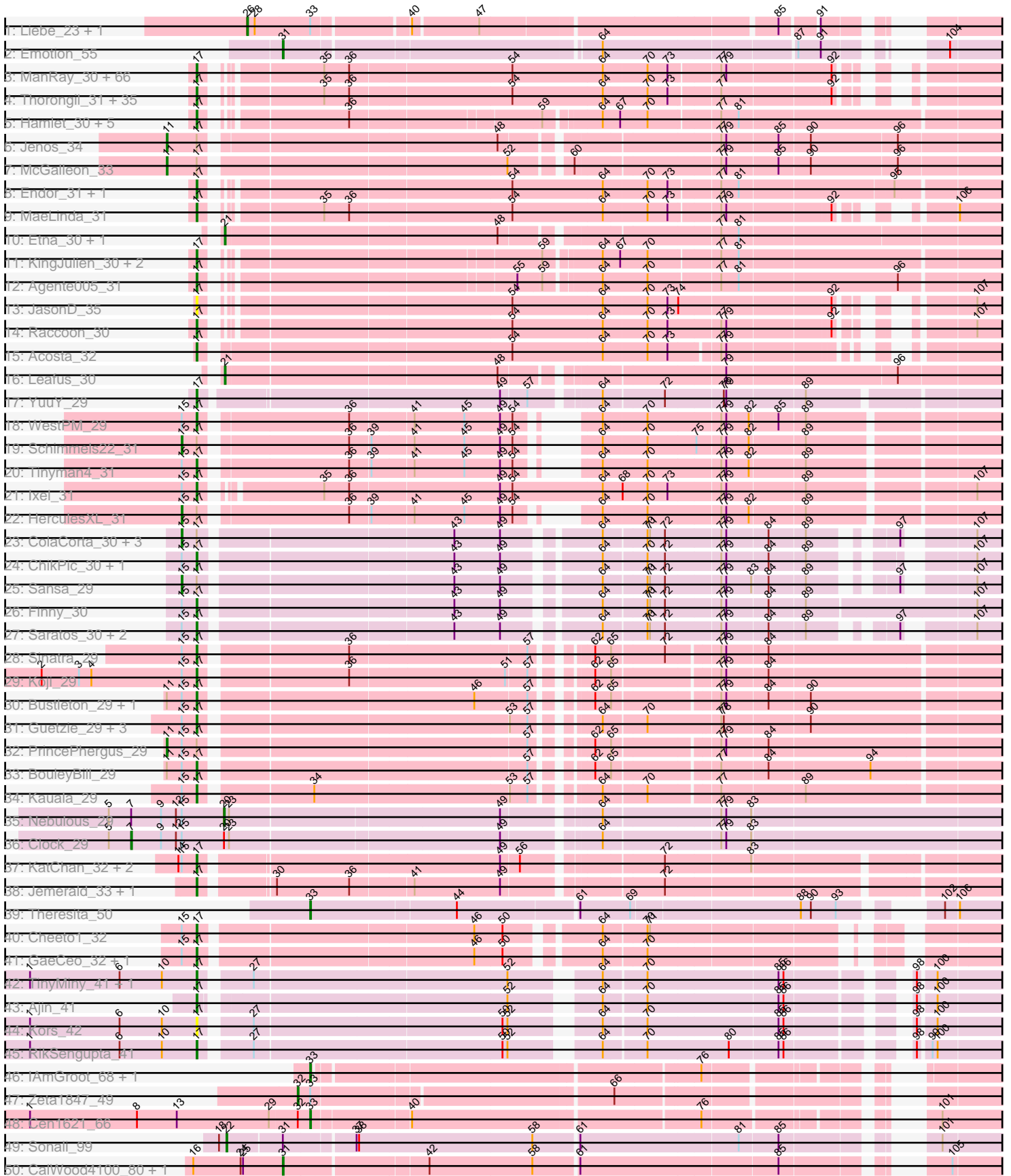
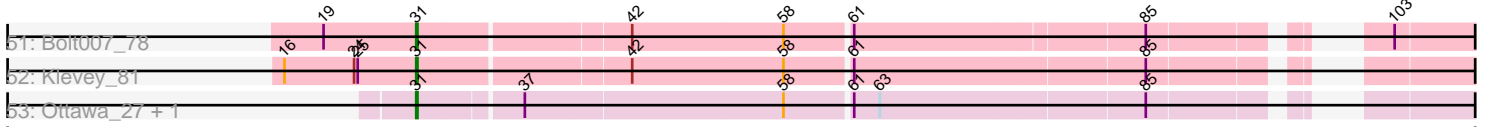


Pham 186586



# Pham 186586



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 186586 Report

This analysis was run 11/02/24 on database version 579.

