26597), (36, 26564), (39, 26552), (41, 26513), (57, 26372), (60, 26363), (65, 26324), (66, 26315), (70, 26273), (72, 26237), (76, 26168),

Gene: Carostasia\_33 Start: 25201, Stop: 24530, Start Num: 18

Candidate Starts for Carostasia\_33:

(8, 25318), (11, 25285), (13, 25240), (Start: 18 @25201 has 65 MA's), (24, 25072), (29, 25027), (45, 24865), (47, 24838), (48, 24835), (54, 24796), (57, 24763), (60, 24754), (65, 24715), (70, 24664), (72, 24628), (74, 24583), (76, 24559),

Gene: Casey\_33 Start: 24761, Stop: 24096, Start Num: 18

Candidate Starts for Casey\_33:

(6, 24908), (7, 24893), (Start: 18 @24761 has 65 MA's), (23, 24653), (31, 24572), (47, 24404), (50, 24386), (52, 24380), (61, 24314), (65, 24281), (66, 24272), (67, 24260), (72, 24194),

Gene: Chako\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for Chako\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (67, 25091), (72, 25025), (76, 24956),

Gene: Chamuel\_36 Start: 25584, Stop: 24916, Start Num: 17

Candidate Starts for Chamuel\_36:

(Start: 17 @25584 has 131 MA's), (27, 25437), (29, 25410), (36, 25341), (39, 25329), (57, 25149), (65, 25101), (72, 25014), (76, 24945),

Gene: Cheeto1\_37 Start: 26043, Stop: 25378, Start Num: 18

Candidate Starts for Cheeto1\_37:

(Start: 18 @26043 has 65 MA's), (33, 25830), (36, 25800), (38, 25794), (42, 25734), (47, 25686), (57, 25611), (60, 25602), (65, 25563), (66, 25554), (70, 25512), (72, 25476),

Gene: Chepli\_36 Start: 25000, Stop: 24329, Start Num: 18

Candidate Starts for Chepli\_36:

(8, 25114), (11, 25081), (13, 25036), (Start: 18 @25000 has 65 MA's), (19, 24967), (24, 24871), (29, 24826), (31, 24811), (45, 24664), (46, 24643), (56, 24565), (57, 24562), (60, 24553), (63, 24523), (65, 24514), (69, 24478), (72, 24427), (76, 24358),

Gene: ChickenKing\_36 Start: 25959, Stop: 25294, Start Num: 18

Candidate Starts for ChickenKing\_36:

(Start: 18 @25959 has 65 MA's), (33, 25746), (36, 25716), (42, 25650), (47, 25602), (57, 25527), (60, 25518), (65, 25479), (66, 25470), (70, 25428), (72, 25392),

Gene: ChikPic\_35 Start: 25521, Stop: 24853, Start Num: 18

Candidate Starts for ChikPic\_35:

(12, 25599), (14, 25554), (Start: 18 @25521 has 65 MA's), (27, 25374), (29, 25347), (33, 25308), (36, 25278), (39, 25266), (57, 25086), (65, 25038), (68, 25011), (72, 24951),

Gene: Christoph\_36 Start: 25606, Stop: 24938, Start Num: 17

Candidate Starts for Christoph\_36:

(Start: 17 @25606 has 131 MA's), (27, 25459), (29, 25432), (36, 25363), (39, 25351), (57, 25171), (65, 25123), (67, 25102), (72, 25036), (76, 24967),

Gene: Clancy\_36 Start: 25640, Stop: 24972, Start Num: 17

Candidate Starts for Clancy\_36:

(Start: 17 @25640 has 131 MA's), (27, 25493), (29, 25466), (36, 25397), (39, 25385), (57, 25205), (65, 25157), (67, 25136), (72, 25070), (76, 25001),

Gene: Clock\_34 Start: 26629, Stop: 25934, Start Num: 18

Candidate Starts for Clock\_34:

(7, 26758), (Start: 18 @26629 has 65 MA's), (19, 26596), (21, 26545), (24, 26500), (29, 26455), (33, 26416), (42, 26314), (47, 26266), (57, 26167), (60, 26158), (65, 26119), (69, 26083), (72, 26032),

Gene: ColaCorta\_35 Start: 25511, Stop: 24843, Start Num: 18

Candidate Starts for ColaCorta\_35:

(12, 25589), (14, 25544), (Start: 18 @25511 has 65 MA's), (27, 25364), (29, 25337), (33, 25298), (36, 25268), (39, 25256), (57, 25076), (65, 25028), (68, 25001), (72, 24941),

Gene: Convict\_37 Start: 25910, Stop: 25242, Start Num: 17

Candidate Starts for Convict\_37:

(Start: 17 @25910 has 131 MA's), (27, 25763), (29, 25736), (36, 25667), (39, 25655), (57, 25475), (65, 25427), (67, 25406), (76, 25271),

Gene: CoraRita\_37 Start: 25610, Stop: 24942, Start Num: 17

Candidate Starts for CoraRita\_37:

(Start: 17 @25610 has 131 MA's), (27, 25463), (29, 25436), (36, 25367), (39, 25355), (57, 25175), (65, 25127), (67, 25106), (72, 25040), (76, 24971),

Gene: Dave\_37 Start: 25898, Stop: 25230, Start Num: 17

Candidate Starts for Dave\_37:

(Start: 17 @25898 has 131 MA's), (27, 25751), (29, 25724), (36, 25655), (39, 25643), (57, 25463), (65, 25415), (67, 25394), (76, 25259),

Gene: Delphidian\_37 Start: 25909, Stop: 25241, Start Num: 17

Candidate Starts for Delphidian\_37:

(Start: 17 @25909 has 131 MA's), (27, 25762), (29, 25735), (36, 25666), (39, 25654), (57, 25474), (65, 25426), (67, 25405), (76, 25270),

Gene: Den3\_37 Start: 25915, Stop: 25247, Start Num: 17

Candidate Starts for Den3\_37:

(Start: 17 @25915 has 131 MA's), (27, 25768), (29, 25741), (36, 25672), (39, 25660), (57, 25480), (65, 25432), (67, 25411), (76, 25276),

Gene: Dothraki\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for Dothraki\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (67, 25402), (72, 25336), (76, 25267),

Gene: Duocatuli\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for Duocatuli\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (67, 25091), (70, 25061), (72, 25025), (76, 24956),

Gene: Eleri\_35 Start: 25512, Stop: 24844, Start Num: 18

Candidate Starts for Eleri\_35:

(12, 25590), (14, 25545), (Start: 18 @25512 has 65 MA's), (27, 25365), (29, 25338), (33, 25299), (36, 25269), (39, 25257), (57, 25077), (65, 25029), (68, 25002), (72, 24942),

Gene: Endor\_37 Start: 26257, Stop: 25589, Start Num: 17

Candidate Starts for Endor\_37:

(Start: 17 @26257 has 131 MA's), (25, 26122), (46, 25903), (49, 25891), (57, 25822), (64, 25780), (65, 25774), (72, 25687),

Gene: Erla\_36 Start: 25588, Stop: 24920, Start Num: 17

Candidate Starts for Erla\_36:

(Start: 17 @25588 has 131 MA's), (27, 25441), (29, 25414), (36, 25345), (39, 25333), (57, 25153), (65, 25105), (72, 25018), (76, 24949),

Gene: Espinosa\_36 Start: 25606, Stop: 24938, Start Num: 17

Candidate Starts for Espinosa\_36:

(Start: 17 @25606 has 131 MA's), (27, 25459), (29, 25432), (36, 25363), (39, 25351), (57, 25171), (65, 25123), (67, 25102), (72, 25036), (76, 24967),

Gene: Etna\_36 Start: 26039, Stop: 25371, Start Num: 17

Candidate Starts for Etna\_36:

