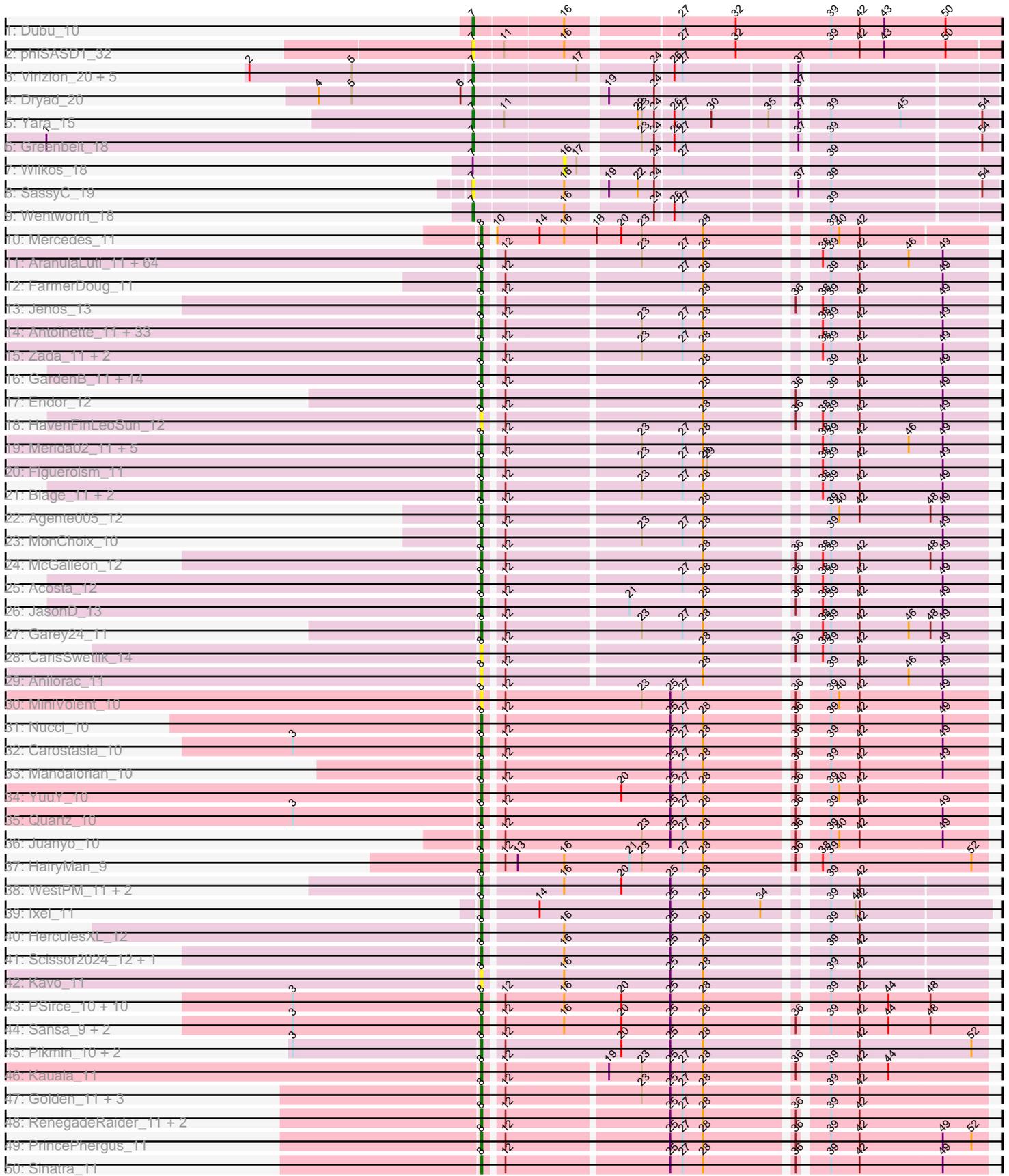


Pham 290823





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 290823 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290823 has 228 members, 27 are drafts.

Phages represented in each track:

- Track 1 : Dubu\_10
- Track 2 : phiSASD1\_32
- Track 3 : Virizion\_20, Gibson\_18, ShakeNBake\_18, PHTowN\_18, Rooney\_18, Lizz\_18
- Track 4 : Dryad\_20
- Track 5 : Yara\_15
- Track 6 : Greenbelt\_18
- Track 7 : Wilkos\_18
- Track 8 : SassyC\_19
- Track 9 : Wentworth\_18
- Track 10 : Mercedes\_11
- Track 11 : AranulaLuti\_11, Ilzat\_11, SJay\_11, Teagan\_11, Janus167\_11, HanSolo\_11, Duocatuli\_11, Phriends\_11, JasperRussell\_11, JeriBeth\_11, Byron23\_11, Gargoyle\_11, RosieMae\_11, Rog141\_11, Sedgewig\_11, MrWorldwide\_11, Nagem\_11, Tenda\_11, Shee\_11, Christoph\_11, Gubbabump\_11, Benjalauren\_11, NickSell\_11, Martin\_12, CoraRita\_11, Kurt1\_11, HankSprout\_12, Kale\_11, Bandik\_11, Chako\_11, Pherferi\_11, Ludgate\_11, HungryHenry\_11, TatarkaPM\_11, Exploradora\_11, PhredFlintston\_11, TinSulphur\_11, StingRay\_11, Riyhil\_11, Kouch\_11, Inventa\_11, KannH\_11, Jerbirus\_11, Dothraki\_11, Oats\_11, SolidSnake\_11, Asta\_11, ManRay\_11, Gershwin\_11, Pocket\_11, TeddyBear\_11, OldNelly\_11, StirfryIV\_11, KellyGreen\_11, BeautPeep30\_11, ParleG\_11, Aubergine\_11, Stanktossa\_11, Symere\_11, Rapheph\_11, Clancy\_11, Espinosa\_11, Winzigespinne\_11, Papafritta\_11, Phireproof\_11
- Track 12 : FarmerDoug\_11
- Track 13 : Jenos\_13
- Track 14 : Antoinette\_11, Gelo\_11, GoingMerry\_11, PuppyEggo\_11, Raptor\_11, Baines\_11, Calix\_11, ShaiHulud\_11, Den3\_11, AlexAdler\_11, Etta\_11, Lovelyunicorn\_11, Peep\_11, Convict\_11, Chamuel\_11, Renzie\_11, Klimt\_11, Ioannes\_11, Knox\_11, AxiPup\_11, Superfresh\_11, Greys\_11, WildNOut\_11, SonOfLevi\_11, Strathdee\_11, Dave\_11, Nattles\_11, BonesMcCoy\_11, Velene\_11, Vispistious\_11, Thorongil\_11, Erla\_11, Alyxandracam\_11, Oxtober96\_11
- Track 15 : Zada\_11, MaeLinda\_11, Robinson\_11
- Track 16 : GardenB\_11, Etna\_11, Peppino\_11, BeeBee8\_12, Raccoon\_11, Leafus\_11, KingJulien\_11, Soror1\_11, Balsa\_11, Stormbreaker8\_11, Redfield\_11, Schnapsidee\_11, Hamlet\_11, PhillyPhantom\_11, GoneGirl\_12
- Track 17 : Endor\_12
- Track 18 : HavenFinLeoSun\_12

- Track 19 : Merida02\_11, Delphidian\_11, Bonino\_11, SoilGremlin\_11, Phiderman\_11, MillyPhilly\_11
- Track 20 : Figueroism\_11
- Track 21 : Blage\_11, Thompsone\_11, BigRedClifford\_11
- Track 22 : Agente005\_12
- Track 23 : MonChoix\_10
- Track 24 : McGalleon\_12
- Track 25 : Acosta\_12
- Track 26 : JasonD\_13
- Track 27 : Garey24\_11
- Track 28 : CarisSwetlik\_14
- Track 29 : Anilorac\_11
- Track 30 : MiniVolent\_10
- Track 31 : Nucci\_10
- Track 32 : Carostasia\_10
- Track 33 : Mandalorian\_10
- Track 34 : YuuY\_10
- Track 35 : Quartz\_10
- Track 36 : Juanyo\_10
- Track 37 : HairyMan\_9
- Track 38 : WestPM\_11, Penta\_11, Schimmels22\_12
- Track 39 : Ixel\_11
- Track 40 : HerculesXL\_12
- Track 41 : Scissor2024\_12, Tinyman4\_12
- Track 42 : Kavo\_11
- Track 43 : PSirce\_10, ChikPic\_10, Finny\_10, Eleri\_10, Glamour\_9, MCubed\_10, Xebius\_9, Shamu\_10, Saratos\_10, Phanita\_10, Zenitsu\_10
- Track 44 : Sansa\_9, ColaCorta\_10, Andromedas\_10
- Track 45 : Pikmin\_10, Casey\_10, Pajaza\_10
- Track 46 : Kauala\_11
- Track 47 : Golden\_11, Guetzie\_11, Lucky3\_11, SirVictor\_11
- Track 48 : RenegadeRaider\_11, Jingles\_11, BouleyBill\_11
- Track 49 : PrincePhergus\_11
- Track 50 : Sinatra\_11
- Track 51 : Pherbot\_11, Bustleton\_11, Koji\_11
- Track 52 : LilTerminator\_12, Hasitha\_12, CaptainRex\_12, GreenIvy\_12, Zepp\_13, Librie\_12, QuadZero\_12, Wardwill\_13, Zayuliv\_12, Fulton\_12, BaronJohn\_12
- Track 53 : Alakazam\_13
- Track 54 : TwoBits\_10
- Track 55 : Nebulous\_12, Clock\_12
- Track 56 : Neferthena\_12
- Track 57 : KatChan\_12, Luna18\_12
- Track 58 : Chepli\_12
- Track 59 : Jemerald\_12, Juicer\_12
- Track 60 : Morigan\_12
- Track 61 : WilliamStrong\_10
- Track 62 : Theresita\_11
- Track 63 : Schubert\_11
- Track 64 : Cheeto1\_12
- Track 65 : GaeCeo\_12
- Track 66 : ChickenKing\_11