Pham number 186586 has 182 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Liebe\_23, Maureen\_23
- Track 2 : Emotion\_55
- Track 3 : ManRay\_30, SonOfLevi\_30, Strathdee\_31, Asta\_30, KannH\_30, Nattles\_30, TeddyBear\_30, Etta\_30, BeautPeep30\_31, BonesMcCoy\_31, Phiderman\_31, Christoph\_30, Erla\_30, MrWorldwide\_31, Inventa\_31, Phireproof\_31, Kale\_30, Espinosa\_30, MillyPhilly\_31, HankSprout\_31, StirfryIV\_30, Jerbirus\_31, Kurt1\_31, Robinson\_31, AranulaLuti\_30, BigRedClifford\_31, TatarkaPM\_31, TinSulphur\_31, Janus167\_30, Gershwin\_30, Clancy\_30, ParleG\_31, Dothraki\_31, Aubergine\_30, Pherferi\_31, Byron23\_31, Gargoyle\_31, Rog141\_30, Rapheph\_31, HanSolo\_30, Shee\_31, Gubbabump\_30, Blage\_31, Calix\_30, Winzigespinne\_30, Stanktossa\_31, Tenda\_30, NickSell\_31, Baines\_30, Chamuel\_30, Martin\_32, Raptor\_31, Convict\_31, Chako\_30, Duocatuli\_30, Pocket\_30, Bonino\_30, Gelo\_30, Klimt\_30, Ioannes\_31, PhredFlintston\_31, Thompsons\_31, Knox\_31, Oats\_30, JasperRussell\_30, Garey24\_30, Figueroism\_31
- Track 4 : Thorongil\_31, Ludgate\_31, Benjalauren\_31, Velene\_31, Oxtober96\_31, Alyxandracam\_31, Ilzat\_30, Antoinette\_31, HungryHenry\_30, JeriBeth\_31, Phriends\_31, AxiPup\_31, Teagan\_31, Superfresh\_31, Nagem\_31, ShaiHulud\_31, PuppyEggo\_31, Vispistious\_31, Peep\_31, Delphidian\_31, AlexAdler\_31, Papafritta\_30, OldNelly\_31, Bandik\_31, Dave\_31, Riyhil\_31, Sedgewig\_30, SJay\_31, Den3\_31, WildNOut\_31, StingRay\_30, Lovelyunicorn\_31, Greys\_31, Zada\_31, SoilGremlin\_31, Renzie\_31
- Track 5 : Hamlet\_30, Peppino\_30, Redfield\_30, Balsa\_30, BeeBee8\_31, Schnapsidee\_30
- Track 6 : Jenos\_34
- Track 7 : McGalleon\_33
- Track 8 : Endor\_31, MonChoix\_29
- Track 9 : MaeLinda\_31
- Track 10 : Etna\_30, FarmerDoug\_30
- Track 11 : KingJulien\_30, Stormbreaker8\_30, GardenB\_30
- Track 12 : Agente005\_31
- Track 13 : JasonD\_35
- Track 14 : Raccoon\_30
- Track 15 : Acosta\_32
- Track 16 : Leafus\_30
- Track 17 : YuuY\_29
- Track 18 : WestPM\_29
- Track 19 : Schimmels22\_31

- Track 20 : Tinyman4\_31
- Track 21 : Ixel\_31
- Track 22 : HerculesXL\_31
- Track 23 : ColaCorta\_30, Andromedas\_30, Eleri\_30, Glamour\_29
- Track 24 : ChikPic\_30, MCubed\_30
- Track 25 : Sansa\_29
- Track 26 : Finny\_30
- Track 27 : Saratos\_30, Zenitsu\_30, Shamu\_30
- Track 28 : Sinatra\_29
- Track 29 : Koji\_29
- Track 30 : Bustleton\_29, Pherbot\_29
- Track 31 : Guetzie\_29, Lucky3\_29, SirVictor\_29, Golden\_29
- Track 32 : PrincePhergus\_29
- Track 33 : BouleyBill\_29
- Track 34 : Kauala\_29
- Track 35 : Nebulous\_29
- Track 36 : Clock\_29
- Track 37 : KatChan\_32, Luna18\_32, Chepli\_32
- Track 38 : Jemerald\_33, Juicer\_33
- Track 39 : Theresita\_50
- Track 40 : Cheeto1\_32
- Track 41 : GaeCeo\_32, ChickenKing\_31
- Track 42 : TinyMiny\_41, Sparcetus\_41
- Track 43 : Ajin\_41
- Track 44 : Kors\_42
- Track 45 : RikSengupta\_41
- Track 46 : IAmGroot\_68, GardenState\_69
- Track 47 : Zeta1847\_49
- Track 48 : Cen1621\_66
- Track 49 : Sonali\_99
- Track 50 : CalWood4100\_80, Lilmac1015\_80
- Track 51 : Bolt007\_78
- Track 52 : Klevey\_81
- Track 53 : Ottawa\_27, Kharcho\_27

***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 145 of the 174 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acosta\_32, Agente005\_31, Ajin\_41, AlexAdler\_31, Alyxandracam\_31, Antoinette\_31, AranulaLuti\_30, Asta\_30, Aubergine\_30, AxiPup\_31, Baines\_30, Balsa\_30, Bandik\_31, BeautPeep30\_31, BeeBee8\_31, Benjalauren\_31, BigRedClifford\_31, Blage\_31, BonesMcCoy\_31, Bonino\_30, BouleyBill\_29, Bustleton\_29, Byron23\_31, Calix\_30, Chako\_30, Chamuel\_30, Cheeto1\_32, Chepli\_32, ChickenKing\_31, ChikPic\_30, Christoph\_30, Clancy\_30, Convict\_31, Dave\_31, Delphidian\_31, Den3\_31, Dothraki\_31, Duocatuli\_30, Endor\_31, Erla\_30, Espinosa\_30, Etta\_30, Figueroism\_31, Finny\_30, GaeCeo\_32, GardenB\_30, Garey24\_30, Gargoyle\_31, Gelo\_30, Gershwin\_30, Golden\_29, Greys\_31,

Gubbabump\_30, Guetzie\_29, Hamlet\_30, HanSolo\_30, HankSprout\_31, HungryHenry\_30, Ilzat\_30, Inventa\_31, Ioannes\_31, Ixel\_31, Janus167\_30, JasonD\_35, JasperRussell\_30, Jemerald\_33, Jerbirus\_31, JeriBeth\_31, Juicer\_33, Kale\_30, KannH\_30, KatChan\_32, Kauala\_29, KingJulien\_30, Klimt\_30, Knox\_31, Koji\_29, Kors\_42, Kurt1\_31, Lovelyunicorn\_31, Lucky3\_29, Ludgate\_31, Luna18\_32, MCubed\_30, MaeLinda\_31, ManRay\_30, Martin\_32, MillyPhilly\_31, MonChoix\_29, MrWorldwide\_31, Nagem\_31, Nattles\_30, NickSell\_31, Oats\_30, OldNelly\_31, Oxtober96\_31, Papafritta\_30, ParleG\_31, Peep\_31, Peppino\_30, Pherbot\_29, Pherferi\_31, Phiderman\_31, Phireproof\_31, PhredFlintston\_31, Phriends\_31, Pocket\_30, PuppyEggo\_31, Raccoon\_30, Rappheph\_31, Raptor\_31, Redfield\_30, Renzie\_31, RikSengupta\_41, Riyhil\_31, Robinson\_31, Rog141\_30, SJay\_31, Saratos\_30, Schnapsidee\_30, Sedgewig\_30, ShaiHulud\_31, Shamu\_30, Shee\_31, Sinatra\_29, SirVictor\_29, SoilGremlin\_31, SonOfLevi\_30, Sparcetetus\_41, Stanktossa\_31, StingRay\_30, StirfryIV\_30, Stormbreaker8\_30, Strathdee\_31, Superfresh\_31, TatarkaPM\_31, Teagan\_31, TeddyBear\_30, Tenda\_30, Thompsone\_31, Thorongil\_31, TinSulphur\_31, TinyMiny\_41, Tinyman4\_31, Velene\_31, Vispistious\_31, WestPM\_29, WildNOut\_31, Winzigespinne\_30, YuuY\_29, Zada\_31, Zenitsu\_30,