(Start: 17 @26039 has 131 MA's), (25, 25904), (46, 25685), (57, 25604), (64, 25562), (65, 25556), (72, 25469),

Gene: Etta\_36 Start: 25592, Stop: 24924, Start Num: 17

Candidate Starts for Etta\_36:

(Start: 17 @25592 has 131 MA's), (27, 25445), (29, 25418), (36, 25349), (39, 25337), (57, 25157), (65, 25109), (72, 25022), (76, 24953),

Gene: Exploradora\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for Exploradora\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (72, 25025), (76, 24956),

Gene: FarmerDoug\_36 Start: 25888, Stop: 25220, Start Num: 17

Candidate Starts for FarmerDoug\_36:

(Start: 17 @25888 has 131 MA's), (30, 25711), (44, 25564), (46, 25534), (57, 25453), (59, 25447), (64, 25411), (65, 25405), (72, 25318),

Gene: Figueroism\_37 Start: 25900, Stop: 25232, Start Num: 17

Candidate Starts for Figueroism\_37:

(Start: 17 @25900 has 131 MA's), (27, 25753), (29, 25726), (36, 25657), (39, 25645), (57, 25465), (65, 25417), (67, 25396), (72, 25330), (76, 25261),

Gene: Finny\_35 Start: 25552, Stop: 24884, Start Num: 18

Candidate Starts for Finny\_35:

(12, 25630), (14, 25585), (Start: 18 @25552 has 65 MA's), (27, 25405), (29, 25378), (33, 25339), (36, 25309), (39, 25297), (57, 25117), (65, 25069), (68, 25042), (72, 24982),

Gene: Fulton\_34 Start: 23800, Stop: 23105, Start Num: 18

Candidate Starts for Fulton\_34:

(6, 23947), (7, 23932), (Start: 18 @23800 has 65 MA's), (19, 23767), (24, 23671), (47, 23437), (57, 23338), (60, 23329), (65, 23290), (69, 23254), (72, 23203),

Gene: GaeCeo\_37 Start: 26192, Stop: 25527, Start Num: 18

Candidate Starts for GaeCeo\_37:

(Start: 18 @26192 has 65 MA's), (33, 25979), (36, 25949), (42, 25883), (47, 25835), (57, 25760), (60, 25751), (65, 25712), (66, 25703), (70, 25661), (72, 25625),

Gene: GardenB\_36 Start: 26006, Stop: 25338, Start Num: 17

Candidate Starts for GardenB\_36:

(Start: 17 @26006 has 131 MA's), (25, 25871), (46, 25652), (57, 25571), (59, 25565), (64, 25529), (65, 25523), (72, 25436),

Gene: Garey24\_36 Start: 25574, Stop: 24906, Start Num: 17

Candidate Starts for Garey24\_36:

(Start: 17 @25574 has 131 MA's), (27, 25427), (29, 25400), (36, 25331), (39, 25319), (57, 25139), (65, 25091), (67, 25070), (72, 25004), (76, 24935),

Gene: Gargoyle\_37 Start: 25915, Stop: 25247, Start Num: 17

Candidate Starts for Gargoyle\_37:

(Start: 17 @25915 has 131 MA's), (27, 25768), (29, 25741), (36, 25672), (39, 25660), (57, 25480), (65, 25432), (67, 25411), (72, 25345), (76, 25276),

Gene: Gelo\_36 Start: 25598, Stop: 24930, Start Num: 17

Candidate Starts for Gelo\_36:

(Start: 17 @25598 has 131 MA's), (27, 25451), (29, 25424), (36, 25355), (39, 25343), (57, 25163), (65, 25115), (72, 25028), (76, 24959),

Gene: Gershwin\_36 Start: 25608, Stop: 24940, Start Num: 17

Candidate Starts for Gershwin\_36:

(Start: 17 @25608 has 131 MA's), (27, 25461), (29, 25434), (36, 25365), (39, 25353), (57, 25173), (65, 25125), (72, 25038), (76, 24969),

Gene: Glamour\_34 Start: 25503, Stop: 24835, Start Num: 18

Candidate Starts for Glamour\_34:

(12, 25581), (14, 25536), (Start: 18 @25503 has 65 MA's), (27, 25356), (29, 25329), (33, 25290), (36, 25260), (39, 25248), (57, 25068), (65, 25020), (68, 24993), (72, 24933),

Gene: GoingMerry\_37 Start: 25920, Stop: 25252, Start Num: 17

Candidate Starts for GoingMerry\_37:

(Start: 17 @25920 has 131 MA's), (27, 25773), (29, 25746), (36, 25677), (39, 25665), (57, 25485), (65, 25437), (67, 25416), (76, 25281),

Gene: Golden\_34 Start: 25460, Stop: 24795, Start Num: 18

Candidate Starts for Golden\_34:

(4, 25646), (9, 25574), (10, 25565), (12, 25541), (14, 25496), (15, 25493), (Start: 18 @25460 has 65 MA's), (19, 25427), (20, 25412), (25, 25325), (29, 25286), (33, 25247), (36, 25217), (45, 25130), (47, 25103), (55, 25049), (57, 25028), (60, 25019), (65, 24980), (69, 24944), (72, 24893), (73, 24872),

Gene: GoneGirl\_37 Start: 25999, Stop: 25331, Start Num: 17

Candidate Starts for GoneGirl\_37:

(Start: 17 @25999 has 131 MA's), (46, 25645), (57, 25564), (59, 25558), (64, 25522), (65, 25516), (72, 25429),

Gene: Greenlvy\_34 Start: 24389, Stop: 23694, Start Num: 18

Candidate Starts for Greenlvy\_34:

(6, 24536), (7, 24521), (Start: 18 @24389 has 65 MA's), (19, 24356), (24, 24260), (33, 24176), (47, 24026), (57, 23927), (60, 23918), (65, 23879), (69, 23843), (72, 23792),

Gene: Greys\_37 Start: 25908, Stop: 25240, Start Num: 17

Candidate Starts for Greys\_37:

(Start: 17 @25908 has 131 MA's), (27, 25761), (29, 25734), (36, 25665), (39, 25653), (57, 25473), (65, 25425), (67, 25404), (72, 25338), (76, 25269),

Gene: Gubbabump\_36 Start: 25588, Stop: 24920, Start Num: 17

Candidate Starts for Gubbabump\_36:

(Start: 17 @25588 has 131 MA's), (27, 25441), (29, 25414), (36, 25345), (39, 25333), (57, 25153), (65, 25105), (67, 25084), (72, 25018), (76, 24949),

Gene: Guetzie\_34 Start: 25445, Stop: 24780, Start Num: 18

Candidate Starts for Guetzie\_34:

(4, 25631), (9, 25559), (10, 25550), (12, 25526), (14, 25481), (15, 25478), (Start: 18 @25445 has 65 MA's), (19, 25412), (25, 25310), (29, 25271), (33, 25232), (36, 25202), (45, 25115), (47, 25088), (55, 25034), (57, 25013), (60, 25004), (65, 24965), (69, 24929), (72, 24878), (73, 24857),

Gene: HairyMan\_32 Start: 24804, Stop: 24130, Start Num: 18

Candidate Starts for HairyMan\_32:

(5, 24984), (9, 24918), (12, 24885), (Start: 18 @24804 has 65 MA's), (27, 24648), (33, 24582), (34, 24564), (36, 24552), (39, 24540), (44, 24474), (45, 24465), (57, 24360), (65, 24312), (67, 24291), (68, 24285), (69, 24276), (70, 24261), (72, 24225),

Gene: Hamlet\_36 Start: 26037, Stop: 25369, Start Num: 17

Candidate Starts for Hamlet\_36:

(Start: 17 @26037 has 131 MA's), (25, 25902), (46, 25683), (57, 25602), (64, 25560), (65, 25554), (72, 25467),