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

The start number called the most often in the published annotations is 8, it was called in 189 of the 201 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acosta\_12, Agente005\_12, Alakazam\_13, AlexAdler\_11, Alyxandracam\_11, Andromedas\_10, Anilorac\_11, Antoinette\_11, AranulaLuti\_11, Asta\_11, Aubergine\_11, AxiPup\_11, Baines\_11, Balsa\_11, Bandik\_11, BaronJohn\_12, BeautPeep30\_11, BeeBee8\_12, Benjalauren\_11, BigRedClifford\_11, Blage\_11, BonesMcCoy\_11, Bonino\_11, BouleyBill\_11, Bustleton\_11, Byron23\_11, Calix\_11, CaptainRex\_12, CarisSwetlik\_14, Carostasia\_10, Casey\_10, Chako\_11, Chamuel\_11, Cheeto1\_12, Chepli\_12, ChickenKing\_11, ChikPic\_10, Christoph\_11, Clancy\_11, Clock\_12, ColaCorta\_10, Convict\_11, CoraRita\_11, Dave\_11, Delphidian\_11, Den3\_11, Dothraki\_11, Duocatuli\_11, Eleri\_10, Endor\_12, Erla\_11, Espinosa\_11, Etna\_11, Etta\_11, Exploradora\_11, FarmerDoug\_11, Figueroism\_11, Finny\_10, Fulton\_12, GaeCeo\_12, GardenB\_11, Garey24\_11, Gargoyle\_11, Gelo\_11, Gershwin\_11, Glamour\_9, GoingMerry\_11, Golden\_11, GoneGirl\_12, Greenlvy\_12, Greys\_11, Gubbabump\_11, Guetzie\_11, HairyMan\_9, Hamlet\_11, HanSolo\_11, HankSprout\_12, Hasitha\_12, HavenFinLeoSun\_12, HerculesXL\_12, HungryHenry\_11, Ilzat\_11, Inventa\_11, Ioannes\_11, Ixel\_11, Janus167\_11, JasonD\_13, JasperRussell\_11, Jenos\_13, Jerbirus\_11, JeriBeth\_11, Jingles\_11, Juanyo\_10, Kale\_11, KannH\_11, KatChan\_12, Kauala\_11, Kavo\_11, KellyGreen\_11, KingJulien\_11, Klimt\_11, Knox\_11, Koji\_11, Kouch\_11, Kurt1\_11, Leafus\_11, Librie\_12, LiiTerminator\_12, Lovelyunicorn\_11, Lucky3\_11, Ludgate\_11, Luna18\_12, MCubed\_10, MaeLinda\_11, ManRay\_11, Mandalorian\_10, Martin\_12, McGalleon\_12, Mercedes\_11, Merida02\_11, MillyPhilly\_11, MiniVolent\_10, MonChoix\_10, Morrigan\_12, MrWorldwide\_11, Nagem\_11, Nattles\_11, Nebulous\_12, Neferthena\_12, NickSell\_11, Nucci\_10, Oats\_11, OldNelly\_11, Oxtober96\_11, PSirce\_10, Pajaza\_10, Papafritta\_11, ParleG\_11, Peep\_11, Penta\_11, Peppino\_11, Phanita\_10, Pherbot\_11, Pherferi\_11, Phiderman\_11, PhillyPhantom\_11, Phireproof\_11, PhredFlintston\_11, Phriends\_11, Pikmin\_10, Pocket\_11, PrincePhergus\_11, PuppyEggo\_11, QuadZero\_12, Quartz\_10, Raccoon\_11, Rapheph\_11, Raptor\_11, Redfield\_11, RenegadeRaider\_11, Renzie\_11, Riyhil\_11, Robinson\_11, Rog141\_11, RosieMae\_11, SJay\_11, Sansa\_9, Saratos\_10, Schimmels22\_12, Schnapsidee\_11, Schubert\_11, Scissor2024\_12, Sedgewig\_11, ShaiHulud\_11, Shamu\_10, Shee\_11, Sinatra\_11, SirVictor\_11, SoilGremlin\_11, SolidSnake\_11, SonOfLevi\_11, Soror1\_11, Stanktossa\_11, StingRay\_11, StirfryIV\_11, Stormbreaker8\_11, Strathdee\_11, Superfresh\_11, Symere\_11, TatarkaPM\_11, Teagan\_11, TeddyBear\_11, Tenda\_11, Theresita\_11, Thompsone\_11, Thorongil\_11, TinSulphur\_11, Tinyman4\_12, TwoBits\_10, Velene\_11, Vispistious\_11, Wardwill\_13, WestPM\_11, WildNOOut\_11, WilliamStrong\_10, Winzigespinne\_11, Xebius\_9, YuuY\_10, Zada\_11, Zayuliv\_12, Zenitsu\_10, Zepp\_13,

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

- 

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

- Dryad\_20, Dubu\_10, Gibson\_18, Greenbelt\_18, Jemerald\_12, Juicer\_12, Lizz\_18, PHTowN\_18, Rooney\_18, SassyC\_19, ShakeNBake\_18, Virizion\_20, Wentworth\_18, Wilkos\_18, Yara\_15, phiSASD1\_32,

## Summary by start number:

### Start 7:

- Found in 14 of 228 ( 6.1% ) of genes in pham
- Manual Annotations of this start: 10 of 201
- Called 92.9% of time when present
- Phage (with cluster) where this start called: Dryad\_20 (BN), Dubu\_10 (BJ), Gibson\_18 (BN), Greenbelt\_18 (BN), Lizz\_18 (BN), PHTowN\_18 (BN), Rooney\_18 (BN), SassyC\_19 (BN), ShakeNBake\_18 (BN), Virizion\_20 (BN), Wentworth\_18 (BN), Yara\_15 (BN), phiSASD1\_32 (BJ),

### Start 8:

- Found in 212 of 228 ( 93.0% ) of genes in pham
- Manual Annotations of this start: 189 of 201
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acosta\_12 (EA1), Agente005\_12 (EA1), Alakazam\_13 (EA5), AlexAdler\_11 (EA1), Alyxandracam\_11 (EA1), Andromedas\_10 (EA2), Anilorac\_11 (EA1), Antoinette\_11 (EA1), AranulaLuti\_11 (EA1), Asta\_11 (EA1), Aubergine\_11 (EA1), AxiPup\_11 (EA1), Baines\_11 (EA1), Balsa\_11 (EA1), Bandik\_11 (EA1), BaronJohn\_12 (EA5), BeautPeep30\_11 (EA1), BeeBee8\_12 (EA1), Benjalauen\_11 (EA1), BigRedClifford\_11 (EA1), Blage\_11 (EA1), BonesMcCoy\_11 (EA1), Bonino\_11 (EA1), BouleyBill\_11 (EA4), Bustleton\_11 (EA4), Byron23\_11 (EA1), Calix\_11 (EA1), CaptainRex\_12 (EA5), CarisSwetlik\_14 (EA1), Carostasia\_10 (EA10), Casey\_10 (EA3), Chako\_11 (EA1), Chamuel\_11 (EA1), Cheeto1\_12 (EA9), Chepli\_12 (EA6), ChickenKing\_11 (EA9), ChikPic\_10 (EA2), Christoph\_11 (EA1), Clancy\_11 (EA1), Clock\_12 (EA5), ColaCorta\_10 (EA2), Convict\_11 (EA1), CoraRita\_11 (EA1), Dave\_11 (EA1), Delphidian\_11 (EA1), Den3\_11 (EA1), Dothraki\_11 (EA1), Duocatuli\_11 (EA1), Eleri\_10 (EA2), Endor\_12 (EA1), Erla\_11 (EA1), Espinosa\_11 (EA1), Etna\_11 (EA1), Etta\_11 (EA1), Exploradora\_11 (EA1), FarmerDoug\_11 (EA1), Figueroism\_11 (EA1), Finny\_10 (EA2), Fulton\_12 (EA5), GaeCeo\_12 (EA9), GardenB\_11 (EA1), Garey24\_11 (EA1), Gargoyle\_11 (EA1), Gelo\_11 (EA1), Gershwin\_11 (EA1), Glamour\_9 (EA2), GoingMerry\_11 (EA1), Golden\_11 (EA4), GoneGirl\_12 (EA1), Greenlvy\_12 (EA5), Greys\_11 (EA1), Gubbabump\_11 (EA1), Guetzie\_11 (EA4), HairyMan\_9 (EA10), Hamlet\_11 (EA1), HanSolo\_11 (EA1), HankSprout\_12 (EA1), Hasitha\_12 (EA5), HavenFinLeoSun\_12 (EA1), HerculesXL\_12 (EA11), HungryHenry\_11 (EA1), Ilzat\_11 (EA1), Inventa\_11 (EA1), Ioannes\_11 (EA1), Ixel\_11 (EA11), Janus167\_11 (EA1), JasonD\_13 (EA1), JasperRussell\_11 (EA1), Jenos\_13 (EA1), Jerbirus\_11 (EA1), JeriBeth\_11 (EA1), Jingles\_11 (EA4), Juanyo\_10 (EA10), Kale\_11 (EA1), KannH\_11 (EA1), KatChan\_12 (EA6), Kauala\_11 (EA4), Kavo\_11 (EA11), KellyGreen\_11 (EA1), KingJulien\_11 (EA1), Klimt\_11 (EA1), Knox\_11 (EA1), Koji\_11 (EA4), Kouch\_11 (EA1), Kurt1\_11 (EA1), Leafus\_11 (EA1), Librie\_12 (EA5), LiTerminator\_12 (EA5), Lovelyunicorn\_11 (EA1), Lucky3\_11 (EA4), Ludgate\_11 (EA1), Luna18\_12 (EA6), MCubed\_10 (EA2), MaeLinda\_11 (EA1), ManRay\_11 (EA1), Mandalorian\_10 (EA10), Martin\_12 (EA1), McGalleon\_12 (EA1), Mercedes\_11 (EA), Merida02\_11 (EA1), MillyPhilly\_11 (EA1), MiniVolent\_10 (EA10), MonChoix\_10 (EA1), Morigan\_12 (EA6), MrWorldwide\_11 (EA1), Nagem\_11 (EA1), Nattles\_11 (EA1), Nebulous\_12 (EA5), Neferthema\_12 (EA5), NickSell\_11 (EA1), Nucci\_10 (EA10), Oats\_11 (EA1), OldNelly\_11 (EA1), Oxtober96\_11 (EA1), PSirce\_10 (EA2), Pajaza\_10 (EA3), Papafritta\_11 (EA1), ParleG\_11 (EA1), Peep\_11 (EA1), Penta\_11 (EA11), Peppino\_11 (EA1), Phanita\_10 (EA2), Pherbot\_11 (EA4), Pherferi\_11 (EA1), Phiderman\_11 (EA1), PhillyPhantom\_11 (EA1), Phireproof\_11 (EA1), PhredFlintston\_11 (EA1),