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

- Andromedas\_30, ColaCorta\_30, Eleri\_30, Glamour\_29, HerculesXL\_31, Jenos\_34, McGalleon\_33, PrincePhergus\_29, Sansa\_29, Schimmels22\_31,

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

- Bolt007\_78, CalWood4100\_80, Cen1621\_66, Clock\_29, Emotion\_55, Etna\_30, FarmerDoug\_30, GardenState\_69, IAmGroot\_68, Kharcho\_27, Klevey\_81, Leafus\_30, Liebe\_23, Lilmac1015\_80, Maureen\_23, Nebulous\_29, Ottawa\_27, Sonali\_99, Theresita\_50, Zeta1847\_49,

### Summary by start number:

Start 7:

- Found in 2 of 182 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 174
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Clock\_29 (EA5),

Start 11:

- Found in 6 of 182 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 3 of 174
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Jenos\_34 (EA1), McGalleon\_33 (EA1), PrincePhergus\_29 (EA4),

Start 15:

- Found in 35 of 182 ( 19.2% ) of genes in pham
- Manual Annotations of this start: 7 of 174
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Andromedas\_30 (EA2), ColaCorta\_30 (EA2), Eleri\_30 (EA2), Glamour\_29 (EA2), HerculesXL\_31 (EA11), Sansa\_29 (EA2), Schimmels22\_31 (EA11),

Start 17:

- Found in 162 of 182 ( 89.0% ) of genes in pham
- Manual Annotations of this start: 145 of 174
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Acosta\_32 (EA1), Agente005\_31 (EA1), Ajin\_41 (EF), AlexAdler\_31 (EA1), Alyxandracam\_31 (EA1), Antoinette\_31 (EA1), AranulaLuti\_30 (EA1), Asta\_30 (EA1), Aubergine\_30 (EA1), AxiPup\_31 (EA1), Baines\_30 (EA1), Balsa\_30 (EA1), Bandik\_31 (EA1), BeautPeep30\_31 (EA1), BeeBee8\_31 (EA1), Benjalauren\_31 (EA1), BigRedClifford\_31 (EA1), Blage\_31 (EA1), BonesMcCoy\_31 (EA1), Bonino\_30 (EA1), BouleyBill\_29 (EA4), Bustleton\_29 (EA4), Byron23\_31 (EA1), Calix\_30 (EA1), Chako\_30 (EA1), Chamuel\_30 (EA1), Cheeto1\_32 (EA9), Chepli\_32 (EA6), ChickenKing\_31 (EA9), ChikPic\_30 (EA2), Christoph\_30 (EA1), Clancy\_30 (EA1), Convict\_31 (EA1), Dave\_31 (EA1), Delphidian\_31 (EA1), Den3\_31 (EA1), Dothraki\_31 (EA1), Duocatuli\_30 (EA1), Endor\_31 (EA1), Erla\_30 (EA1), Espinosa\_30 (EA1), Etta\_30 (EA1), Figueroism\_31 (EA1), Finny\_30 (EA2), GaeCeo\_32 (EA9), GardenB\_30 (EA1), Garey24\_30 (EA1), Gargoyle\_31 (EA1), Gelo\_30 (EA1), Gershwin\_30 (EA1), Golden\_29 (EA4), Greys\_31 (EA1), Gubbabump\_30 (EA1), Guetzie\_29 (EA4), Hamlet\_30 (EA1), HanSolo\_30 (EA1), HankSprout\_31 (EA1), HungryHenry\_30 (EA1), Ilzat\_30 (EA1), Inventa\_31 (EA1), Ioannes\_31 (EA1), Ixel\_31 (EA11), Janus167\_30 (EA1), JasonD\_35 (EA1), JasperRussell\_30 (EA1), Jemerald\_33 (EA6), Jerbirus\_31 (EA1), JeriBeth\_31 (EA1), Juicer\_33 (EA6), Kale\_30 (EA1), KannH\_30 (EA1), KatChan\_32 (EA6), Kauala\_29 (EA4), KingJulien\_30 (EA1), Klimt\_30 (EA1), Knox\_31 (EA1), Koji\_29 (EA4), Kors\_42 (EF), Kurt1\_31 (EA1), Lovelyunicorn\_31 (EA1), Lucky3\_29 (EA4), Ludgate\_31 (EA1), Luna18\_32 (EA6), MCubed\_30 (EA2), MaeLinda\_31 (EA1), ManRay\_30 (EA1), Martin\_32 (EA1), MillyPhilly\_31 (EA1), MonChoix\_29 (EA1), MrWorldwide\_31 (EA1), Nagem\_31 (EA1), Nattles\_30 (EA1), NickSell\_31 (EA1), Oats\_30 (EA1), OldNelly\_31 (EA1), Oxtober96\_31 (EA1), Papafritta\_30 (EA1), ParleG\_31 (EA1), Peep\_31 (EA1), Peppino\_30 (EA1), Pherbot\_29 (EA4), Pherferi\_31 (EA1), Phiderman\_31 (EA1), Phireproof\_31 (EA1), PhredFlintston\_31 (EA1), Phriends\_31 (EA1), Pocket\_30 (EA1), PuppyEggo\_31 (EA1), Raccoon\_30 (EA1), Rapheph\_31 (EA1), Raptor\_31 (EA1), Redfield\_30 (EA1), Renzie\_31 (EA1), RikSengupta\_41 (EF), Riyhil\_31 (EA1), Robinson\_31 (EA1), Rog141\_30 (EA1), SJay\_31 (EA1), Saratos\_30 (EA2), Schnapsidee\_30 (EA1), Sedgewig\_30 (EA1), ShaiHulud\_31 (EA1), Shamu\_30 (EA2), Shee\_31 (EA1), Sinatra\_29 (EA4), SirVictor\_29 (EA4), SoilGremlin\_31 (EA1), SonOfLevi\_30 (EA1), Sparcetus\_41 (EF), Stanktossa\_31 (EA1), StingRay\_30 (EA1), StirfryIV\_30 (EA1), Stormbreaker8\_30 (EA1), Strathdee\_31 (EA1), Superfresh\_31 (EA1), TatarkaPM\_31 (EA1), Teagan\_31 (EA1), TeddyBear\_30 (EA1), Tenda\_30 (EA1), Thompsone\_31 (EA1), Thorongil\_31 (EA1), TinSulphur\_31 (EA1), TinyMiny\_41 (EF), Tinyman4\_31 (EA11), Velene\_31 (EA1), Vispistious\_31 (EA1), WestPM\_29 (EA11), WildNOut\_31 (EA1), Winzigespinne\_30 (EA1), YuuY\_29 (EA10), Zada\_31 (EA1), Zenitsu\_30 (EA2),