Gene: HanSolo\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for HanSolo\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (67, 25091), (72, 25025), (76, 24956),

Gene: HankSprout\_37 Start: 25475, Stop: 24807, Start Num: 17

Candidate Starts for HankSprout\_37:

(Start: 17 @25475 has 131 MA's), (27, 25328), (29, 25301), (36, 25232), (39, 25220), (57, 25040), (65, 24992), (67, 24971), (72, 24905), (76, 24836),

Gene: Hasitha\_34 Start: 23812, Stop: 23117, Start Num: 18

Candidate Starts for Hasitha\_34:

(6, 23959), (7, 23944), (Start: 18 @23812 has 65 MA's), (19, 23779), (24, 23683), (33, 23599), (47, 23449), (57, 23350), (60, 23341), (65, 23302), (69, 23266), (72, 23215),

Gene: HavenFinLeoSun\_38 Start: 26250, Stop: 25582, Start Num: 17

Candidate Starts for HavenFinLeoSun\_38:

(3, 26433), (6, 26394), (7, 26379), (Start: 17 @26250 has 131 MA's), (27, 26103), (29, 26076), (33, 26037), (36, 26007), (39, 25995), (41, 25956), (57, 25815), (65, 25767), (70, 25716), (71, 25707), (76, 25611),

Gene: HerculesXL\_35 Start: 24250, Stop: 23582, Start Num: 17

Candidate Starts for HerculesXL\_35:

(Start: 17 @24250 has 131 MA's), (19, 24217), (21, 24166), (27, 24103), (29, 24076), (36, 24007), (39, 23995), (54, 23848), (57, 23815), (65, 23767), (70, 23716), (72, 23680), (75, 23629),

Gene: HungryHenry\_36 Start: 25600, Stop: 24932, Start Num: 17

Candidate Starts for HungryHenry\_36:

(Start: 17 @25600 has 131 MA's), (27, 25453), (29, 25426), (36, 25357), (39, 25345), (57, 25165), (65, 25117), (67, 25096), (72, 25030), (76, 24961),

Gene: Ilzat\_36 Start: 25611, Stop: 24943, Start Num: 17

Candidate Starts for Ilzat\_36:

(Start: 17 @25611 has 131 MA's), (27, 25464), (29, 25437), (36, 25368), (39, 25356), (57, 25176), (65, 25128), (67, 25107), (72, 25041), (76, 24972),

Gene: Inventa\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for Inventa\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (67, 25402), (72, 25336), (76, 25267),

Gene: loannes\_37 Start: 25910, Stop: 25242, Start Num: 17

Candidate Starts for loannes\_37:

(Start: 17 @25910 has 131 MA's), (27, 25763), (29, 25736), (36, 25667), (39, 25655), (57, 25475), (65, 25427), (67, 25406), (72, 25340), (76, 25271),

Gene: Ixel\_35 Start: 24233, Stop: 23535, Start Num: 18

Candidate Starts for Ixel\_35:

(Start: 18 @24233 has 65 MA's), (21, 24149), (25, 24098), (27, 24086), (29, 24059), (36, 23984), (37, 23981), (39, 23972), (43, 23909), (47, 23867), (52, 23843), (57, 23768), (58, 23765), (60, 23759), (64, 23726), (65, 23720), (69, 23684), (75, 23582),

Gene: Janus167\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for Janus167\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (67, 25091), (72, 25025), (76, 24956),

Gene: JasonD\_39 Start: 26455, Stop: 25787, Start Num: 17

Candidate Starts for JasonD\_39:

(Start: 17 @26455 has 131 MA's), (27, 26308), (29, 26281), (33, 26242), (36, 26212), (39, 26200), (41, 26161), (57, 26020), (65, 25972), (66, 25963), (70, 25921), (71, 25912), (72, 25885), (76, 25816),

Gene: JasperRussell\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for JasperRussell\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (67, 25091), (72, 25025), (76, 24956),

Gene: Jemerald\_37 Start: 26163, Stop: 25489, Start Num: 18

Candidate Starts for Jemerald\_37:

(Start: 18 @26163 has 65 MA's), (21, 26079), (29, 25989), (33, 25944), (34, 25926), (39, 25902), (41, 25863), (44, 25836), (52, 25773), (54, 25755), (57, 25722), (65, 25674), (66, 25665), (69, 25638), (70, 25623), (71, 25614), (72, 25587),

Gene: Jenos\_40 Start: 27104, Stop: 26436, Start Num: 17

Candidate Starts for Jenos\_40:

(3, 27287), (6, 27248), (7, 27233), (Start: 17 @27104 has 131 MA's), (28, 26951), (29, 26930), (32, 26894), (36, 26861), (39, 26849), (41, 26810), (57, 26669), (60, 26660), (65, 26621), (66, 26612), (70, 26570), (72, 26534), (76, 26465),

Gene: Jerbirus\_37 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for Jerbirus\_37:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (67, 25091), (72, 25025), (76, 24956),

Gene: JeriBeth\_36 Start: 25458, Stop: 24790, Start Num: 17

Candidate Starts for JeriBeth\_36:

(Start: 17 @25458 has 131 MA's), (27, 25311), (29, 25284), (36, 25215), (39, 25203), (57, 25023), (65, 24975), (67, 24954), (72, 24888), (76, 24819),

Gene: Jingles\_34 Start: 25362, Stop: 24697, Start Num: 18

Candidate Starts for Jingles\_34:

(9, 25476), (12, 25443), (15, 25395), (Start: 18 @25362 has 65 MA's), (25, 25227), (29, 25188), (36, 25119), (47, 25005), (55, 24951), (57, 24930), (60, 24921), (65, 24882), (66, 24873), (69, 24846), (72, 24795), (73, 24774),

Gene: Juanyo\_34 Start: 25282, Stop: 24611, Start Num: 18

Candidate Starts for Juanyo\_34:

(11, 25366), (13, 25321), (Start: 18 @25282 has 65 MA's), (24, 25153), (29, 25108), (35, 25042), (45, 24946), (47, 24919), (48, 24916), (57, 24844), (60, 24835), (65, 24796), (72, 24709),

Gene: Juicer\_37 Start: 26163, Stop: 25489, Start Num: 18

Candidate Starts for Juicer\_37:

(Start: 18 @26163 has 65 MA's), (21, 26079), (29, 25989), (33, 25944), (34, 25926), (39, 25902), (41, 25863), (44, 25836), (52, 25773), (54, 25755), (57, 25722), (65, 25674), (66, 25665), (69, 25638), (70, 25623), (71, 25614), (72, 25587),

Gene: Kale\_36 Start: 25610, Stop: 24942, Start Num: 17

Candidate Starts for Kale\_36:

(Start: 17 @25610 has 131 MA's), (27, 25463), (29, 25436), (36, 25367), (39, 25355), (57, 25175), (65, 25127), (72, 25040), (76, 24971),

Gene: KannH\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for KannH\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (67, 25091), (72, 25025), (76, 24956),

Gene: KatChan\_36 Start: 25012, Stop: 24341, Start Num: 18

Candidate Starts for KatChan\_36:

(8, 25126), (11, 25093), (13, 25048), (Start: 18 @25012 has 65 MA's), (19, 24979), (24, 24883), (29, 24838), (31, 24823), (45, 24676), (46, 24655), (56, 24577), (57, 24574), (60, 24565), (63, 24535), (65, 24526), (69, 24490), (72, 24439), (76, 24370),

Gene: Kauala\_34 Start: 25348, Stop: 24683, Start Num: 18

Candidate Starts for Kauala\_34:

(4, 25531), (9, 25462), (12, 25429), (15, 25381), (Start: 18 @25348 has 65 MA's), (25, 25213), (35, 25108), (36, 25105), (55, 24937), (57, 24916), (60, 24907), (64, 24874), (65, 24868), (69, 24832), (72, 24781), (73, 24760),

Gene: Kavo\_34 Start: 24088, Stop: 23420, Start Num: 17

Candidate Starts for Kavo\_34:

(Start: 17 @24088 has 131 MA's), (19, 24055), (21, 24004), (27, 23941), (29, 23914), (36, 23845), (39, 23833), (54, 23686), (57, 23653), (65, 23605), (70, 23554), (72, 23518), (75, 23467),

Gene: KellyGreen\_37 Start: 25589, Stop: 24921, Start Num: 17

Candidate Starts for KellyGreen\_37:

(Start: 17 @25589 has 131 MA's), (27, 25442), (29, 25415), (36, 25346), (39, 25334), (57, 25154), (65, 25106), (67, 25085), (72, 25019), (76, 24950),

Gene: KingJulien\_36 Start: 26027, Stop: 25359, Start Num: 17

Candidate Starts for KingJulien\_36:

(Start: 17 @26027 has 131 MA's), (25, 25892), (46, 25673), (57, 25592), (64, 25550), (65, 25544), (72, 25457),

Gene: Klimt\_36 Start: 25590, Stop: 24922, Start Num: 17

Candidate Starts for Klimt\_36:

(Start: 17 @25590 has 131 MA's), (27, 25443), (29, 25416), (36, 25347), (39, 25335), (57, 25155), (65, 25107), (72, 25020), (76, 24951),

Gene: Knox\_37 Start: 25910, Stop: 25242, Start Num: 17

Candidate Starts for Knox\_37:

(Start: 17 @25910 has 131 MA's), (27, 25763), (29, 25736), (36, 25667), (39, 25655), (57, 25475), (65, 25427), (67, 25406), (76, 25271),

Gene: Koji\_34 Start: 25541, Stop: 24876, Start Num: 18

Candidate Starts for Koji\_34:

(4, 25724), (9, 25655), (12, 25622), (15, 25574), (Start: 18 @25541 has 65 MA's), (25, 25406), (29, 25367), (36, 25298), (47, 25184), (55, 25130), (57, 25109), (60, 25100), (65, 25061), (66, 25052), (69, 25025), (72, 24974), (73, 24953),

Gene: Kouch\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for Kouch\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (72, 25025), (76, 24956),

Gene: Kurt1\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for Kurt1\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (67, 25402), (72, 25336), (76, 25267),

Gene: Leafus\_36 Start: 26172, Stop: 25504, Start Num: 17

Candidate Starts for Leafus\_36:

(Start: 17 @26172 has 131 MA's), (25, 26037), (46, 25818), (57, 25737), (64, 25695), (65, 25689), (72, 25602),

Gene: Librie\_34 Start: 23799, Stop: 23104, Start Num: 18

Candidate Starts for Librie\_34:

(6, 23946), (7, 23931), (Start: 18 @23799 has 65 MA's), (19, 23766), (24, 23670), (47, 23436), (57, 23337), (60, 23328), (65, 23289), (69, 23253), (72, 23202),

Gene: LilTerminator\_34 Start: 23821, Stop: 23126, Start Num: 18

Candidate Starts for LilTerminator\_34:

(6, 23968), (7, 23953), (Start: 18 @23821 has 65 MA's), (19, 23788), (24, 23692), (33, 23608), (47, 23458), (57, 23359), (60, 23350), (65, 23311), (69, 23275), (72, 23224),

Gene: Lovelyunicorn\_37 Start: 25911, Stop: 25243, Start Num: 17

Candidate Starts for Lovelyunicorn\_37:

(Start: 17 @25911 has 131 MA's), (27, 25764), (29, 25737), (36, 25668), (39, 25656), (57, 25476), (65, 25428), (67, 25407), (76, 25272),

Gene: Lucky3\_34 Start: 25460, Stop: 24795, Start Num: 18

Candidate Starts for Lucky3\_34:

(4, 25646), (9, 25574), (10, 25565), (12, 25541), (14, 25496), (15, 25493), (Start: 18 @25460 has 65 MA's), (19, 25427), (20, 25412), (25, 25325), (29, 25286), (33, 25247), (36, 25217), (45, 25130), (47, 25103), (55, 25049), (57, 25028), (60, 25019), (65, 24980), (69, 24944), (72, 24893), (73, 24872),

Gene: Ludgate\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for Ludgate\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (72, 25336), (76, 25267),

Gene: Luna18\_36 Start: 25012, Stop: 24341, Start Num: 18

Candidate Starts for Luna18\_36:

(8, 25126), (11, 25093), (13, 25048), (Start: 18 @25012 has 65 MA's), (19, 24979), (24, 24883), (29, 24838), (31, 24823), (45, 24676), (46, 24655), (56, 24577), (57, 24574), (60, 24565), (63, 24535), (65, 24526), (69, 24490), (72, 24439), (76, 24370),

Gene: MCubed\_35 Start: 25528, Stop: 24860, Start Num: 18

Candidate Starts for MCubed\_35:

(12, 25606), (14, 25561), (Start: 18 @25528 has 65 MA's), (27, 25381), (29, 25354), (33, 25315), (36, 25285), (39, 25273), (57, 25093), (65, 25045), (68, 25018), (72, 24958),

Gene: MaeLinda\_37 Start: 25910, Stop: 25242, Start Num: 17

Candidate Starts for MaeLinda\_37:

(Start: 17 @25910 has 131 MA's), (27, 25763), (29, 25736), (36, 25667), (39, 25655), (57, 25475), (65, 25427), (67, 25406), (76, 25271),

Gene: ManRay\_36 Start: 25608, Stop: 24940, Start Num: 17

Candidate Starts for ManRay\_36:

(Start: 17 @25608 has 131 MA's), (27, 25461), (29, 25434), (36, 25365), (39, 25353), (57, 25173), (65, 25125), (67, 25104), (72, 25038), (76, 24969),

Gene: Mandalorian\_33 Start: 25211, Stop: 24540, Start Num: 18

Candidate Starts for Mandalorian\_33:

(8, 25328), (11, 25295), (13, 25250), (Start: 18 @25211 has 65 MA's), (24, 25082), (29, 25037), (45, 24875), (47, 24848), (48, 24845), (57, 24773), (60, 24764), (65, 24725), (70, 24674), (72, 24638), (74, 24593), (76, 24569),

Gene: Martin\_38 Start: 25915, Stop: 25247, Start Num: 17

Candidate Starts for Martin\_38:

(Start: 17 @25915 has 131 MA's), (27, 25768), (29, 25741), (36, 25672), (39, 25660), (57, 25480), (65, 25432), (67, 25411), (72, 25345), (76, 25276),

Gene: McGalleon\_39 Start: 27315, Stop: 26647, Start Num: 17

Candidate Starts for McGalleon\_39:

(7, 27444), (Start: 17 @27315 has 131 MA's), (29, 27141), (32, 27105), (36, 27072), (39, 27060), (41, 27021), (57, 26880), (60, 26871), (65, 26832), (66, 26823), (70, 26781), (72, 26745), (76, 26676),

Gene: Mercedes\_31 Start: 22779, Stop: 22108, Start Num: 16

Candidate Starts for Mercedes\_31:

(Start: 16 @22779 has 1 MA's), (21, 22695), (22, 22674), (24, 22650), (29, 22605), (45, 22443), (46, 22422), (47, 22416), (57, 22341), (65, 22293), (67, 22272), (72, 22206), (76, 22137),

Gene: Merida02\_38 Start: 25909, Stop: 25241, Start Num: 17

Candidate Starts for Merida02\_38:

(Start: 17 @25909 has 131 MA's), (27, 25762), (29, 25735), (36, 25666), (39, 25654), (57, 25474), (65, 25426), (67, 25405), (76, 25270),

Gene: MillyPhilly\_37 Start: 25903, Stop: 25235, Start Num: 17

Candidate Starts for MillyPhilly\_37:

(Start: 17 @25903 has 131 MA's), (27, 25756), (29, 25729), (36, 25660), (39, 25648), (57, 25468), (65, 25420), (67, 25399), (72, 25333), (76, 25264),

Gene: MiniVolent\_34 Start: 25237, Stop: 24566, Start Num: 18

Candidate Starts for MiniVolent\_34:

(11, 25321), (13, 25276), (Start: 18 @25237 has 65 MA's), (24, 25108), (29, 25063), (45, 24901), (47, 24874), (48, 24871), (57, 24799), (60, 24790), (65, 24751), (72, 24664),

Gene: MonChoix\_35 Start: 25920, Stop: 25252, Start Num: 17

Candidate Starts for MonChoix\_35:

(Start: 17 @25920 has 131 MA's), (27, 25773), (29, 25746), (36, 25677), (39, 25665), (57, 25485), (65, 25437), (66, 25428), (68, 25410), (72, 25350), (73, 25329), (76, 25281),

Gene: Morrigan\_36 Start: 25033, Stop: 24362, Start Num: 18

Candidate Starts for Morrigan\_36:

(2, 25228), (8, 25147), (11, 25114), (13, 25069), (Start: 18 @25033 has 65 MA's), (19, 25000), (24, 24904), (29, 24859), (45, 24697), (46, 24676), (56, 24598), (57, 24595), (60, 24586), (63, 24556), (65, 24547), (72, 24460), (76, 24391),

Gene: MrWorldwide\_37 Start: 25913, Stop: 25245, Start Num: 17

Candidate Starts for MrWorldwide\_37:

(Start: 17 @25913 has 131 MA's), (27, 25766), (29, 25739), (36, 25670), (39, 25658), (57, 25478), (65, 25430), (67, 25409), (72, 25343), (76, 25274),

Gene: Nagem\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for Nagem\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (72, 25336), (76, 25267),

Gene: Nattles\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for Nattles\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (72, 25025), (76, 24956),

Gene: Nebulous\_34 Start: 26810, Stop: 26115, Start Num: 18

Candidate Starts for Nebulous\_34:

(7, 26939), (Start: 18 @26810 has 65 MA's), (19, 26777), (21, 26726), (24, 26681), (29, 26636), (33, 26597), (47, 26447), (57, 26348), (65, 26300), (69, 26264), (72, 26213),

Gene: Neferthema\_34 Start: 25896, Stop: 25201, Start Num: 18

Candidate Starts for Neferthema\_34:

(Start: 18 @25896 has 65 MA's), (24, 25767), (29, 25722), (33, 25683), (47, 25533), (52, 25509), (53, 25494), (57, 25434), (65, 25386), (69, 25350), (72, 25299), (74, 25254), (76, 25230),

Gene: NickSell\_37 Start: 25912, Stop: 25244, Start Num: 18

Candidate Starts for NickSell\_37:

(Start: 18 @25912 has 65 MA's), (27, 25765), (29, 25738), (36, 25669), (39, 25657), (57, 25477), (65, 25429), (67, 25408), (72, 25342), (76, 25273),

Gene: Nucci\_33 Start: 25206, Stop: 24535, Start Num: 18

Candidate Starts for Nucci\_33:

(8, 25323), (11, 25290), (13, 25245), (Start: 18 @25206 has 65 MA's), (24, 25077), (29, 25032), (45, 24870), (47, 24843), (48, 24840), (57, 24768), (60, 24759), (65, 24720), (70, 24669), (72, 24633), (74, 24588), (76, 24564),

Gene: Oats\_36 Start: 25608, Stop: 24940, Start Num: 17

Candidate Starts for Oats\_36:

(Start: 17 @25608 has 131 MA's), (27, 25461), (29, 25434), (36, 25365), (39, 25353), (57, 25173), (65, 25125), (67, 25104), (72, 25038), (76, 24969),

Gene: OldNelly\_37 Start: 25912, Stop: 25244, Start Num: 17

Candidate Starts for OldNelly\_37:

(Start: 17 @25912 has 131 MA's), (27, 25765), (29, 25738), (36, 25669), (39, 25657), (57, 25477), (65, 25429), (67, 25408), (76, 25273),

Gene: Oxtober96\_37 Start: 25911, Stop: 25243, Start Num: 17

Candidate Starts for Oxtober96\_37:

(Start: 17 @25911 has 131 MA's), (27, 25764), (29, 25737), (36, 25668), (39, 25656), (57, 25476), (65, 25428), (67, 25407), (76, 25272),

Gene: PSirce\_35 Start: 25515, Stop: 24847, Start Num: 18

Candidate Starts for PSirce\_35:

(12, 25593), (14, 25548), (Start: 18 @25515 has 65 MA's), (27, 25368), (29, 25341), (33, 25302), (36, 25272), (39, 25260), (57, 25080), (65, 25032), (68, 25005), (72, 24945),

Gene: Pajaza\_33 Start: 24761, Stop: 24096, Start Num: 18

Candidate Starts for Pajaza\_33:

(6, 24908), (7, 24893), (Start: 18 @24761 has 65 MA's), (23, 24653), (31, 24572), (47, 24404), (50, 24386), (52, 24380), (61, 24314), (65, 24281), (66, 24272), (67, 24260), (72, 24194),

Gene: Papafritta\_36 Start: 25616, Stop: 24948, Start Num: 17

Candidate Starts for Papafritta\_36:

(Start: 17 @25616 has 131 MA's), (27, 25469), (29, 25442), (36, 25373), (39, 25361), (57, 25181), (65, 25133), (67, 25112), (72, 25046), (76, 24977),

Gene: ParleG\_37 Start: 25913, Stop: 25245, Start Num: 17

Candidate Starts for ParleG\_37:

(Start: 17 @25913 has 131 MA's), (27, 25766), (29, 25739), (36, 25670), (39, 25658), (57, 25478), (65, 25430), (67, 25409), (72, 25343), (76, 25274),

Gene: Peep\_37 Start: 25898, Stop: 25230, Start Num: 17

Candidate Starts for Peep\_37:

(Start: 17 @25898 has 131 MA's), (27, 25751), (29, 25724), (36, 25655), (39, 25643), (57, 25463), (65, 25415), (67, 25394), (76, 25259),

Gene: Penta\_33 Start: 23944, Stop: 23276, Start Num: 17

Candidate Starts for Penta\_33:

(Start: 17 @23944 has 131 MA's), (19, 23911), (21, 23860), (27, 23797), (29, 23770), (36, 23701), (39, 23689), (54, 23542), (57, 23509), (65, 23461), (70, 23410), (72, 23374), (75, 23323),

Gene: Peppino\_36 Start: 26020, Stop: 25352, Start Num: 17

Candidate Starts for Peppino\_36:

(Start: 17 @26020 has 131 MA's), (25, 25885), (46, 25666), (57, 25585), (64, 25543), (65, 25537), (72, 25450),

Gene: Phanita\_35 Start: 25495, Stop: 24827, Start Num: 18

Candidate Starts for Phanita\_35:

(12, 25573), (14, 25528), (Start: 18 @25495 has 65 MA's), (27, 25348), (29, 25321), (33, 25282), (36, 25252), (39, 25240), (57, 25060), (65, 25012), (68, 24985), (72, 24925),

Gene: Pherbot\_34 Start: 25355, Stop: 24690, Start Num: 18

Candidate Starts for Pherbot\_34:

(4, 25538), (9, 25469), (12, 25436), (15, 25388), (Start: 18 @25355 has 65 MA's), (25, 25220), (29, 25181), (36, 25112), (47, 24998), (55, 24944), (57, 24923), (60, 24914), (65, 24875), (66, 24866), (69, 24839), (72, 24788), (73, 24767),

Gene: Pherferi\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for Pherferi\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (67, 25402), (72, 25336), (76, 25267),

Gene: Phiderman\_37 Start: 25903, Stop: 25235, Start Num: 17

Candidate Starts for Phiderman\_37:

(Start: 17 @25903 has 131 MA's), (27, 25756), (29, 25729), (36, 25660), (39, 25648), (57, 25468), (65, 25420), (67, 25399), (72, 25333), (76, 25264),

Gene: PhillyPhantom\_36 Start: 26010, Stop: 25342, Start Num: 17

Candidate Starts for PhillyPhantom\_36:

(Start: 17 @26010 has 131 MA's), (25, 25875), (46, 25656), (57, 25575), (64, 25533), (65, 25527), (72, 25440),

Gene: Phireproof\_37 Start: 25912, Stop: 25244, Start Num: 17

Candidate Starts for Phireproof\_37:

(Start: 17 @25912 has 131 MA's), (27, 25765), (29, 25738), (36, 25669), (39, 25657), (57, 25477), (65, 25429), (67, 25408), (76, 25273),

Gene: PhredFlintston\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for PhredFlintston\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (67, 25402), (72, 25336), (76, 25267),

Gene: Phriends\_37 Start: 25912, Stop: 25244, Start Num: 17

Candidate Starts for Phriends\_37:

(Start: 17 @25912 has 131 MA's), (27, 25765), (29, 25738), (36, 25669), (39, 25657), (57, 25477), (65, 25429), (67, 25408), (76, 25273),

Gene: Pikmin\_33 Start: 24761, Stop: 24096, Start Num: 18

Candidate Starts for Pikmin\_33:

(6, 24908), (7, 24893), (Start: 18 @24761 has 65 MA's), (23, 24653), (31, 24572), (47, 24404), (50, 24386), (52, 24380), (61, 24314), (65, 24281), (66, 24272), (67, 24260), (72, 24194),

Gene: Pocket\_36 Start: 25599, Stop: 24931, Start Num: 17

Candidate Starts for Pocket\_36:

(Start: 17 @25599 has 131 MA's), (27, 25452), (29, 25425), (36, 25356), (39, 25344), (57, 25164), (65, 25116), (72, 25029), (76, 24960),

Gene: PrincePhergus\_34 Start: 25370, Stop: 24705, Start Num: 18

Candidate Starts for PrincePhergus\_34:

(4, 25553), (9, 25484), (12, 25451), (15, 25403), (Start: 18 @25370 has 65 MA's), (25, 25235), (29, 25196), (36, 25127), (47, 25013), (55, 24959), (57, 24938), (60, 24929), (65, 24890), (66, 24881), (69, 24854), (72, 24803), (73, 24782),

Gene: PuppyEggo\_37 Start: 25913, Stop: 25245, Start Num: 17

Candidate Starts for PuppyEggo\_37:

(Start: 17 @25913 has 131 MA's), (27, 25766), (29, 25739), (36, 25670), (39, 25658), (57, 25478), (65, 25430), (67, 25409), (72, 25343), (76, 25274),

Gene: QuadZero\_34 Start: 23826, Stop: 23131, Start Num: 18

Candidate Starts for QuadZero\_34:

(6, 23973), (7, 23958), (Start: 18 @23826 has 65 MA's), (19, 23793), (24, 23697), (33, 23613), (47, 23463), (57, 23364), (60, 23355), (65, 23316), (69, 23280), (72, 23229),

Gene: Quartz\_34 Start: 25324, Stop: 24653, Start Num: 18

Candidate Starts for Quartz\_34:

(8, 25441), (11, 25408), (13, 25363), (Start: 18 @25324 has 65 MA's), (24, 25195), (29, 25150), (45, 24988), (47, 24961), (48, 24958), (54, 24919), (57, 24886), (60, 24877), (65, 24838), (70, 24787), (72, 24751), (74, 24706), (76, 24682),

Gene: Raccoon\_36 Start: 25995, Stop: 25327, Start Num: 17

Candidate Starts for Raccoon\_36:

(Start: 17 @25995 has 131 MA's), (25, 25860), (46, 25641), (57, 25560), (64, 25518), (65, 25512), (72, 25425),

Gene: Rapheph\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for Rapheph\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (67, 25402), (72, 25336), (76, 25267),

Gene: Raptor\_37 Start: 25910, Stop: 25242, Start Num: 17

Candidate Starts for Raptor\_37:

(Start: 17 @25910 has 131 MA's), (27, 25763), (29, 25736), (36, 25667), (39, 25655), (57, 25475), (65, 25427), (72, 25340), (76, 25271),

Gene: Redfield\_36 Start: 26027, Stop: 25359, Start Num: 17

Candidate Starts for Redfield\_36:

(Start: 17 @26027 has 131 MA's), (25, 25892), (46, 25673), (57, 25592), (64, 25550), (65, 25544), (72, 25457),

Gene: RenegadeRaider\_35 Start: 25237, Stop: 24572, Start Num: 18

Candidate Starts for RenegadeRaider\_35:

(4, 25420), (9, 25351), (12, 25318), (15, 25270), (Start: 18 @25237 has 65 MA's), (25, 25102), (29, 25063), (36, 24994), (47, 24880), (55, 24826), (57, 24805), (60, 24796), (65, 24757), (66, 24748), (69, 24721), (72, 24670), (73, 24649),

Gene: Renzie\_37 Start: 25898, Stop: 25230, Start Num: 17

Candidate Starts for Renzie\_37:

(Start: 17 @25898 has 131 MA's), (27, 25751), (29, 25724), (36, 25655), (39, 25643), (57, 25463), (65, 25415), (67, 25394), (76, 25259),

Gene: Riyhil\_37 Start: 25916, Stop: 25248, Start Num: 17

Candidate Starts for Riyhil\_37:

(Start: 17 @25916 has 131 MA's), (27, 25769), (29, 25742), (36, 25673), (39, 25661), (57, 25481), (65, 25433), (67, 25412), (72, 25346), (76, 25277),

Gene: Robinson\_37 Start: 25904, Stop: 25236, Start Num: 17

Candidate Starts for Robinson\_37:

(Start: 17 @25904 has 131 MA's), (27, 25757), (29, 25730), (36, 25661), (39, 25649), (57, 25469), (65, 25421), (76, 25265),

Gene: Rog141\_36 Start: 25595, Stop: 24927, Start Num: 17

Candidate Starts for Rog141\_36:

(Start: 17 @25595 has 131 MA's), (27, 25448), (29, 25421), (36, 25352), (39, 25340), (57, 25160), (65, 25112), (67, 25091), (72, 25025), (76, 24956),

Gene: RosieMae\_36 Start: 25653, Stop: 24985, Start Num: 17

Candidate Starts for RosieMae\_36:

(Start: 17 @25653 has 131 MA's), (27, 25506), (29, 25479), (36, 25410), (39, 25398), (57, 25218), (65, 25170), (72, 25083), (76, 25014),

Gene: SJay\_37 Start: 25907, Stop: 25239, Start Num: 17

Candidate Starts for SJay\_37:

(Start: 17 @25907 has 131 MA's), (27, 25760), (29, 25733), (36, 25664), (39, 25652), (57, 25472), (65, 25424), (72, 25337), (76, 25268),

Gene: Sansa\_34 Start: 25589, Stop: 24921, Start Num: 18

Candidate Starts for Sansa\_34:

(14, 25622), (Start: 18 @25589 has 65 MA's), (27, 25442), (29, 25415), (33, 25376), (36, 25346), (39, 25334), (57, 25154), (65, 25106), (68, 25079), (72, 25019),