Phriends\_11 (EA1), Pikmin\_10 (EA3), Pocket\_11 (EA1), PrincePhergus\_11 (EA4), PuppyEggo\_11 (EA1), QuadZero\_12 (EA5), Quartz\_10 (EA10), Raccoon\_11 (EA1), Rapheph\_11 (EA1), Raptor\_11 (EA1), Redfield\_11 (EA1), RenegadeRaider\_11 (EA4), Renzie\_11 (EA1), Riyhil\_11 (EA1), Robinson\_11 (EA1), Rog141\_11 (EA1), RosieMae\_11 (EA1), SJay\_11 (EA1), Sansa\_9 (EA2), Saratos\_10 (EA2), Schimmels22\_12 (EA11), Schnapsidee\_11 (EA1), Schubert\_11 (EA8), Scissor2024\_12 (EA11), Sedgewig\_11 (EA1), ShaiHulud\_11 (EA1), Shamu\_10 (EA2), Shee\_11 (EA1), Sinatra\_11 (EA4), SirVictor\_11 (EA4), SoilGremlin\_11 (EA1), SolidSnake\_11 (EA1), SonOfLevi\_11 (EA1), Soror1\_11 (EA1), Stanktossa\_11 (EA1), StingRay\_11 (EA1), StirfryIV\_11 (EA1), Stormbreaker8\_11 (EA1), Strathdee\_11 (EA1), Superfresh\_11 (EA1), Symere\_11 (EA1), TatarkaPM\_11 (EA1), Teagan\_11 (EA1), TeddyBear\_11 (EA1), Tenda\_11 (EA1), Theresita\_11 (EA7), Thompsone\_11 (EA1), Thorongil\_11 (EA1), TinSulphur\_11 (EA1), Tinyman4\_12 (EA11), TwoBits\_10 (EA5), Velene\_11 (EA1), Vispistious\_11 (EA1), Wardwill\_13 (EA5), WestPM\_11 (EA11), WildNOut\_11 (EA1), WilliamStrong\_10 (EA6), Winzigespinne\_11 (EA1), Xebius\_9 (EA2), YuuY\_10 (EA10), Zada\_11 (EA1), Zayuliv\_12 (EA5), Zenitsu\_10 (EA2), Zepp\_13 (EA5),

Start 9:

- Found in 2 of 228 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 201
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jemerald\_12 (EA6), Juicer\_12 (EA6),

Start 16:

- Found in 40 of 228 ( 17.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 2.5% of time when present
- Phage (with cluster) where this start called: Wilkos\_18 (BN),

### **Summary by clusters:**

There are 14 clusters represented in this pham: EA11, EA10, BN, EA, BJ, EA9, EA8, EA1, EA3, EA2, EA5, EA4, EA7, EA6,

Info for manual annotations of cluster BJ:

- Start number 7 was manually annotated 1 time for cluster BJ.

Info for manual annotations of cluster BN:

- Start number 7 was manually annotated 9 times for cluster BN.

Info for manual annotations of cluster EA:

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

Info for manual annotations of cluster EA1:

- Start number 8 was manually annotated 126 times for cluster EA1.

Info for manual annotations of cluster EA10:

- Start number 8 was manually annotated 7 times for cluster EA10.

Info for manual annotations of cluster EA11:

- Start number 8 was manually annotated 5 times for cluster EA11.

Info for manual annotations of cluster EA2:

- Start number 8 was manually annotated 13 times for cluster EA2.

Info for manual annotations of cluster EA3:

- Start number 8 was manually annotated 3 times for cluster EA3.

Info for manual annotations of cluster EA4:

- Start number 8 was manually annotated 11 times for cluster EA4.

Info for manual annotations of cluster EA5:

- Start number 8 was manually annotated 13 times for cluster EA5.

Info for manual annotations of cluster EA6:

- Start number 8 was manually annotated 5 times for cluster EA6.
- Start number 9 was manually annotated 2 times for cluster EA6.

Info for manual annotations of cluster EA7:

- Start number 8 was manually annotated 1 time for cluster EA7.

Info for manual annotations of cluster EA8:

- Start number 8 was manually annotated 1 time for cluster EA8.

Info for manual annotations of cluster EA9:

- Start number 8 was manually annotated 3 times for cluster EA9.

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

Gene: Acosta\_12 Start: 7176, Stop: 7517, Start Num: 8

Candidate Starts for Acosta\_12:

(Start: 8 @7176 has 189 MA's), (12, 7188), (27, 7311), (28, 7326), (36, 7386), (38, 7398), (39, 7404), (42, 7425), (49, 7485),

Gene: Agente005\_12 Start: 7463, Stop: 7804, Start Num: 8

Candidate Starts for Agente005\_12:

(Start: 8 @7463 has 189 MA's), (12, 7475), (28, 7613), (39, 7691), (40, 7697), (42, 7712), (48, 7763), (49, 7772),

Gene: Alakazam\_13 Start: 8135, Stop: 8482, Start Num: 8

Candidate Starts for Alakazam\_13:

(Start: 8 @8135 has 189 MA's), (23, 8246), (25, 8267), (27, 8276), (28, 8291), (39, 8369), (40, 8375), (42, 8390),

Gene: AlexAdler\_11 Start: 6894, Stop: 7235, Start Num: 8

Candidate Starts for AlexAdler\_11:

(Start: 8 @6894 has 189 MA's), (12, 6906), (23, 6999), (27, 7029), (28, 7044), (38, 7116), (39, 7122), (42, 7143), (49, 7203),

Gene: Alyxandracam\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for Alyxandracam\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (49, 7212),

Gene: Andromedas\_10 Start: 6933, Stop: 7280, Start Num: 8

Candidate Starts for Andromedas\_10:

(3, 6795), (Start: 8 @6933 has 189 MA's), (12, 6945), (16, 6987), (20, 7029), (25, 7065), (28, 7089), (36, 7149), (39, 7167), (42, 7188), (44, 7209), (48, 7239),

Gene: Anilorac\_11 Start: 7306, Stop: 7647, Start Num: 8

Candidate Starts for Anilorac\_11:

(Start: 8 @7306 has 189 MA's), (12, 7318), (28, 7456), (39, 7534), (42, 7555), (46, 7591), (49, 7615),

Gene: Antoinette\_11 Start: 6894, Stop: 7235, Start Num: 8

Candidate Starts for Antoinette\_11:

(Start: 8 @6894 has 189 MA's), (12, 6906), (23, 6999), (27, 7029), (28, 7044), (38, 7116), (39, 7122), (42, 7143), (49, 7203),

Gene: AranulaLuti\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for AranulaLuti\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: Asta\_11 Start: 7209, Stop: 7550, Start Num: 8

Candidate Starts for Asta\_11:

(Start: 8 @7209 has 189 MA's), (12, 7221), (23, 7314), (27, 7344), (28, 7359), (38, 7431), (39, 7437), (42, 7458), (46, 7494), (49, 7518),

Gene: Aubergine\_11 Start: 7209, Stop: 7550, Start Num: 8

Candidate Starts for Aubergine\_11:

(Start: 8 @7209 has 189 MA's), (12, 7221), (23, 7314), (27, 7344), (28, 7359), (38, 7431), (39, 7437), (42, 7458), (46, 7494), (49, 7518),

Gene: AxiPup\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for AxiPup\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (49, 7212),

Gene: Baines\_11 Start: 7193, Stop: 7534, Start Num: 8

Candidate Starts for Baines\_11:

(Start: 8 @7193 has 189 MA's), (12, 7205), (23, 7298), (27, 7328), (28, 7343), (38, 7415), (39, 7421), (42, 7442), (49, 7502),

Gene: Balsa\_11 Start: 7311, Stop: 7652, Start Num: 8

Candidate Starts for Balsa\_11:

(Start: 8 @7311 has 189 MA's), (12, 7323), (28, 7461), (39, 7539), (42, 7560), (49, 7620),

Gene: Bandik\_11 Start: 6900, Stop: 7241, Start Num: 8

Candidate Starts for Bandik\_11:

(Start: 8 @6900 has 189 MA's), (12, 6912), (23, 7005), (27, 7035), (28, 7050), (38, 7122), (39, 7128), (42, 7149), (46, 7185), (49, 7209),

Gene: BaronJohn\_12 Start: 7341, Stop: 7685, Start Num: 8

Candidate Starts for BaronJohn\_12:

(Start: 8 @7341 has 189 MA's), (16, 7395), (18, 7419), (20, 7437), (23, 7452), (28, 7497), (39, 7575), (40, 7581), (42, 7596),

Gene: BeautPeep30\_11 Start: 6906, Stop: 7247, Start Num: 8  
Candidate Starts for BeautPeep30\_11:  
(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134),  
(42, 7155), (46, 7191), (49, 7215),

Gene: BeeBee8\_12 Start: 7474, Stop: 7815, Start Num: 8  
Candidate Starts for BeeBee8\_12:  
(Start: 8 @7474 has 189 MA's), (12, 7486), (28, 7624), (39, 7702), (42, 7723), (49, 7783),

Gene: Benjalauren\_11 Start: 7196, Stop: 7537, Start Num: 8  
Candidate Starts for Benjalauren\_11:  
(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424),  
(42, 7445), (46, 7481), (49, 7505),

Gene: BigRedClifford\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for BigRedClifford\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (49, 7212),

Gene: Blage\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for Blage\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (49, 7212),

Gene: BonesMcCoy\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for BonesMcCoy\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (49, 7212),

Gene: Bonino\_11 Start: 7186, Stop: 7527, Start Num: 8  
Candidate Starts for Bonino\_11:  
(Start: 8 @7186 has 189 MA's), (12, 7198), (23, 7291), (27, 7321), (28, 7336), (38, 7408), (39, 7414),  
(42, 7435), (46, 7471), (49, 7495),

Gene: BouleyBill\_11 Start: 7168, Stop: 7509, Start Num: 8  
Candidate Starts for BouleyBill\_11:  
(Start: 8 @7168 has 189 MA's), (12, 7180), (25, 7294), (27, 7303), (28, 7318), (36, 7378), (39, 7396),  
(42, 7417),