#### Start 20:

- Found in 2 of 182 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 174
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Nebulous\_29 (EA5),

#### Start 21:

- Found in 3 of 182 ( 1.6% ) of genes in pham
- Manual Annotations of this start: 3 of 174
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Etna\_30 (EA1), FarmerDoug\_30 (EA1), Leafus\_30 (EA1),

#### Start 22:

- Found in 1 of 182 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 174
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sonali\_99 (FG),

#### Start 26:

- Found in 2 of 182 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 2 of 174
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Liebe\_23 (AZ2), Maureen\_23 (AZ2),

#### Start 31:

- Found in 8 of 182 ( 4.4% ) of genes in pham
- Manual Annotations of this start: 6 of 174
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Bolt007\_78 (FH), CalWood4100\_80 (FH), Emotion\_55 (AZ4), Kharcho\_27 (FM), Klevey\_81 (FH), Lilmac1015\_80 (FH), Ottawa\_27 (FM),

#### Start 32:

- Found in 2 of 182 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 174
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Zeta1847\_49 (EH),

#### Start 33:

- Found in 7 of 182 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 4 of 174
- Called 57.1% of time when present
- Phage (with cluster) where this start called: Cen1621\_66 (EH), GardenState\_69 (EH), IAmGroot\_68 (EH), Theresita\_50 (EA7),

### **Summary by clusters:**

There are 16 clusters represented in this pham: EA11, EH, AZ4, EF, EA10, FM, EA9, FH, FG, EA1, AZ2, EA2, EA5, EA4, EA7, EA6,

Info for manual annotations of cluster AZ2:

- Start number 26 was manually annotated 2 times for cluster AZ2.

Info for manual annotations of cluster AZ4:

- Start number 31 was manually annotated 1 time for cluster AZ4.

Info for manual annotations of cluster EA1:

- Start number 11 was manually annotated 2 times for cluster EA1.
- Start number 17 was manually annotated 113 times for cluster EA1.
- Start number 21 was manually annotated 3 times for cluster EA1.

Info for manual annotations of cluster EA10:

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

Info for manual annotations of cluster EA11:

- Start number 15 was manually annotated 2 times for cluster EA11.
- Start number 17 was manually annotated 3 times for cluster EA11.

Info for manual annotations of cluster EA2:

- Start number 15 was manually annotated 5 times for cluster EA2.
- Start number 17 was manually annotated 6 times for cluster EA2.

Info for manual annotations of cluster EA4:

- Start number 11 was manually annotated 1 time for cluster EA4.
- Start number 17 was manually annotated 10 times for cluster EA4.

Info for manual annotations of cluster EA5:

- Start number 7 was manually annotated 1 time for cluster EA5.
- Start number 20 was manually annotated 1 time for cluster EA5.

Info for manual annotations of cluster EA6:

- Start number 17 was manually annotated 5 times for cluster EA6.

Info for manual annotations of cluster EA7:

- Start number 33 was manually annotated 1 time for cluster EA7.

Info for manual annotations of cluster EA9:

- Start number 17 was manually annotated 3 times for cluster EA9.

Info for manual annotations of cluster EF:

- Start number 17 was manually annotated 4 times for cluster EF.

Info for manual annotations of cluster EH:

- Start number 32 was manually annotated 1 time for cluster EH.
- Start number 33 was manually annotated 3 times for cluster EH.

Info for manual annotations of cluster FG:

- Start number 22 was manually annotated 1 time for cluster FG.

Info for manual annotations of cluster FH:

- Start number 31 was manually annotated 3 times for cluster FH.

Info for manual annotations of cluster FM:

- Start number 31 was manually annotated 2 times for cluster FM.

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

Gene: Acosta\_32 Start: 22079, Stop: 21225, Start Num: 17

Candidate Starts for Acosta\_32:

(Start: 17 @22079 has 145 MA's), (54, 21731), (64, 21623), (70, 21572), (73, 21548), (77, 21494), (79, 21488),

Gene: Agente005\_31 Start: 22035, Stop: 21148, Start Num: 17



Candidate Starts for Agente005\_31:

(Start: 17 @22035 has 145 MA's), (55, 21705), (59, 21678), (64, 21618), (70, 21564), (77, 21486), (81, 21465), (96, 21279),

Gene: Ajin\_41 Start: 25676, Stop: 26536, Start Num: 17

Candidate Starts for Ajin\_41:

(Start: 17 @25676 has 145 MA's), (52, 26015), (64, 26102), (70, 26150), (85, 26303), (86, 26309), (98, 26423), (100, 26441),

Gene: AlexAdler\_31 Start: 21787, Stop: 20945, Start Num: 17

Candidate Starts for AlexAdler\_31:

(Start: 17 @21787 has 145 MA's), (35, 21673), (36, 21643), (54, 21454), (64, 21346), (70, 21295), (73, 21271), (77, 21217), (92, 21094),

Gene: Alyxandracam\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for Alyxandracam\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (92, 21103),

Gene: Andromedas\_30 Start: 21852, Stop: 20983, Start Num: 15

Candidate Starts for Andromedas\_30:

(Start: 15 @21852 has 7 MA's), (Start: 17 @21834 has 145 MA's), (43, 21549), (49, 21495), (64, 21396), (70, 21348), (71, 21345), (72, 21327), (77, 21264), (79, 21258), (84, 21210), (89, 21168), (97, 21093), (107, 21030),