Gene: Saratos\_35 Start: 25497, Stop: 24829, Start Num: 18

Candidate Starts for Saratos\_35:

(12, 25575), (14, 25530), (Start: 18 @25497 has 65 MA's), (27, 25350), (29, 25323), (33, 25284), (36, 25254), (39, 25242), (57, 25062), (65, 25014), (68, 24987), (72, 24927),

Gene: Schimmels22\_35 Start: 24624, Stop: 23956, Start Num: 17

Candidate Starts for Schimmels22\_35:

(Start: 17 @24624 has 131 MA's), (19, 24591), (21, 24540), (27, 24477), (29, 24450), (36, 24381), (39, 24369), (54, 24222), (57, 24189), (65, 24141), (70, 24090), (72, 24054), (75, 24003),

Gene: Schnapsidee\_36 Start: 26033, Stop: 25365, Start Num: 17

Candidate Starts for Schnapsidee\_36:

(Start: 17 @26033 has 131 MA's), (25, 25898), (46, 25679), (57, 25598), (64, 25556), (65, 25550), (72, 25463),

Gene: Schubert\_34 Start: 25315, Stop: 24650, Start Num: 18

Candidate Starts for Schubert\_34:

(Start: 18 @25315 has 65 MA's), (26, 25177), (32, 25105), (33, 25102), (41, 25021), (45, 24985), (50, 24940), (58, 24880), (65, 24835), (70, 24784), (72, 24748),

Gene: Scissor2024\_35 Start: 24261, Stop: 23593, Start Num: 17

Candidate Starts for Scissor2024\_35:

(Start: 17 @24261 has 131 MA's), (19, 24228), (21, 24177), (27, 24114), (29, 24087), (36, 24018), (39, 24006), (54, 23859), (57, 23826), (60, 23817), (65, 23778), (70, 23727), (72, 23691), (75, 23640),

Gene: Sedgewig\_36 Start: 25593, Stop: 24925, Start Num: 17

Candidate Starts for Sedgewig\_36:

(Start: 17 @25593 has 131 MA's), (27, 25446), (29, 25419), (36, 25350), (39, 25338), (57, 25158), (65, 25110), (67, 25089), (72, 25023), (76, 24954),

Gene: ShaiHulud\_37 Start: 25910, Stop: 25242, Start Num: 17

Candidate Starts for ShaiHulud\_37:

(Start: 17 @25910 has 131 MA's), (27, 25763), (29, 25736), (36, 25667), (39, 25655), (57, 25475), (65, 25427), (67, 25406), (76, 25271),

Gene: Shamu\_35 Start: 25518, Stop: 24850, Start Num: 18

Candidate Starts for Shamu\_35:

(12, 25596), (14, 25551), (Start: 18 @25518 has 65 MA's), (27, 25371), (29, 25344), (33, 25305), (36, 25275), (39, 25263), (57, 25083), (65, 25035), (68, 25008), (72, 24948),

Gene: Shee\_37 Start: 25903, Stop: 25235, Start Num: 17

Candidate Starts for Shee\_37:

(Start: 17 @25903 has 131 MA's), (27, 25756), (29, 25729), (36, 25660), (39, 25648), (57, 25468), (65, 25420), (72, 25333), (76, 25264),

Gene: Sinatra\_34 Start: 25366, Stop: 24701, Start Num: 18

Candidate Starts for Sinatra\_34:

(4, 25549), (9, 25480), (12, 25447), (15, 25399), (Start: 18 @25366 has 65 MA's), (25, 25231), (29, 25192), (36, 25123), (47, 25009), (55, 24955), (57, 24934), (60, 24925), (65, 24886), (66, 24877), (69, 24850), (72, 24799), (73, 24778),

Gene: SirVictor\_34 Start: 25445, Stop: 24780, Start Num: 18

Candidate Starts for SirVictor\_34:

(1, 25676), (4, 25631), (9, 25559), (10, 25550), (12, 25526), (14, 25481), (15, 25478), (Start: 18 @25445 has 65 MA's), (19, 25412), (25, 25310), (29, 25271), (33, 25232), (36, 25202), (45, 25115), (47, 25088), (55, 25034), (57, 25013), (60, 25004), (65, 24965), (69, 24929), (72, 24878), (73, 24857),

Gene: SoilGremlin\_37 Start: 25909, Stop: 25241, Start Num: 17

Candidate Starts for SoilGremlin\_37:

(Start: 17 @25909 has 131 MA's), (27, 25762), (29, 25735), (36, 25666), (39, 25654), (57, 25474), (65, 25426), (67, 25405), (76, 25270),

Gene: SolidSnake\_38 Start: 25912, Stop: 25244, Start Num: 17

Candidate Starts for SolidSnake\_38:

(Start: 17 @25912 has 131 MA's), (27, 25765), (29, 25738), (36, 25669), (39, 25657), (57, 25477), (65, 25429), (67, 25408), (76, 25273),

Gene: SonOfLevi\_36 Start: 25590, Stop: 24922, Start Num: 17

Candidate Starts for SonOfLevi\_36:

(Start: 17 @25590 has 131 MA's), (27, 25443), (29, 25416), (36, 25347), (39, 25335), (57, 25155), (65, 25107), (72, 25020), (76, 24951),

Gene: Soror1\_36 Start: 26042, Stop: 25374, Start Num: 17

Candidate Starts for Soror1\_36:

(Start: 17 @26042 has 131 MA's), (25, 25907), (46, 25688), (57, 25607), (64, 25565), (65, 25559), (72, 25472),

Gene: Stanktossa\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for Stanktossa\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (67, 25402), (72, 25336), (76, 25267),

Gene: StingRay\_36 Start: 25611, Stop: 24943, Start Num: 17

Candidate Starts for StingRay\_36:

(Start: 17 @25611 has 131 MA's), (27, 25464), (29, 25437), (36, 25368), (39, 25356), (57, 25176), (65, 25128), (67, 25107), (72, 25041), (76, 24972),

Gene: StirfryIV\_36 Start: 25604, Stop: 24936, Start Num: 17

Candidate Starts for StirfryIV\_36:

(Start: 17 @25604 has 131 MA's), (27, 25457), (29, 25430), (36, 25361), (39, 25349), (57, 25169), (65, 25121), (67, 25100), (72, 25034), (76, 24965),

Gene: Stormbreaker8\_36 Start: 26027, Stop: 25359, Start Num: 17

Candidate Starts for Stormbreaker8\_36:

(Start: 17 @26027 has 131 MA's), (25, 25892), (46, 25673), (57, 25592), (64, 25550), (65, 25544), (72, 25457),

Gene: Strathdee\_37 Start: 25911, Stop: 25243, Start Num: 17

Candidate Starts for Strathdee\_37:

(Start: 17 @25911 has 131 MA's), (27, 25764), (29, 25737), (36, 25668), (39, 25656), (57, 25476), (65, 25428), (67, 25407), (72, 25341), (76, 25272),

Gene: Superfresh\_37 Start: 25898, Stop: 25230, Start Num: 17

Candidate Starts for Superfresh\_37:

(Start: 17 @25898 has 131 MA's), (27, 25751), (29, 25724), (36, 25655), (39, 25643), (57, 25463), (65, 25415), (67, 25394), (76, 25259),

Gene: Symere\_36 Start: 25591, Stop: 24923, Start Num: 17

Candidate Starts for Symere\_36:

(Start: 17 @25591 has 131 MA's), (27, 25444), (29, 25417), (36, 25348), (39, 25336), (57, 25156), (65, 25108), (67, 25087), (72, 25021), (76, 24952),

Gene: TatarkaPM\_37 Start: 25912, Stop: 25244, Start Num: 18

Candidate Starts for TatarkaPM\_37:

(Start: 18 @25912 has 65 MA's), (27, 25765), (29, 25738), (36, 25669), (39, 25657), (57, 25477), (65, 25429), (67, 25408), (72, 25342), (76, 25273),

Gene: Teagan\_37 Start: 25906, Stop: 25238, Start Num: 17

Candidate Starts for Teagan\_37:

(Start: 17 @25906 has 131 MA's), (27, 25759), (29, 25732), (36, 25663), (39, 25651), (57, 25471), (65, 25423), (67, 25402), (76, 25267),

Gene: TeddyBear\_36 Start: 25608, Stop: 24940, Start Num: 17

Candidate Starts for TeddyBear\_36:

(Start: 17 @25608 has 131 MA's), (27, 25461), (29, 25434), (36, 25365), (39, 25353), (57, 25173), (65, 25125), (72, 25038), (76, 24969),

Gene: Tenda\_36 Start: 25606, Stop: 24938, Start Num: 17

Candidate Starts for Tenda\_36:

(Start: 17 @25606 has 131 MA's), (27, 25459), (29, 25432), (36, 25363), (39, 25351), (57, 25171), (65, 25123), (67, 25102), (72, 25036), (76, 24967),

Gene: Thompsone\_37 Start: 25913, Stop: 25245, Start Num: 17

Candidate Starts for Thompsone\_37:

(Start: 17 @25913 has 131 MA's), (27, 25766), (29, 25739), (36, 25670), (39, 25658), (57, 25478), (65, 25430), (67, 25409), (76, 25274),

Gene: Thorongil\_37 Start: 25913, Stop: 25245, Start Num: 17

Candidate Starts for Thorongil\_37:

(Start: 17 @25913 has 131 MA's), (27, 25766), (29, 25739), (36, 25670), (39, 25658), (57, 25478), (65, 25430), (67, 25409), (72, 25343), (76, 25274),

Gene: TinSulphur\_37 Start: 25912, Stop: 25244, Start Num: 17

Candidate Starts for TinSulphur\_37:

(Start: 17 @25912 has 131 MA's), (27, 25765), (29, 25738), (36, 25669), (39, 25657), (57, 25477), (65, 25429), (67, 25408), (72, 25342), (76, 25273),

Gene: Tinyman4\_35 Start: 24250, Stop: 23582, Start Num: 17

Candidate Starts for Tinyman4\_35:

(Start: 17 @24250 has 131 MA's), (19, 24217), (21, 24166), (27, 24103), (29, 24076), (36, 24007), (39, 23995), (54, 23848), (57, 23815), (65, 23767), (70, 23716), (72, 23680), (75, 23629),

Gene: TwoBits\_34 Start: 24236, Stop: 23541, Start Num: 18

Candidate Starts for TwoBits\_34:

(6, 24383), (7, 24368), (Start: 18 @24236 has 65 MA's), (19, 24203), (24, 24107), (29, 24062), (35, 23996), (47, 23873), (57, 23774), (65, 23726), (69, 23690), (70, 23675), (71, 23666), (72, 23639), (76, 23570),

Gene: Velene\_37 Start: 25911, Stop: 25243, Start Num: 17

Candidate Starts for Velene\_37:

(Start: 17 @25911 has 131 MA's), (27, 25764), (29, 25737), (36, 25668), (39, 25656), (57, 25476), (65, 25428), (67, 25407), (76, 25272),

Gene: Vispitious\_37 Start: 25913, Stop: 25245, Start Num: 17

Candidate Starts for Vispitious\_37:

(Start: 17 @25913 has 131 MA's), (27, 25766), (29, 25739), (36, 25670), (39, 25658), (57, 25478), (65, 25430), (67, 25409), (72, 25343), (76, 25274),

Gene: Wardwill\_36 Start: 23980, Stop: 23285, Start Num: 18

Candidate Starts for Wardwill\_36:

(6, 24127), (7, 24112), (Start: 18 @23980 has 65 MA's), (19, 23947), (24, 23851), (33, 23767), (47, 23617), (57, 23518), (60, 23509), (65, 23470), (69, 23434), (72, 23383),

Gene: WestPM\_33 Start: 24107, Stop: 23439, Start Num: 17

Candidate Starts for WestPM\_33:

(Start: 17 @24107 has 131 MA's), (19, 24074), (21, 24023), (27, 23960), (29, 23933), (36, 23864), (39, 23852), (54, 23705), (57, 23672), (65, 23624), (70, 23573), (72, 23537), (75, 23486),

Gene: WildNOut\_37 Start: 25910, Stop: 25242, Start Num: 17

Candidate Starts for WildNOut\_37:

(Start: 17 @25910 has 131 MA's), (27, 25763), (29, 25736), (36, 25667), (39, 25655), (57, 25475), (65, 25427), (67, 25406), (72, 25340), (76, 25271),

Gene: WilliamStrong\_35 Start: 25330, Stop: 24659, Start Num: 18

Candidate Starts for WilliamStrong\_35:

(12, 25411), (14, 25366), (Start: 18 @25330 has 65 MA's), (25, 25195), (27, 25183), (48, 24964), (56, 24895), (57, 24892), (62, 24856), (63, 24853), (65, 24844), (66, 24835), (72, 24757), (76, 24688),

Gene: Winzigespinne\_36 Start: 25594, Stop: 24926, Start Num: 17

Candidate Starts for Winzigespinne\_36:

(Start: 17 @25594 has 131 MA's), (27, 25447), (29, 25420), (36, 25351), (39, 25339), (57, 25159), (65, 25111), (67, 25090), (72, 25024), (76, 24955),

Gene: Xebius\_35 Start: 25500, Stop: 24832, Start Num: 18

Candidate Starts for Xebius\_35:

(12, 25578), (14, 25533), (Start: 18 @25500 has 65 MA's), (27, 25353), (29, 25326), (33, 25287), (36, 25257), (39, 25245), (57, 25065), (65, 25017), (68, 24990), (72, 24930),

Gene: YuuY\_35 Start: 25953, Stop: 25282, Start Num: 18

Candidate Starts for YuuY\_35:

(Start: 18 @25953 has 65 MA's), (24, 25824), (29, 25779), (40, 25674), (45, 25617), (47, 25590), (57, 25515), (60, 25506), (65, 25467), (70, 25416), (72, 25380), (76, 25311),

Gene: Zada\_37 Start: 25882, Stop: 25214, Start Num: 17

Candidate Starts for Zada\_37:

(Start: 17 @25882 has 131 MA's), (27, 25735), (29, 25708), (36, 25639), (39, 25627), (57, 25447), (65, 25399), (67, 25378), (72, 25312), (76, 25243),

Gene: Zayuliv\_34 Start: 24399, Stop: 23704, Start Num: 18

Candidate Starts for Zayuliv\_34:

(6, 24546), (7, 24531), (Start: 18 @24399 has 65 MA's), (19, 24366), (24, 24270), (33, 24186), (47, 24036), (57, 23937), (60, 23928), (65, 23889), (69, 23853), (72, 23802),

Gene: Zenitsu\_35 Start: 25533, Stop: 24865, Start Num: 18

Candidate Starts for Zenitsu\_35:

(12, 25611), (14, 25566), (Start: 18 @25533 has 65 MA's), (27, 25386), (29, 25359), (33, 25320), (36, 25290), (39, 25278), (57, 25098), (65, 25050), (68, 25023), (72, 24963),

Gene: Zepp\_35 Start: 23858, Stop: 23163, Start Num: 18

Candidate Starts for Zepp\_35:

(6, 24005), (7, 23990), (Start: 18 @23858 has 65 MA's), (19, 23825), (24, 23729), (33, 23645), (47, 23495), (57, 23396), (60, 23387), (65, 23348), (69, 23312), (72, 23261),