Gene: Bustleton\_11 Start: 7156, Stop: 7497, Start Num: 8  
Candidate Starts for Bustleton\_11:  
(Start: 8 @7156 has 189 MA's), (12, 7168), (25, 7282), (27, 7291), (28, 7306), (36, 7366), (39, 7384),  
(42, 7405),

Gene: Byron23\_11 Start: 6909, Stop: 7250, Start Num: 8  
Candidate Starts for Byron23\_11:  
(Start: 8 @6909 has 189 MA's), (12, 6921), (23, 7014), (27, 7044), (28, 7059), (38, 7131), (39, 7137),  
(42, 7158), (46, 7194), (49, 7218),

Gene: Calix\_11 Start: 7186, Stop: 7527, Start Num: 8  
Candidate Starts for Calix\_11:

(Start: 8 @7186 has 189 MA's), (12, 7198), (23, 7291), (27, 7321), (28, 7336), (38, 7408), (39, 7414), (42, 7435), (49, 7495),

Gene: CaptainRex\_12 Start: 7344, Stop: 7688, Start Num: 8

Candidate Starts for CaptainRex\_12:

(Start: 8 @7344 has 189 MA's), (16, 7398), (18, 7422), (20, 7440), (23, 7455), (28, 7500), (39, 7578), (40, 7584), (42, 7599),

Gene: CarisSwetlik\_14 Start: 7667, Stop: 8008, Start Num: 8

Candidate Starts for CarisSwetlik\_14:

(Start: 8 @7667 has 189 MA's), (12, 7679), (28, 7817), (36, 7877), (38, 7889), (39, 7895), (42, 7916), (49, 7976),

Gene: Carostasia\_10 Start: 7109, Stop: 7456, Start Num: 8

Candidate Starts for Carostasia\_10:

(3, 6974), (Start: 8 @7109 has 189 MA's), (12, 7121), (25, 7241), (27, 7250), (28, 7265), (36, 7325), (39, 7343), (42, 7364), (49, 7424),

Gene: Casey\_10 Start: 7200, Stop: 7547, Start Num: 8

Candidate Starts for Casey\_10:

(3, 7065), (Start: 8 @7200 has 189 MA's), (12, 7212), (20, 7296), (25, 7332), (28, 7356), (42, 7455), (52, 7536),

Gene: Chako\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for Chako\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: Chamuel\_11 Start: 7188, Stop: 7529, Start Num: 8

Candidate Starts for Chamuel\_11:

(Start: 8 @7188 has 189 MA's), (12, 7200), (23, 7293), (27, 7323), (28, 7338), (38, 7410), (39, 7416), (42, 7437), (49, 7497),

Gene: Cheeto1\_12 Start: 7074, Stop: 7415, Start Num: 8

Candidate Starts for Cheeto1\_12:

(Start: 8 @7074 has 189 MA's), (12, 7086), (28, 7224), (33, 7251), (36, 7284), (42, 7323), (48, 7374), (49, 7383),

Gene: Chepli\_12 Start: 7337, Stop: 7681, Start Num: 8

Candidate Starts for Chepli\_12:

(Start: 8 @7337 has 189 MA's), (10, 7346), (12, 7352), (25, 7472), (27, 7481), (28, 7496), (39, 7571), (42, 7592), (47, 7631),

Gene: ChickenKing\_11 Start: 6894, Stop: 7235, Start Num: 8

Candidate Starts for ChickenKing\_11:

(Start: 8 @6894 has 189 MA's), (12, 6906), (25, 7020), (28, 7044), (36, 7104), (42, 7143), (48, 7194), (49, 7203),

Gene: ChikPic\_10 Start: 6949, Stop: 7296, Start Num: 8

Candidate Starts for ChikPic\_10:

(3, 6811), (Start: 8 @6949 has 189 MA's), (12, 6961), (16, 7003), (20, 7045), (25, 7081), (28, 7105), (39, 7183), (42, 7204), (44, 7225), (48, 7255),

Gene: Christoph\_11 Start: 7207, Stop: 7548, Start Num: 8  
Candidate Starts for Christoph\_11:  
(Start: 8 @7207 has 189 MA's), (12, 7219), (23, 7312), (27, 7342), (28, 7357), (38, 7429), (39, 7435),  
(42, 7456), (46, 7492), (49, 7516),

Gene: Clancy\_11 Start: 7196, Stop: 7537, Start Num: 8  
Candidate Starts for Clancy\_11:  
(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424),  
(42, 7445), (46, 7481), (49, 7505),

Gene: Clock\_12 Start: 8068, Stop: 8412, Start Num: 8  
Candidate Starts for Clock\_12:  
(Start: 8 @8068 has 189 MA's), (23, 8179), (25, 8200), (27, 8209), (28, 8224), (31, 8242), (36, 8281),  
(39, 8299), (42, 8320),

Gene: ColaCorta\_10 Start: 6933, Stop: 7280, Start Num: 8  
Candidate Starts for ColaCorta\_10:  
(3, 6795), (Start: 8 @6933 has 189 MA's), (12, 6945), (16, 6987), (20, 7029), (25, 7065), (28, 7089),  
(36, 7149), (39, 7167), (42, 7188), (44, 7209), (48, 7239),

Gene: Convict\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for Convict\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (49, 7212),

Gene: CoraRita\_11 Start: 7196, Stop: 7537, Start Num: 8  
Candidate Starts for CoraRita\_11:  
(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424),  
(42, 7445), (46, 7481), (49, 7505),

Gene: Dave\_11 Start: 6894, Stop: 7235, Start Num: 8  
Candidate Starts for Dave\_11:  
(Start: 8 @6894 has 189 MA's), (12, 6906), (23, 6999), (27, 7029), (28, 7044), (38, 7116), (39, 7122),  
(42, 7143), (49, 7203),

Gene: Delphidian\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for Delphidian\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (46, 7188), (49, 7212),

Gene: Den3\_11 Start: 6907, Stop: 7248, Start Num: 8  
Candidate Starts for Den3\_11:  
(Start: 8 @6907 has 189 MA's), (12, 6919), (23, 7012), (27, 7042), (28, 7057), (38, 7129), (39, 7135),  
(42, 7156), (49, 7216),

Gene: Dothraki\_11 Start: 6906, Stop: 7247, Start Num: 8  
Candidate Starts for Dothraki\_11:  
(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134),  
(42, 7155), (46, 7191), (49, 7215),

Gene: Dryad\_20 Start: 11479, Stop: 11826, Start Num: 7  
Candidate Starts for Dryad\_20:

(4, 11368), (5, 11392), (6, 11470), (Start: 7 @11479 has 10 MA's), (19, 11566), (24, 11599), (37, 11692),

Gene: Dubu\_10 Start: 7230, Stop: 7601, Start Num: 7

Candidate Starts for Dubu\_10:

(Start: 7 @7230 has 10 MA's), (16, 7293), (27, 7368), (32, 7407), (39, 7476), (42, 7497), (43, 7515), (50, 7560),

Gene: Duocatuli\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for Duocatuli\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: Eleri\_10 Start: 6946, Stop: 7293, Start Num: 8

Candidate Starts for Eleri\_10:

(3, 6808), (Start: 8 @6946 has 189 MA's), (12, 6958), (16, 7000), (20, 7042), (25, 7078), (28, 7102), (39, 7180), (42, 7201), (44, 7222), (48, 7252),

Gene: Endor\_12 Start: 7472, Stop: 7813, Start Num: 8

Candidate Starts for Endor\_12:

(Start: 8 @7472 has 189 MA's), (12, 7484), (28, 7622), (36, 7682), (39, 7700), (42, 7721), (49, 7781),

Gene: Erla\_11 Start: 7186, Stop: 7527, Start Num: 8

Candidate Starts for Erla\_11:

(Start: 8 @7186 has 189 MA's), (12, 7198), (23, 7291), (27, 7321), (28, 7336), (38, 7408), (39, 7414), (42, 7435), (49, 7495),

Gene: Espinosa\_11 Start: 7207, Stop: 7548, Start Num: 8

Candidate Starts for Espinosa\_11:

(Start: 8 @7207 has 189 MA's), (12, 7219), (23, 7312), (27, 7342), (28, 7357), (38, 7429), (39, 7435), (42, 7456), (46, 7492), (49, 7516),

Gene: Etna\_11 Start: 7302, Stop: 7643, Start Num: 8

Candidate Starts for Etna\_11:

(Start: 8 @7302 has 189 MA's), (12, 7314), (28, 7452), (39, 7530), (42, 7551), (49, 7611),

Gene: Etta\_11 Start: 7190, Stop: 7531, Start Num: 8

Candidate Starts for Etta\_11:

(Start: 8 @7190 has 189 MA's), (12, 7202), (23, 7295), (27, 7325), (28, 7340), (38, 7412), (39, 7418), (42, 7439), (49, 7499),

Gene: Exploradora\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for Exploradora\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: FarmerDoug\_11 Start: 7031, Stop: 7372, Start Num: 8

Candidate Starts for FarmerDoug\_11:

(Start: 8 @7031 has 189 MA's), (12, 7043), (27, 7166), (28, 7181), (39, 7259), (42, 7280), (49, 7340),

Gene: Figueroism\_11 Start: 6894, Stop: 7235, Start Num: 8

Candidate Starts for Figueroism\_11:

(Start: 8 @6894 has 189 MA's), (12, 6906), (23, 6999), (27, 7029), (28, 7044), (29, 7047), (38, 7116), (39, 7122), (42, 7143), (49, 7203),

Gene: Finny\_10 Start: 6933, Stop: 7280, Start Num: 8

Candidate Starts for Finny\_10:

(3, 6795), (Start: 8 @6933 has 189 MA's), (12, 6945), (16, 6987), (20, 7029), (25, 7065), (28, 7089), (39, 7167), (42, 7188), (44, 7209), (48, 7239),

Gene: Fulton\_12 Start: 7326, Stop: 7670, Start Num: 8

Candidate Starts for Fulton\_12:

(Start: 8 @7326 has 189 MA's), (16, 7380), (18, 7404), (20, 7422), (23, 7437), (28, 7482), (39, 7560), (40, 7566), (42, 7581),

Gene: GaeCeo\_12 Start: 7064, Stop: 7405, Start Num: 8

Candidate Starts for GaeCeo\_12:

(Start: 8 @7064 has 189 MA's), (12, 7076), (28, 7214), (36, 7274), (42, 7313), (48, 7364), (49, 7373),

Gene: GardenB\_11 Start: 7305, Stop: 7646, Start Num: 8

Candidate Starts for GardenB\_11:

(Start: 8 @7305 has 189 MA's), (12, 7317), (28, 7455), (39, 7533), (42, 7554), (49, 7614),

Gene: Garey24\_11 Start: 7192, Stop: 7533, Start Num: 8

Candidate Starts for Garey24\_11:

(Start: 8 @7192 has 189 MA's), (12, 7204), (23, 7297), (27, 7327), (28, 7342), (38, 7414), (39, 7420), (42, 7441), (46, 7477), (48, 7492), (49, 7501),

Gene: Gargoyle\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for Gargoyle\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: Gelo\_11 Start: 7190, Stop: 7531, Start Num: 8

Candidate Starts for Gelo\_11:

(Start: 8 @7190 has 189 MA's), (12, 7202), (23, 7295), (27, 7325), (28, 7340), (38, 7412), (39, 7418), (42, 7439), (49, 7499),

Gene: Gershwin\_11 Start: 7209, Stop: 7550, Start Num: 8

Candidate Starts for Gershwin\_11:

(Start: 8 @7209 has 189 MA's), (12, 7221), (23, 7314), (27, 7344), (28, 7359), (38, 7431), (39, 7437), (42, 7458), (46, 7494), (49, 7518),

Gene: Gibson\_18 Start: 11037, Stop: 11384, Start Num: 7

Candidate Starts for Gibson\_18:

(2, 10878), (5, 10953), (Start: 7 @11037 has 10 MA's), (17, 11109), (24, 11157), (26, 11169), (27, 11175), (37, 11250),

Gene: Glamour\_9 Start: 6934, Stop: 7281, Start Num: 8

Candidate Starts for Glamour\_9:

(3, 6796), (Start: 8 @6934 has 189 MA's), (12, 6946), (16, 6988), (20, 7030), (25, 7066), (28, 7090), (39, 7168), (42, 7189), (44, 7210), (48, 7240),

Gene: GoingMerry\_11 Start: 6916, Stop: 7257, Start Num: 8

Candidate Starts for GoingMerry\_11:

(Start: 8 @6916 has 189 MA's), (12, 6928), (23, 7021), (27, 7051), (28, 7066), (38, 7138), (39, 7144), (42, 7165), (49, 7225),

Gene: Golden\_11 Start: 7248, Stop: 7589, Start Num: 8

Candidate Starts for Golden\_11:

(Start: 8 @7248 has 189 MA's), (12, 7260), (23, 7353), (25, 7374), (27, 7383), (28, 7398), (39, 7476), (42, 7497),

Gene: GoneGirl\_12 Start: 7411, Stop: 7752, Start Num: 8

Candidate Starts for GoneGirl\_12:

(Start: 8 @7411 has 189 MA's), (12, 7423), (28, 7561), (39, 7639), (42, 7660), (49, 7720),

Gene: Greenlvy\_12 Start: 7343, Stop: 7687, Start Num: 8

Candidate Starts for Greenlvy\_12:

(Start: 8 @7343 has 189 MA's), (16, 7397), (18, 7421), (20, 7439), (23, 7454), (28, 7499), (39, 7577), (40, 7583), (42, 7598),

Gene: Greenbelt\_18 Start: 10906, Stop: 11253, Start Num: 7

Candidate Starts for Greenbelt\_18:

(1, 10594), (Start: 7 @10906 has 10 MA's), (23, 11017), (24, 11026), (26, 11038), (27, 11044), (37, 11119), (39, 11137), (54, 11242),

Gene: Greys\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for Greys\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (49, 7212),

Gene: Gubbabump\_11 Start: 7198, Stop: 7539, Start Num: 8

Candidate Starts for Gubbabump\_11:

(Start: 8 @7198 has 189 MA's), (12, 7210), (23, 7303), (27, 7333), (28, 7348), (38, 7420), (39, 7426), (42, 7447), (46, 7483), (49, 7507),

Gene: Guetzie\_11 Start: 7242, Stop: 7583, Start Num: 8

Candidate Starts for Guetzie\_11:

(Start: 8 @7242 has 189 MA's), (12, 7254), (23, 7347), (25, 7368), (27, 7377), (28, 7392), (39, 7470), (42, 7491),

Gene: HairyMan\_9 Start: 6690, Stop: 7037, Start Num: 8

Candidate Starts for HairyMan\_9:

(Start: 8 @6690 has 189 MA's), (12, 6702), (13, 6711), (16, 6744), (21, 6792), (23, 6801), (27, 6831), (28, 6846), (36, 6906), (38, 6918), (39, 6924), (52, 7026),

Gene: Hamlet\_11 Start: 7311, Stop: 7652, Start Num: 8

Candidate Starts for Hamlet\_11:

(Start: 8 @7311 has 189 MA's), (12, 7323), (28, 7461), (39, 7539), (42, 7560), (49, 7620),

Gene: HanSolo\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for HanSolo\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: HankSprout\_12 Start: 7076, Stop: 7417, Start Num: 8

Candidate Starts for HankSprout\_12:

(Start: 8 @7076 has 189 MA's), (12, 7088), (23, 7181), (27, 7211), (28, 7226), (38, 7298), (39, 7304), (42, 7325), (46, 7361), (49, 7385),

Gene: Hasitha\_12 Start: 7344, Stop: 7688, Start Num: 8

Candidate Starts for Hasitha\_12:

(Start: 8 @7344 has 189 MA's), (16, 7398), (18, 7422), (20, 7440), (23, 7455), (28, 7500), (39, 7578), (40, 7584), (42, 7599),

Gene: HavenFinLeoSun\_12 Start: 7153, Stop: 7494, Start Num: 8

Candidate Starts for HavenFinLeoSun\_12:

(Start: 8 @7153 has 189 MA's), (12, 7165), (28, 7303), (36, 7363), (38, 7375), (39, 7381), (42, 7402), (49, 7462),

Gene: HerculesXL\_12 Start: 7445, Stop: 7789, Start Num: 8

Candidate Starts for HerculesXL\_12:

(Start: 8 @7445 has 189 MA's), (16, 7499), (25, 7577), (28, 7601), (39, 7679), (42, 7700),

Gene: HungryHenry\_11 Start: 7197, Stop: 7538, Start Num: 8

Candidate Starts for HungryHenry\_11:

(Start: 8 @7197 has 189 MA's), (12, 7209), (23, 7302), (27, 7332), (28, 7347), (38, 7419), (39, 7425), (42, 7446), (46, 7482), (49, 7506),

Gene: Ilzat\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for Ilzat\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: Inventa\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for Inventa\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: loannes\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for loannes\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (49, 7212),

Gene: Ixel\_11 Start: 6998, Stop: 7345, Start Num: 8

Candidate Starts for Ixel\_11:

(Start: 8 @6998 has 189 MA's), (14, 7034), (25, 7130), (28, 7154), (34, 7196), (39, 7232), (41, 7250), (42, 7253),

Gene: Janus167\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for Janus167\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: JasonD\_13 Start: 7337, Stop: 7678, Start Num: 8

Candidate Starts for JasonD\_13:

(Start: 8 @7337 has 189 MA's), (12, 7349), (21, 7433), (28, 7487), (36, 7547), (38, 7559), (39, 7565), (42, 7586), (49, 7646),

Gene: JasperRussell\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for JasperRussell\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: Jemerald\_12 Start: 8307, Stop: 8651, Start Num: 9

Candidate Starts for Jemerald\_12:

(Start: 9 @8307 has 2 MA's), (10, 8316), (12, 8322), (19, 8397), (21, 8412), (25, 8442), (28, 8466), (39, 8541), (40, 8547), (42, 8562), (51, 8625),

Gene: Jenos\_13 Start: 7658, Stop: 7999, Start Num: 8

Candidate Starts for Jenos\_13:

(Start: 8 @7658 has 189 MA's), (12, 7670), (28, 7808), (36, 7868), (38, 7880), (39, 7886), (42, 7907), (49, 7967),

Gene: Jerbirus\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for Jerbirus\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: JeriBeth\_11 Start: 7043, Stop: 7384, Start Num: 8

Candidate Starts for JeriBeth\_11:

(Start: 8 @7043 has 189 MA's), (12, 7055), (23, 7148), (27, 7178), (28, 7193), (38, 7265), (39, 7271), (42, 7292), (46, 7328), (49, 7352),

Gene: Jingles\_11 Start: 7170, Stop: 7511, Start Num: 8

Candidate Starts for Jingles\_11:

(Start: 8 @7170 has 189 MA's), (12, 7182), (25, 7296), (27, 7305), (28, 7320), (36, 7380), (39, 7398), (42, 7419),

Gene: Juanyo\_10 Start: 7071, Stop: 7418, Start Num: 8

Candidate Starts for Juanyo\_10:

(Start: 8 @7071 has 189 MA's), (12, 7083), (23, 7182), (25, 7203), (27, 7212), (28, 7227), (36, 7287), (39, 7305), (40, 7311), (42, 7326), (49, 7386),

Gene: Juicer\_12 Start: 8307, Stop: 8651, Start Num: 9

Candidate Starts for Juicer\_12:

(Start: 9 @8307 has 2 MA's), (10, 8316), (12, 8322), (19, 8397), (21, 8412), (25, 8442), (28, 8466), (39, 8541), (40, 8547), (42, 8562), (51, 8625),

Gene: Kale\_11 Start: 7211, Stop: 7552, Start Num: 8

Candidate Starts for Kale\_11:

(Start: 8 @7211 has 189 MA's), (12, 7223), (23, 7316), (27, 7346), (28, 7361), (38, 7433), (39, 7439), (42, 7460), (46, 7496), (49, 7520),

Gene: KannH\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for KannH\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: KatChan\_12 Start: 7343, Stop: 7687, Start Num: 8

Candidate Starts for KatChan\_12:

(Start: 8 @7343 has 189 MA's), (10, 7352), (12, 7358), (25, 7478), (27, 7487), (28, 7502), (39, 7577), (42, 7598), (47, 7637),

Gene: Kauala\_11 Start: 7164, Stop: 7505, Start Num: 8

Candidate Starts for Kauala\_11:

(Start: 8 @7164 has 189 MA's), (12, 7176), (19, 7245), (23, 7269), (25, 7290), (27, 7299), (28, 7314), (36, 7374), (39, 7392), (42, 7413), (44, 7434),

Gene: Kavo\_11 Start: 7277, Stop: 7621, Start Num: 8

Candidate Starts for Kavo\_11:

(Start: 8 @7277 has 189 MA's), (16, 7331), (25, 7409), (28, 7433), (39, 7511), (42, 7532),

Gene: KellyGreen\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for KellyGreen\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: KingJulien\_11 Start: 7302, Stop: 7643, Start Num: 8

Candidate Starts for KingJulien\_11:

(Start: 8 @7302 has 189 MA's), (12, 7314), (28, 7452), (39, 7530), (42, 7551), (49, 7611),

Gene: Klimt\_11 Start: 7188, Stop: 7529, Start Num: 8

Candidate Starts for Klimt\_11:

(Start: 8 @7188 has 189 MA's), (12, 7200), (23, 7293), (27, 7323), (28, 7338), (38, 7410), (39, 7416), (42, 7437), (49, 7497),

Gene: Knox\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for Knox\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (49, 7212),

Gene: Koji\_11 Start: 7289, Stop: 7630, Start Num: 8

Candidate Starts for Koji\_11:

(Start: 8 @7289 has 189 MA's), (12, 7301), (25, 7415), (27, 7424), (28, 7439), (36, 7499), (39, 7517), (42, 7538),

Gene: Kouch\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for Kouch\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: Kurt1\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for Kurt1\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: Leafus\_11 Start: 7449, Stop: 7790, Start Num: 8

Candidate Starts for Leafus\_11:

(Start: 8 @7449 has 189 MA's), (12, 7461), (28, 7599), (39, 7677), (42, 7698), (49, 7758),

Gene: Librie\_12 Start: 7344, Stop: 7688, Start Num: 8

Candidate Starts for Librie\_12:

(Start: 8 @7344 has 189 MA's), (16, 7398), (18, 7422), (20, 7440), (23, 7455), (28, 7500), (39, 7578), (40, 7584), (42, 7599),

Gene: LilTerminator\_12 Start: 7350, Stop: 7694, Start Num: 8  
Candidate Starts for LilTerminator\_12:  
(Start: 8 @7350 has 189 MA's), (16, 7404), (18, 7428), (20, 7446), (23, 7461), (28, 7506), (39, 7584),  
(40, 7590), (42, 7605),

Gene: Lizz\_18 Start: 10953, Stop: 11300, Start Num: 7  
Candidate Starts for Lizz\_18:  
(2, 10794), (5, 10869), (Start: 7 @10953 has 10 MA's), (17, 11025), (24, 11073), (26, 11085), (27,  
11091), (37, 11166),

Gene: Lovelyunicorn\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for Lovelyunicorn\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (49, 7212),

Gene: Lucky3\_11 Start: 7248, Stop: 7589, Start Num: 8  
Candidate Starts for Lucky3\_11:  
(Start: 8 @7248 has 189 MA's), (12, 7260), (23, 7353), (25, 7374), (27, 7383), (28, 7398), (39, 7476),  
(42, 7497),

Gene: Ludgate\_11 Start: 6900, Stop: 7241, Start Num: 8  
Candidate Starts for Ludgate\_11:  
(Start: 8 @6900 has 189 MA's), (12, 6912), (23, 7005), (27, 7035), (28, 7050), (38, 7122), (39, 7128),  
(42, 7149), (46, 7185), (49, 7209),

Gene: Luna18\_12 Start: 7343, Stop: 7687, Start Num: 8  
Candidate Starts for Luna18\_12:  
(Start: 8 @7343 has 189 MA's), (10, 7352), (12, 7358), (25, 7478), (27, 7487), (28, 7502), (39, 7577),  
(42, 7598), (47, 7637),

Gene: MCubed\_10 Start: 6958, Stop: 7305, Start Num: 8  
Candidate Starts for MCubed\_10:  
(3, 6820), (Start: 8 @6958 has 189 MA's), (12, 6970), (16, 7012), (20, 7054), (25, 7090), (28, 7114),  
(39, 7192), (42, 7213), (44, 7234), (48, 7264),

Gene: MaeLinda\_11 Start: 6906, Stop: 7247, Start Num: 8  
Candidate Starts for MaeLinda\_11:  
(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134),  
(42, 7155), (49, 7215),

Gene: ManRay\_11 Start: 7209, Stop: 7550, Start Num: 8  
Candidate Starts for ManRay\_11:  
(Start: 8 @7209 has 189 MA's), (12, 7221), (23, 7314), (27, 7344), (28, 7359), (38, 7431), (39, 7437),  
(42, 7458), (46, 7494), (49, 7518),

Gene: Mandalorian\_10 Start: 7108, Stop: 7455, Start Num: 8  
Candidate Starts for Mandalorian\_10:  
(Start: 8 @7108 has 189 MA's), (12, 7120), (25, 7240), (27, 7249), (28, 7264), (36, 7324), (39, 7342),  
(42, 7363), (49, 7423),

Gene: Martin\_12 Start: 6906, Stop: 7247, Start Num: 8  
Candidate Starts for Martin\_12:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: McGalleon\_12 Start: 7777, Stop: 8118, Start Num: 8

Candidate Starts for McGalleon\_12:

(Start: 8 @7777 has 189 MA's), (12, 7789), (28, 7927), (36, 7987), (38, 7999), (39, 8005), (42, 8026), (48, 8077), (49, 8086),

Gene: Mercedes\_11 Start: 7099, Stop: 7443, Start Num: 8

Candidate Starts for Mercedes\_11:

(Start: 8 @7099 has 189 MA's), (10, 7105), (14, 7135), (16, 7153), (18, 7177), (20, 7195), (23, 7210), (28, 7255), (39, 7333), (40, 7339), (42, 7354),

Gene: Merida02\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for Merida02\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (46, 7188), (49, 7212),

Gene: MillyPhilly\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for MillyPhilly\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (46, 7188), (49, 7212),

Gene: MiniVolent\_10 Start: 7057, Stop: 7404, Start Num: 8

Candidate Starts for MiniVolent\_10:

(Start: 8 @7057 has 189 MA's), (12, 7069), (23, 7168), (25, 7189), (27, 7198), (36, 7273), (39, 7291), (40, 7297), (42, 7312), (49, 7372),

Gene: MonChoix\_10 Start: 6976, Stop: 7317, Start Num: 8

Candidate Starts for MonChoix\_10:

(Start: 8 @6976 has 189 MA's), (12, 6988), (23, 7081), (27, 7111), (28, 7126), (39, 7204), (49, 7285),

Gene: Morrigan\_12 Start: 8241, Stop: 8588, Start Num: 8

Candidate Starts for Morrigan\_12:

(Start: 8 @8241 has 189 MA's), (10, 8253), (12, 8259), (15, 8286), (27, 8388), (28, 8403), (39, 8478), (42, 8499),

Gene: MrWorldwide\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for MrWorldwide\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: Nagem\_11 Start: 6900, Stop: 7241, Start Num: 8

Candidate Starts for Nagem\_11:

(Start: 8 @6900 has 189 MA's), (12, 6912), (23, 7005), (27, 7035), (28, 7050), (38, 7122), (39, 7128), (42, 7149), (46, 7185), (49, 7209),

Gene: Nattles\_11 Start: 7192, Stop: 7533, Start Num: 8

Candidate Starts for Nattles\_11:

(Start: 8 @7192 has 189 MA's), (12, 7204), (23, 7297), (27, 7327), (28, 7342), (38, 7414), (39, 7420), (42, 7441), (49, 7501),

Gene: Nebulous\_12 Start: 8077, Stop: 8421, Start Num: 8

Candidate Starts for Nebulous\_12:

(Start: 8 @8077 has 189 MA's), (23, 8188), (25, 8209), (27, 8218), (28, 8233), (31, 8251), (36, 8290), (39, 8308), (42, 8329),

Gene: Neferthema\_12 Start: 8088, Stop: 8432, Start Num: 8

Candidate Starts for Neferthema\_12:

(Start: 8 @8088 has 189 MA's), (23, 8199), (27, 8229), (28, 8244), (39, 8319), (40, 8325), (42, 8340),

Gene: NickSell\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for NickSell\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: Nucci\_10 Start: 7096, Stop: 7443, Start Num: 8

Candidate Starts for Nucci\_10:

(Start: 8 @7096 has 189 MA's), (12, 7108), (25, 7228), (27, 7237), (28, 7252), (36, 7312), (39, 7330), (42, 7351), (49, 7411),

Gene: Oats\_11 Start: 7209, Stop: 7550, Start Num: 8

Candidate Starts for Oats\_11:

(Start: 8 @7209 has 189 MA's), (12, 7221), (23, 7314), (27, 7344), (28, 7359), (38, 7431), (39, 7437), (42, 7458), (46, 7494), (49, 7518),

Gene: OldNelly\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for OldNelly\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: Oxtober96\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for Oxtober96\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (49, 7212),

Gene: PHTowN\_18 Start: 10953, Stop: 11300, Start Num: 7

Candidate Starts for PHTowN\_18:

(2, 10794), (5, 10869), (Start: 7 @10953 has 10 MA's), (17, 11025), (24, 11073), (26, 11085), (27, 11091), (37, 11166),

Gene: PSirce\_10 Start: 6945, Stop: 7292, Start Num: 8

Candidate Starts for PSirce\_10:

(3, 6807), (Start: 8 @6945 has 189 MA's), (12, 6957), (16, 6999), (20, 7041), (25, 7077), (28, 7101), (39, 7179), (42, 7200), (44, 7221), (48, 7251),

Gene: Pajaza\_10 Start: 7200, Stop: 7547, Start Num: 8

Candidate Starts for Pajaza\_10:

(3, 7065), (Start: 8 @7200 has 189 MA's), (12, 7212), (20, 7296), (25, 7332), (28, 7356), (42, 7455), (52, 7536),

Gene: Papafritta\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for Papafritta\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: ParleG\_11 Start: 6906, Stop: 7247, Start Num: 8  
Candidate Starts for ParleG\_11:  
(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134),  
(42, 7155), (46, 7191), (49, 7215),