Gene: Antoinette\_31 Start: 21784, Stop: 20942, Start Num: 17

Candidate Starts for Antoinette\_31:

(Start: 17 @21784 has 145 MA's), (35, 21670), (36, 21640), (54, 21451), (64, 21343), (70, 21292), (73, 21268), (77, 21214), (92, 21091),

Gene: AranulaLuti\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for AranulaLuti\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: Asta\_30 Start: 21611, Stop: 20769, Start Num: 17

Candidate Starts for Asta\_30:

(Start: 17 @21611 has 145 MA's), (35, 21497), (36, 21467), (54, 21278), (64, 21170), (70, 21119), (73, 21095), (77, 21041), (79, 21035), (92, 20918),

Gene: Aubergine\_30 Start: 21611, Stop: 20769, Start Num: 17

Candidate Starts for Aubergine\_30:

(Start: 17 @21611 has 145 MA's), (35, 21497), (36, 21467), (54, 21278), (64, 21170), (70, 21119), (73, 21095), (77, 21041), (79, 21035), (92, 20918),

Gene: AxiPup\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for AxiPup\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (92, 21103),

Gene: Baines\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for Baines\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: Balsa\_30 Start: 21873, Stop: 20986, Start Num: 17

Candidate Starts for Balsa\_30:

(Start: 17 @21873 has 145 MA's), (36, 21729), (59, 21516), (64, 21456), (67, 21435), (70, 21402), (77, 21324), (81, 21303),

Gene: Bandik\_31 Start: 21792, Stop: 20950, Start Num: 17

Candidate Starts for Bandik\_31:

(Start: 17 @21792 has 145 MA's), (35, 21678), (36, 21648), (54, 21459), (64, 21351), (70, 21300), (73, 21276), (77, 21222), (92, 21099),

Gene: BeautPeep30\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for BeautPeep30\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: BeeBee8\_31 Start: 22040, Stop: 21153, Start Num: 17

Candidate Starts for BeeBee8\_31:

(Start: 17 @22040 has 145 MA's), (36, 21896), (59, 21683), (64, 21623), (67, 21602), (70, 21569), (77, 21491), (81, 21470),

Gene: Benjalauren\_31 Start: 21608, Stop: 20766, Start Num: 17

Candidate Starts for Benjalauren\_31:

(Start: 17 @21608 has 145 MA's), (35, 21494), (36, 21464), (54, 21275), (64, 21167), (70, 21116), (73, 21092), (77, 21038), (92, 20915),

Gene: BigRedClifford\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for BigRedClifford\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (79, 21220), (92, 21103),

Gene: Blage\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for Blage\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (79, 21220), (92, 21103),

Gene: Bolt007\_78 Start: 49680, Stop: 48901, Start Num: 31

Candidate Starts for Bolt007\_78:

(19, 49755), (Start: 31 @49680 has 6 MA's), (42, 49521), (58, 49398), (61, 49347), (85, 49119), (103, 48990),

Gene: BonesMcCoy\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for BonesMcCoy\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (79, 21220), (92, 21103),

Gene: Bonino\_30 Start: 21587, Stop: 20745, Start Num: 17

Candidate Starts for Bonino\_30:

(Start: 17 @21587 has 145 MA's), (35, 21473), (36, 21443), (54, 21254), (64, 21146), (70, 21095), (73, 21071), (77, 21017), (79, 21011), (92, 20894),

Gene: BouleyBill\_29 Start: 21683, Stop: 20790, Start Num: 17

Candidate Starts for BouleyBill\_29:

(Start: 11 @21719 has 3 MA's), (Start: 15 @21701 has 7 MA's), (Start: 17 @21683 has 145 MA's), (57, 21317), (62, 21266), (65, 21248), (77, 21131), (84, 21077), (94, 20957),

Gene: Bustleton\_29 Start: 21683, Stop: 20790, Start Num: 17

Candidate Starts for Bustleton\_29:

(Start: 11 @21719 has 3 MA's), (Start: 15 @21701 has 7 MA's), (Start: 17 @21683 has 145 MA's), (46, 21377), (57, 21317), (62, 21266), (65, 21248), (77, 21131), (79, 21125), (84, 21077), (90, 21029),

Gene: Byron23\_31 Start: 21801, Stop: 20959, Start Num: 17

Candidate Starts for Byron23\_31:

(Start: 17 @21801 has 145 MA's), (35, 21687), (36, 21657), (54, 21468), (64, 21360), (70, 21309), (73, 21285), (77, 21231), (79, 21225), (92, 21108),

Gene: CalWood4100\_80 Start: 49859, Stop: 49071, Start Num: 31

Candidate Starts for CalWood4100\_80:

(16, 49967), (24, 49910), (25, 49907), (Start: 31 @49859 has 6 MA's), (42, 49700), (58, 49577), (61, 49526), (85, 49295), (105, 49157),

Gene: Calix\_30 Start: 21591, Stop: 20749, Start Num: 17

Candidate Starts for Calix\_30:

(Start: 17 @21591 has 145 MA's), (35, 21477), (36, 21447), (54, 21258), (64, 21150), (70, 21099), (73, 21075), (77, 21021), (79, 21015), (92, 20898),

Gene: Cen1621\_66 Start: 44317, Stop: 45051, Start Num: 33

Candidate Starts for Cen1621\_66:

(1, 43984), (8, 44113), (13, 44161), (29, 44272), (Start: 32 @44302 has 1 MA's), (Start: 33 @44317 has 4 MA's), (40, 44425), (76, 44752), (101, 44953),

Gene: Chako\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for Chako\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: Chamuel\_30 Start: 21593, Stop: 20751, Start Num: 17

Candidate Starts for Chamuel\_30:

(Start: 17 @21593 has 145 MA's), (35, 21479), (36, 21449), (54, 21260), (64, 21152), (70, 21101), (73, 21077), (77, 21023), (79, 21017), (92, 20900),

Gene: Cheeto1\_32 Start: 22256, Stop: 21414, Start Num: 17

Candidate Starts for Cheeto1\_32:

(Start: 15 @22274 has 7 MA's), (Start: 17 @22256 has 145 MA's), (46, 21947), (50, 21914), (64, 21818), (70, 21770), (71, 21767),