Gene: Peep\_11 Start: 6894, Stop: 7235, Start Num: 8  
Candidate Starts for Peep\_11:  
(Start: 8 @6894 has 189 MA's), (12, 6906), (23, 6999), (27, 7029), (28, 7044), (38, 7116), (39, 7122),  
(42, 7143), (49, 7203),

Gene: Penta\_11 Start: 7274, Stop: 7618, Start Num: 8  
Candidate Starts for Penta\_11:  
(Start: 8 @7274 has 189 MA's), (16, 7328), (20, 7370), (25, 7406), (28, 7430), (39, 7508), (42, 7529),

Gene: Peppino\_11 Start: 7302, Stop: 7643, Start Num: 8  
Candidate Starts for Peppino\_11:  
(Start: 8 @7302 has 189 MA's), (12, 7314), (28, 7452), (39, 7530), (42, 7551), (49, 7611),

Gene: Phanita\_10 Start: 6933, Stop: 7280, Start Num: 8  
Candidate Starts for Phanita\_10:  
(3, 6795), (Start: 8 @6933 has 189 MA's), (12, 6945), (16, 6987), (20, 7029), (25, 7065), (28, 7089),  
(39, 7167), (42, 7188), (44, 7209), (48, 7239),

Gene: Pherbot\_11 Start: 7155, Stop: 7496, Start Num: 8  
Candidate Starts for Pherbot\_11:  
(Start: 8 @7155 has 189 MA's), (12, 7167), (25, 7281), (27, 7290), (28, 7305), (36, 7365), (39, 7383),  
(42, 7404),

Gene: Pherferi\_11 Start: 6906, Stop: 7247, Start Num: 8  
Candidate Starts for Pherferi\_11:  
(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134),  
(42, 7155), (46, 7191), (49, 7215),

Gene: Phiderman\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for Phiderman\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (46, 7188), (49, 7212),

Gene: PhillyPhantom\_11 Start: 7311, Stop: 7652, Start Num: 8  
Candidate Starts for PhillyPhantom\_11:  
(Start: 8 @7311 has 189 MA's), (12, 7323), (28, 7461), (39, 7539), (42, 7560), (49, 7620),

Gene: Phireproof\_11 Start: 6906, Stop: 7247, Start Num: 8  
Candidate Starts for Phireproof\_11:  
(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134),  
(42, 7155), (46, 7191), (49, 7215),

Gene: PhredFlintston\_11 Start: 6906, Stop: 7247, Start Num: 8  
Candidate Starts for PhredFlintston\_11:  
(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134),  
(42, 7155), (46, 7191), (49, 7215),

Gene: Phriends\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for Friends\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: Pikmin\_10 Start: 7200, Stop: 7547, Start Num: 8

Candidate Starts for Pikmin\_10:

(3, 7065), (Start: 8 @7200 has 189 MA's), (12, 7212), (20, 7296), (25, 7332), (28, 7356), (42, 7455), (52, 7536),

Gene: Pocket\_11 Start: 7194, Stop: 7535, Start Num: 8

Candidate Starts for Pocket\_11:

(Start: 8 @7194 has 189 MA's), (12, 7206), (23, 7299), (27, 7329), (28, 7344), (38, 7416), (39, 7422), (42, 7443), (46, 7479), (49, 7503),

Gene: PrincePhergus\_11 Start: 7159, Stop: 7500, Start Num: 8

Candidate Starts for PrincePhergus\_11:

(Start: 8 @7159 has 189 MA's), (12, 7171), (25, 7285), (27, 7294), (28, 7309), (36, 7369), (39, 7387), (42, 7408), (49, 7468), (52, 7489),

Gene: PuppyEggo\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for PuppyEggo\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (49, 7212),

Gene: QuadZero\_12 Start: 7356, Stop: 7700, Start Num: 8

Candidate Starts for QuadZero\_12:

(Start: 8 @7356 has 189 MA's), (16, 7410), (18, 7434), (20, 7452), (23, 7467), (28, 7512), (39, 7590), (40, 7596), (42, 7611),

Gene: Quartz\_10 Start: 7109, Stop: 7456, Start Num: 8

Candidate Starts for Quartz\_10:

(3, 6974), (Start: 8 @7109 has 189 MA's), (12, 7121), (25, 7241), (27, 7250), (28, 7265), (36, 7325), (39, 7343), (42, 7364), (49, 7424),

Gene: Raccoon\_11 Start: 7308, Stop: 7649, Start Num: 8

Candidate Starts for Raccoon\_11:

(Start: 8 @7308 has 189 MA's), (12, 7320), (28, 7458), (39, 7536), (42, 7557), (49, 7617),

Gene: Rapheph\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for Rapheph\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: Raptor\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for Raptor\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (49, 7212),

Gene: Redfield\_11 Start: 7310, Stop: 7651, Start Num: 8

Candidate Starts for Redfield\_11:

(Start: 8 @7310 has 189 MA's), (12, 7322), (28, 7460), (39, 7538), (42, 7559), (49, 7619),

Gene: RenegadeRaider\_11 Start: 7158, Stop: 7499, Start Num: 8

Candidate Starts for RenegadeRaider\_11:

(Start: 8 @7158 has 189 MA's), (12, 7170), (25, 7284), (27, 7293), (28, 7308), (36, 7368), (39, 7386), (42, 7407),

Gene: Renzie\_11 Start: 6894, Stop: 7235, Start Num: 8

Candidate Starts for Renzie\_11:

(Start: 8 @6894 has 189 MA's), (12, 6906), (23, 6999), (27, 7029), (28, 7044), (38, 7116), (39, 7122), (42, 7143), (49, 7203),

Gene: Riyhil\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for Riyhil\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: Robinson\_11 Start: 6897, Stop: 7238, Start Num: 8

Candidate Starts for Robinson\_11:

(Start: 8 @6897 has 189 MA's), (12, 6909), (23, 7002), (27, 7032), (28, 7047), (38, 7119), (39, 7125), (42, 7146), (49, 7206),

Gene: Rog141\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for Rog141\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: Rooney\_18 Start: 11034, Stop: 11381, Start Num: 7

Candidate Starts for Rooney\_18:

(2, 10875), (5, 10950), (Start: 7 @11034 has 10 MA's), (17, 11106), (24, 11154), (26, 11166), (27, 11172), (37, 11247),

Gene: RosieMae\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for RosieMae\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: SJay\_11 Start: 6901, Stop: 7242, Start Num: 8

Candidate Starts for SJay\_11:

(Start: 8 @6901 has 189 MA's), (12, 6913), (23, 7006), (27, 7036), (28, 7051), (38, 7123), (39, 7129), (42, 7150), (46, 7186), (49, 7210),

Gene: Sansa\_9 Start: 6954, Stop: 7301, Start Num: 8

Candidate Starts for Sansa\_9:

(3, 6816), (Start: 8 @6954 has 189 MA's), (12, 6966), (16, 7008), (20, 7050), (25, 7086), (28, 7110), (36, 7170), (39, 7188), (42, 7209), (44, 7230), (48, 7260),

Gene: Saratos\_10 Start: 6934, Stop: 7281, Start Num: 8

Candidate Starts for Saratos\_10:

(3, 6796), (Start: 8 @6934 has 189 MA's), (12, 6946), (16, 6988), (20, 7030), (25, 7066), (28, 7090), (39, 7168), (42, 7189), (44, 7210), (48, 7240),

Gene: SassyC\_19 Start: 10744, Stop: 11091, Start Num: 7

Candidate Starts for SassyC\_19:

(Start: 7 @10744 has 10 MA's), (16, 10807), (19, 10831), (22, 10852), (24, 10864), (37, 10957), (39, 10975), (54, 11080),

Gene: Schimmels22\_12 Start: 7804, Stop: 8148, Start Num: 8  
Candidate Starts for Schimmels22\_12:  
(Start: 8 @7804 has 189 MA's), (16, 7858), (20, 7900), (25, 7936), (28, 7960), (39, 8038), (42, 8059),

Gene: Schnapsidee\_11 Start: 7301, Stop: 7642, Start Num: 8  
Candidate Starts for Schnapsidee\_11:  
(Start: 8 @7301 has 189 MA's), (12, 7313), (28, 7451), (39, 7529), (42, 7550), (49, 7610),

Gene: Schubert\_11 Start: 7352, Stop: 7693, Start Num: 8  
Candidate Starts for Schubert\_11:  
(Start: 8 @7352 has 189 MA's), (12, 7364), (20, 7442), (23, 7457), (27, 7487), (28, 7502), (36, 7562),  
(42, 7601),

Gene: Scissor2024\_12 Start: 7442, Stop: 7786, Start Num: 8  
Candidate Starts for Scissor2024\_12:  
(Start: 8 @7442 has 189 MA's), (16, 7496), (25, 7574), (28, 7598), (39, 7676), (42, 7697),

Gene: Sedgewig\_11 Start: 7196, Stop: 7537, Start Num: 8  
Candidate Starts for Sedgewig\_11:  
(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424),  
(42, 7445), (46, 7481), (49, 7505),

Gene: ShaiHulud\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for ShaiHulud\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (49, 7212),

Gene: ShakeNBake\_18 Start: 10953, Stop: 11300, Start Num: 7  
Candidate Starts for ShakeNBake\_18:  
(2, 10794), (5, 10869), (Start: 7 @10953 has 10 MA's), (17, 11025), (24, 11073), (26, 11085), (27,  
11091), (37, 11166),

Gene: Shamu\_10 Start: 6946, Stop: 7293, Start Num: 8  
Candidate Starts for Shamu\_10:  
(3, 6808), (Start: 8 @6946 has 189 MA's), (12, 6958), (16, 7000), (20, 7042), (25, 7078), (28, 7102),  
(39, 7180), (42, 7201), (44, 7222), (48, 7252),

Gene: Shee\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for Shee\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (46, 7188), (49, 7212),

Gene: Sinatra\_11 Start: 7156, Stop: 7497, Start Num: 8  
Candidate Starts for Sinatra\_11:  
(Start: 8 @7156 has 189 MA's), (12, 7168), (25, 7282), (27, 7291), (28, 7306), (36, 7366), (39, 7384),  
(42, 7405), (49, 7465),

Gene: SirVictor\_11 Start: 7242, Stop: 7583, Start Num: 8  
Candidate Starts for SirVictor\_11:  
(Start: 8 @7242 has 189 MA's), (12, 7254), (23, 7347), (25, 7368), (27, 7377), (28, 7392), (39, 7470),  
(42, 7491),