Gene: Chepli\_32 Start: 21461, Stop: 20565, Start Num: 17

Candidate Starts for Chepli\_32:

(14, 21482), (Start: 15 @21479 has 7 MA's), (Start: 17 @21461 has 145 MA's), (49, 21125), (56, 21104), (72, 20954), (83, 20855),

Gene: ChickenKing\_31 Start: 22169, Stop: 21327, Start Num: 17

Candidate Starts for ChickenKing\_31:

(Start: 15 @22187 has 7 MA's), (Start: 17 @22169 has 145 MA's), (46, 21860), (50, 21827), (64, 21731), (70, 21683),

Gene: ChikPic\_30 Start: 21850, Stop: 20999, Start Num: 17

Candidate Starts for ChikPic\_30:

(Start: 15 @21868 has 7 MA's), (Start: 17 @21850 has 145 MA's), (43, 21565), (49, 21511), (64, 21412), (70, 21364), (72, 21343), (77, 21280), (79, 21274), (84, 21226), (89, 21184), (107, 21046),

Gene: Christoph\_30 Start: 21609, Stop: 20767, Start Num: 17

Candidate Starts for Christoph\_30:

(Start: 17 @21609 has 145 MA's), (35, 21495), (36, 21465), (54, 21276), (64, 21168), (70, 21117), (73, 21093), (77, 21039), (79, 21033), (92, 20916),

Gene: Clancy\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for Clancy\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: Clock\_29 Start: 22434, Stop: 21424, Start Num: 7

Candidate Starts for Clock\_29:

(5, 22461), (Start: 7 @22434 has 1 MA's), (9, 22398), (12, 22380), (Start: 15 @22374 has 7 MA's), (Start: 20 @22323 has 1 MA's), (23, 22317), (49, 22005), (64, 21903), (77, 21771), (79, 21765), (83, 21735),

Gene: ColaCorta\_30 Start: 21852, Stop: 20983, Start Num: 15

Candidate Starts for ColaCorta\_30:

(Start: 15 @21852 has 7 MA's), (Start: 17 @21834 has 145 MA's), (43, 21549), (49, 21495), (64, 21396), (70, 21348), (71, 21345), (72, 21327), (77, 21264), (79, 21258), (84, 21210), (89, 21168), (97, 21093), (107, 21030),

Gene: Convict\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for Convict\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (79, 21220), (92, 21103),

Gene: Dave\_31 Start: 21784, Stop: 20942, Start Num: 17

Candidate Starts for Dave\_31:

(Start: 17 @21784 has 145 MA's), (35, 21670), (36, 21640), (54, 21451), (64, 21343), (70, 21292), (73, 21268), (77, 21214), (92, 21091),

Gene: Delphidian\_31 Start: 21795, Stop: 20953, Start Num: 17

Candidate Starts for Delphidian\_31:

(Start: 17 @21795 has 145 MA's), (35, 21681), (36, 21651), (54, 21462), (64, 21354), (70, 21303), (73, 21279), (77, 21225), (92, 21102),

Gene: Den3\_31 Start: 21800, Stop: 20958, Start Num: 17

Candidate Starts for Den3\_31:

(Start: 17 @21800 has 145 MA's), (35, 21686), (36, 21656), (54, 21467), (64, 21359), (70, 21308), (73, 21284), (77, 21230), (92, 21107),

Gene: Dothraki\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for Dothraki\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: Duocatuli\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for Duocatuli\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: Eleri\_30 Start: 21865, Stop: 20996, Start Num: 15

Candidate Starts for Eleri\_30:

(Start: 15 @21865 has 7 MA's), (Start: 17 @21847 has 145 MA's), (43, 21562), (49, 21508), (64, 21409), (70, 21361), (71, 21358), (72, 21340), (77, 21277), (79, 21271), (84, 21223), (89, 21181), (97, 21106), (107, 21043),

Gene: Emotion\_55 Start: 37527, Stop: 38288, Start Num: 31

Candidate Starts for Emotion\_55:

(Start: 31 @37527 has 6 MA's), (64, 37878), (87, 38100), (91, 38127), (104, 38211),

Gene: Endor\_31 Start: 22097, Stop: 21195, Start Num: 17

Candidate Starts for Endor\_31:

(Start: 17 @22097 has 145 MA's), (54, 21764), (64, 21656), (70, 21605), (73, 21581), (77, 21527), (81, 21506), (95, 21329),

Gene: Erla\_30 Start: 21591, Stop: 20749, Start Num: 17

Candidate Starts for Erla\_30:

(Start: 17 @21591 has 145 MA's), (35, 21477), (36, 21447), (54, 21258), (64, 21150), (70, 21099), (73, 21075), (77, 21021), (79, 21015), (92, 20898),

Gene: Espinosa\_30 Start: 21609, Stop: 20767, Start Num: 17

Candidate Starts for Espinosa\_30:

(Start: 17 @21609 has 145 MA's), (35, 21495), (36, 21465), (54, 21276), (64, 21168), (70, 21117), (73, 21093), (77, 21039), (79, 21033), (92, 20916),

Gene: Etna\_30 Start: 21878, Stop: 20988, Start Num: 21

Candidate Starts for Etna\_30:

(Start: 21 @21878 has 3 MA's), (48, 21563), (77, 21329), (81, 21308),

Gene: Etta\_30 Start: 21595, Stop: 20753, Start Num: 17

Candidate Starts for Etta\_30:

(Start: 17 @21595 has 145 MA's), (35, 21481), (36, 21451), (54, 21262), (64, 21154), (70, 21103), (73, 21079), (77, 21025), (79, 21019), (92, 20902),

Gene: FarmerDoug\_30 Start: 21737, Stop: 20847, Start Num: 21

Candidate Starts for FarmerDoug\_30:

(Start: 21 @21737 has 3 MA's), (48, 21422), (77, 21188), (81, 21167),

Gene: Figueroism\_31 Start: 21783, Stop: 20941, Start Num: 17

Candidate Starts for Figueroism\_31:

(Start: 17 @21783 has 145 MA's), (35, 21669), (36, 21639), (54, 21450), (64, 21342), (70, 21291), (73, 21267), (77, 21213), (79, 21207), (92, 21090),