Gene: SoilGremlin\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for SoilGremlin\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (46, 7188), (49, 7212),

Gene: SolidSnake\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for SolidSnake\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: SonOfLevi\_11 Start: 7188, Stop: 7529, Start Num: 8

Candidate Starts for SonOfLevi\_11:

(Start: 8 @7188 has 189 MA's), (12, 7200), (23, 7293), (27, 7323), (28, 7338), (38, 7410), (39, 7416), (42, 7437), (49, 7497),

Gene: Soror1\_11 Start: 7311, Stop: 7652, Start Num: 8

Candidate Starts for Soror1\_11:

(Start: 8 @7311 has 189 MA's), (12, 7323), (28, 7461), (39, 7539), (42, 7560), (49, 7620),

Gene: Stanktossa\_11 Start: 6906, Stop: 7247, Start Num: 8

Candidate Starts for Stanktossa\_11:

(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134), (42, 7155), (46, 7191), (49, 7215),

Gene: StingRay\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for StingRay\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: StirfryIV\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for StirfryIV\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: Stormbreaker8\_11 Start: 7302, Stop: 7643, Start Num: 8

Candidate Starts for Stormbreaker8\_11:

(Start: 8 @7302 has 189 MA's), (12, 7314), (28, 7452), (39, 7530), (42, 7551), (49, 7611),

Gene: Strathdee\_11 Start: 6904, Stop: 7245, Start Num: 8

Candidate Starts for Strathdee\_11:

(Start: 8 @6904 has 189 MA's), (12, 6916), (23, 7009), (27, 7039), (28, 7054), (38, 7126), (39, 7132), (42, 7153), (49, 7213),

Gene: Superfresh\_11 Start: 6894, Stop: 7235, Start Num: 8

Candidate Starts for Superfresh\_11:

(Start: 8 @6894 has 189 MA's), (12, 6906), (23, 6999), (27, 7029), (28, 7044), (38, 7116), (39, 7122), (42, 7143), (49, 7203),

Gene: Symere\_11 Start: 7196, Stop: 7537, Start Num: 8

Candidate Starts for Symere\_11:

(Start: 8 @7196 has 189 MA's), (12, 7208), (23, 7301), (27, 7331), (28, 7346), (38, 7418), (39, 7424), (42, 7445), (46, 7481), (49, 7505),

Gene: TatarkaPM\_11 Start: 6906, Stop: 7247, Start Num: 8  
Candidate Starts for TatarkaPM\_11:  
(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134),  
(42, 7155), (46, 7191), (49, 7215),

Gene: Teagan\_11 Start: 6900, Stop: 7241, Start Num: 8  
Candidate Starts for Teagan\_11:  
(Start: 8 @6900 has 189 MA's), (12, 6912), (23, 7005), (27, 7035), (28, 7050), (38, 7122), (39, 7128),  
(42, 7149), (46, 7185), (49, 7209),

Gene: TeddyBear\_11 Start: 7209, Stop: 7550, Start Num: 8  
Candidate Starts for TeddyBear\_11:  
(Start: 8 @7209 has 189 MA's), (12, 7221), (23, 7314), (27, 7344), (28, 7359), (38, 7431), (39, 7437),  
(42, 7458), (46, 7494), (49, 7518),

Gene: Tenda\_11 Start: 7207, Stop: 7548, Start Num: 8  
Candidate Starts for Tenda\_11:  
(Start: 8 @7207 has 189 MA's), (12, 7219), (23, 7312), (27, 7342), (28, 7357), (38, 7429), (39, 7435),  
(42, 7456), (46, 7492), (49, 7516),

Gene: Theresita\_11 Start: 6740, Stop: 7087, Start Num: 8  
Candidate Starts for Theresita\_11:  
(Start: 8 @6740 has 189 MA's), (12, 6752), (18, 6818), (25, 6872), (27, 6881), (28, 6896), (33, 6923),  
(36, 6956), (39, 6974),

Gene: Thompsone\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for Thompsone\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (49, 7212),

Gene: Thorongil\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for Thorongil\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (49, 7212),

Gene: TinSulphur\_11 Start: 6906, Stop: 7247, Start Num: 8  
Candidate Starts for TinSulphur\_11:  
(Start: 8 @6906 has 189 MA's), (12, 6918), (23, 7011), (27, 7041), (28, 7056), (38, 7128), (39, 7134),  
(42, 7155), (46, 7191), (49, 7215),

Gene: Tinyman4\_12 Start: 7445, Stop: 7789, Start Num: 8  
Candidate Starts for Tinyman4\_12:  
(Start: 8 @7445 has 189 MA's), (16, 7499), (25, 7577), (28, 7601), (39, 7679), (42, 7700),

Gene: TwoBits\_10 Start: 7139, Stop: 7486, Start Num: 8  
Candidate Starts for TwoBits\_10:  
(Start: 8 @7139 has 189 MA's), (10, 7145), (16, 7193), (18, 7217), (20, 7235), (23, 7250), (28, 7295),  
(39, 7373), (40, 7379), (42, 7394), (53, 7478),

Gene: Velene\_11 Start: 6903, Stop: 7244, Start Num: 8  
Candidate Starts for Velene\_11:  
(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131),  
(42, 7152), (49, 7212),

Gene: Virizion\_20 Start: 11267, Stop: 11614, Start Num: 7

Candidate Starts for Virizion\_20:

(2, 11108), (5, 11183), (Start: 7 @11267 has 10 MA's), (17, 11339), (24, 11387), (26, 11399), (27, 11405), (37, 11480),

Gene: Vispistious\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for Vispistious\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (49, 7212),

Gene: Wardwill\_13 Start: 7512, Stop: 7856, Start Num: 8

Candidate Starts for Wardwill\_13:

(Start: 8 @7512 has 189 MA's), (16, 7566), (18, 7590), (20, 7608), (23, 7623), (28, 7668), (39, 7746), (40, 7752), (42, 7767),

Gene: Wentworth\_18 Start: 10743, Stop: 11093, Start Num: 7

Candidate Starts for Wentworth\_18:

(Start: 7 @10743 has 10 MA's), (16, 10806), (24, 10863), (26, 10875), (27, 10881), (39, 10974),

Gene: WestPM\_11 Start: 7283, Stop: 7627, Start Num: 8

Candidate Starts for WestPM\_11:

(Start: 8 @7283 has 189 MA's), (16, 7337), (20, 7379), (25, 7415), (28, 7439), (39, 7517), (42, 7538),

Gene: WildNOut\_11 Start: 6903, Stop: 7244, Start Num: 8

Candidate Starts for WildNOut\_11:

(Start: 8 @6903 has 189 MA's), (12, 6915), (23, 7008), (27, 7038), (28, 7053), (38, 7125), (39, 7131), (42, 7152), (49, 7212),

Gene: Wilkos\_18 Start: 10975, Stop: 11262, Start Num: 16

Candidate Starts for Wilkos\_18:

(Start: 7 @10912 has 10 MA's), (16, 10975), (17, 10984), (24, 11032), (27, 11050), (39, 11143),

Gene: WilliamStrong\_10 Start: 7937, Stop: 8284, Start Num: 8

Candidate Starts for WilliamStrong\_10:

(Start: 8 @7937 has 189 MA's), (10, 7949), (12, 7955), (21, 8045), (25, 8075), (28, 8099), (39, 8174), (42, 8195),

Gene: Winzigespinne\_11 Start: 7195, Stop: 7536, Start Num: 8

Candidate Starts for Winzigespinne\_11:

(Start: 8 @7195 has 189 MA's), (12, 7207), (23, 7300), (27, 7330), (28, 7345), (38, 7417), (39, 7423), (42, 7444), (46, 7480), (49, 7504),

Gene: Xebius\_9 Start: 6934, Stop: 7281, Start Num: 8

Candidate Starts for Xebius\_9:

(3, 6796), (Start: 8 @6934 has 189 MA's), (12, 6946), (16, 6988), (20, 7030), (25, 7066), (28, 7090), (39, 7168), (42, 7189), (44, 7210), (48, 7240),

Gene: Yara\_15 Start: 9856, Stop: 10203, Start Num: 7

Candidate Starts for Yara\_15:

(Start: 7 @9856 has 10 MA's), (11, 9877), (22, 9964), (23, 9967), (24, 9976), (26, 9988), (27, 9994), (30, 10015), (35, 10054), (37, 10069), (39, 10087), (45, 10138), (54, 10192),

Gene: YuuY\_10 Start: 7103, Stop: 7450, Start Num: 8

Candidate Starts for YuuY\_10:

(Start: 8 @7103 has 189 MA's), (12, 7115), (20, 7199), (25, 7235), (27, 7244), (28, 7259), (36, 7319), (39, 7337), (40, 7343), (42, 7358),

Gene: Zada\_11 Start: 6897, Stop: 7238, Start Num: 8

Candidate Starts for Zada\_11:

(Start: 8 @6897 has 189 MA's), (12, 6909), (23, 7002), (27, 7032), (28, 7047), (38, 7119), (39, 7125), (42, 7146), (49, 7206),

Gene: Zayuliv\_12 Start: 7332, Stop: 7676, Start Num: 8

Candidate Starts for Zayuliv\_12:

(Start: 8 @7332 has 189 MA's), (16, 7386), (18, 7410), (20, 7428), (23, 7443), (28, 7488), (39, 7566), (40, 7572), (42, 7587),

Gene: Zenitsu\_10 Start: 6958, Stop: 7305, Start Num: 8

Candidate Starts for Zenitsu\_10:

(3, 6820), (Start: 8 @6958 has 189 MA's), (12, 6970), (16, 7012), (20, 7054), (25, 7090), (28, 7114), (39, 7192), (42, 7213), (44, 7234), (48, 7264),

Gene: Zepp\_13 Start: 7341, Stop: 7685, Start Num: 8

Candidate Starts for Zepp\_13:

(Start: 8 @7341 has 189 MA's), (16, 7395), (18, 7419), (20, 7437), (23, 7452), (28, 7497), (39, 7575), (40, 7581), (42, 7596),

Gene: phiSASD1\_32 Start: 7773, Stop: 8141, Start Num: 7

Candidate Starts for phiSASD1\_32:

(Start: 7 @7773 has 10 MA's), (11, 7794), (16, 7836), (27, 7911), (32, 7950), (39, 8019), (42, 8040), (43, 8058), (50, 8103),