Gene: Finny\_30 Start: 21887, Stop: 20979, Start Num: 17

Candidate Starts for Finny\_30:

(Start: 15 @21905 has 7 MA's), (Start: 17 @21887 has 145 MA's), (43, 21602), (49, 21548), (64, 21449), (70, 21401), (71, 21398), (72, 21380), (77, 21317), (79, 21311), (84, 21263), (89, 21221), (107, 21026),

Gene: GaeCeo\_32 Start: 22405, Stop: 21563, Start Num: 17

Candidate Starts for GaeCeo\_32:

(Start: 15 @22423 has 7 MA's), (Start: 17 @22405 has 145 MA's), (46, 22096), (50, 22063), (64, 21967), (70, 21919),

Gene: GardenB\_30 Start: 21876, Stop: 20989, Start Num: 17

Candidate Starts for GardenB\_30:

(Start: 17 @21876 has 145 MA's), (59, 21519), (64, 21459), (67, 21438), (70, 21405), (77, 21327), (81, 21306),

Gene: GardenState\_69 Start: 42002, Stop: 42718, Start Num: 33

Candidate Starts for GardenState\_69:

(Start: 33 @42002 has 4 MA's), (76, 42431),

Gene: Garey24\_30 Start: 21574, Stop: 20732, Start Num: 17

Candidate Starts for Garey24\_30:

(Start: 17 @21574 has 145 MA's), (35, 21460), (36, 21430), (54, 21241), (64, 21133), (70, 21082), (73, 21058), (77, 21004), (79, 20998), (92, 20881),

Gene: Gargoyle\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for Gargoyle\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: Gelo\_30 Start: 21595, Stop: 20753, Start Num: 17

Candidate Starts for Gelo\_30:

(Start: 17 @21595 has 145 MA's), (35, 21481), (36, 21451), (54, 21262), (64, 21154), (70, 21103), (73, 21079), (77, 21025), (79, 21019), (92, 20902),

Gene: Gershwin\_30 Start: 21611, Stop: 20769, Start Num: 17

Candidate Starts for Gershwin\_30:

(Start: 17 @21611 has 145 MA's), (35, 21497), (36, 21467), (54, 21278), (64, 21170), (70, 21119), (73, 21095), (77, 21041), (79, 21035), (92, 20918),

Gene: Glamour\_29 Start: 21853, Stop: 20984, Start Num: 15

Candidate Starts for Glamour\_29:

(Start: 15 @21853 has 7 MA's), (Start: 17 @21835 has 145 MA's), (43, 21550), (49, 21496), (64, 21397), (70, 21349), (71, 21346), (72, 21328), (77, 21265), (79, 21259), (84, 21211), (89, 21169), (97, 21094), (107, 21031),

Gene: Golden\_29 Start: 21794, Stop: 20895, Start Num: 17

Candidate Starts for Golden\_29:

(Start: 15 @21812 has 7 MA's), (Start: 17 @21794 has 145 MA's), (53, 21449), (57, 21428), (64, 21368), (70, 21320), (77, 21236), (78, 21233), (90, 21134),

Gene: Greys\_31 Start: 21793, Stop: 20951, Start Num: 17

Candidate Starts for Greys\_31:

(Start: 17 @21793 has 145 MA's), (35, 21679), (36, 21649), (54, 21460), (64, 21352), (70, 21301), (73, 21277), (77, 21223), (92, 21100),

Gene: Gubbabump\_30 Start: 21600, Stop: 20758, Start Num: 17

Candidate Starts for Gubbabump\_30:

(Start: 17 @21600 has 145 MA's), (35, 21486), (36, 21456), (54, 21267), (64, 21159), (70, 21108), (73, 21084), (77, 21030), (79, 21024), (92, 20907),

Gene: Guetzie\_29 Start: 21782, Stop: 20883, Start Num: 17

Candidate Starts for Guetzie\_29:

(Start: 15 @21800 has 7 MA's), (Start: 17 @21782 has 145 MA's), (53, 21437), (57, 21416), (64, 21356), (70, 21308), (77, 21224), (78, 21221), (90, 21122),

Gene: Hamlet\_30 Start: 21873, Stop: 20986, Start Num: 17

Candidate Starts for Hamlet\_30:

(Start: 17 @21873 has 145 MA's), (36, 21729), (59, 21516), (64, 21456), (67, 21435), (70, 21402), (77, 21324), (81, 21303),

Gene: HanSolo\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for HanSolo\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: HankSprout\_31 Start: 21478, Stop: 20636, Start Num: 17

Candidate Starts for HankSprout\_31:

(Start: 17 @21478 has 145 MA's), (35, 21364), (36, 21334), (54, 21145), (64, 21037), (70, 20986), (73, 20962), (77, 20908), (79, 20902), (92, 20785),

Gene: HerculesXL\_31 Start: 20731, Stop: 19856, Start Num: 15

Candidate Starts for HerculesXL\_31:

(Start: 15 @20731 has 7 MA's), (Start: 17 @20713 has 145 MA's), (36, 20551), (39, 20527), (41, 20479), (45, 20419), (49, 20377), (54, 20362), (64, 20317), (70, 20266), (77, 20182), (79, 20176), (82, 20149), (89, 20086),

Gene: HungryHenry\_30 Start: 21609, Stop: 20767, Start Num: 17

Candidate Starts for HungryHenry\_30:

(Start: 17 @21609 has 145 MA's), (35, 21495), (36, 21465), (54, 21276), (64, 21168), (70, 21117), (73, 21093), (77, 21039), (92, 20916),

Gene: IAmGroot\_68 Start: 42211, Stop: 42927, Start Num: 33

Candidate Starts for IAmGroot\_68:

(Start: 33 @42211 has 4 MA's), (76, 42640),

Gene: Ilzat\_30 Start: 21608, Stop: 20766, Start Num: 17

Candidate Starts for Ilzat\_30:

(Start: 17 @21608 has 145 MA's), (35, 21494), (36, 21464), (54, 21275), (64, 21167), (70, 21116), (73, 21092), (77, 21038), (92, 20915),

Gene: Inventa\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for Inventa\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: loannes\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for loannes\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (79, 21220), (92, 21103),

Gene: Ixel\_31 Start: 20664, Stop: 19759, Start Num: 17

Candidate Starts for Ixel\_31:

(Start: 15 @20682 has 7 MA's), (Start: 17 @20664 has 145 MA's), (35, 20547), (36, 20517), (49, 20343), (54, 20328), (64, 20220), (68, 20199), (70, 20169), (73, 20145), (77, 20085), (79, 20079), (89, 19989), (107, 19806),

Gene: Janus167\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for Janus167\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: JasonD\_35 Start: 22235, Stop: 21387, Start Num: 17

Candidate Starts for JasonD\_35:

(Start: 17 @22235 has 145 MA's), (54, 21902), (64, 21794), (70, 21743), (73, 21719), (74, 21707), (92, 21536), (107, 21434),

Gene: JasperRussell\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for JasperRussell\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: Jemerald\_33 Start: 22738, Stop: 21842, Start Num: 17

Candidate Starts for Jemerald\_33:

(Start: 17 @22738 has 145 MA's), (30, 22663), (36, 22576), (41, 22504), (49, 22402), (72, 22231),

Gene: Jenos\_34 Start: 22908, Stop: 21967, Start Num: 11

Candidate Starts for Jenos\_34:

(Start: 11 @22908 has 3 MA's), (Start: 17 @22872 has 145 MA's), (48, 22542), (77, 22308), (79, 22302), (85, 22242), (90, 22206), (96, 22104),

Gene: Jerbirus\_31 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for Jerbirus\_31:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: JeriBeth\_31 Start: 21455, Stop: 20613, Start Num: 17

Candidate Starts for JeriBeth\_31:

(Start: 17 @21455 has 145 MA's), (35, 21341), (36, 21311), (54, 21122), (64, 21014), (70, 20963), (73, 20939), (77, 20885), (92, 20762),

Gene: Juicer\_33 Start: 22738, Stop: 21842, Start Num: 17

Candidate Starts for Juicer\_33:

(Start: 17 @22738 has 145 MA's), (30, 22663), (36, 22576), (41, 22504), (49, 22402), (72, 22231),

Gene: Kale\_30 Start: 21613, Stop: 20771, Start Num: 17

Candidate Starts for Kale\_30:

(Start: 17 @21613 has 145 MA's), (35, 21499), (36, 21469), (54, 21280), (64, 21172), (70, 21121), (73, 21097), (77, 21043), (79, 21037), (92, 20920),

Gene: KannH\_30 Start: 21598, Stop: 20756, Start Num: 17



Candidate Starts for KannH\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: KatChan\_32 Start: 21467, Stop: 20571, Start Num: 17

Candidate Starts for KatChan\_32:

(14, 21488), (Start: 15 @21485 has 7 MA's), (Start: 17 @21467 has 145 MA's), (49, 21131), (56, 21110), (72, 20960), (83, 20861),

Gene: Kauala\_29 Start: 21686, Stop: 20793, Start Num: 17

Candidate Starts for Kauala\_29:

(Start: 15 @21704 has 7 MA's), (Start: 17 @21686 has 145 MA's), (34, 21566), (53, 21341), (57, 21320), (64, 21260), (70, 21212), (77, 21134), (89, 21038),

Gene: Kharcho\_27 Start: 10163, Stop: 10948, Start Num: 31

Candidate Starts for Kharcho\_27:

(Start: 31 @10163 has 6 MA's), (37, 10238), (58, 10445), (61, 10496), (63, 10517), (85, 10727),

Gene: KingJulien\_30 Start: 21869, Stop: 20982, Start Num: 17

Candidate Starts for KingJulien\_30:

(Start: 17 @21869 has 145 MA's), (59, 21512), (64, 21452), (67, 21431), (70, 21398), (77, 21320), (81, 21299),

Gene: Klevey\_81 Start: 49956, Stop: 49168, Start Num: 31

Candidate Starts for Klevey\_81:

(16, 50064), (24, 50007), (25, 50004), (Start: 31 @49956 has 6 MA's), (42, 49797), (58, 49674), (61, 49623), (85, 49392),

Gene: Klimt\_30 Start: 21593, Stop: 20751, Start Num: 17

Candidate Starts for Klimt\_30:

(Start: 17 @21593 has 145 MA's), (35, 21479), (36, 21449), (54, 21260), (64, 21152), (70, 21101), (73, 21077), (77, 21023), (79, 21017), (92, 20900),

Gene: Knox\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for Knox\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (79, 21220), (92, 21103),

Gene: Koji\_29 Start: 21812, Stop: 20919, Start Num: 17

Candidate Starts for Koji\_29:

(2, 21998), (3, 21953), (4, 21938), (Start: 15 @21830 has 7 MA's), (Start: 17 @21812 has 145 MA's), (36, 21650), (51, 21470), (57, 21446), (62, 21395), (65, 21377), (77, 21260), (79, 21254), (84, 21206),

Gene: Kors\_42 Start: 25717, Stop: 26583, Start Num: 17

Candidate Starts for Kors\_42:

(1, 25516), (6, 25624), (10, 25675), (Start: 17 @25717 has 145 MA's), (27, 25768), (50, 26056), (52, 26062), (64, 26149), (70, 26197), (85, 26350), (86, 26356), (98, 26470), (100, 26488),

Gene: Kurt1\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for Kurt1\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: Leafus\_30 Start: 22011, Stop: 21124, Start Num: 21  
Candidate Starts for Leafus\_30:  
(Start: 21 @22011 has 3 MA's), (48, 21696), (79, 21459), (96, 21261),

Gene: Liebe\_23 Start: 19676, Stop: 20467, Start Num: 26  
Candidate Starts for Liebe\_23:  
(Start: 26 @19676 has 2 MA's), (28, 19685), (Start: 33 @19748 has 4 MA's), (40, 19850), (47, 19925),  
(85, 20258), (91, 20297),

Gene: Lilmac1015\_80 Start: 49859, Stop: 49071, Start Num: 31  
Candidate Starts for Lilmac1015\_80:  
(16, 49967), (24, 49910), (25, 49907), (Start: 31 @49859 has 6 MA's), (42, 49700), (58, 49577), (61,  
49526), (85, 49295), (105, 49157),

Gene: Lovelyunicorn\_31 Start: 21796, Stop: 20954, Start Num: 17  
Candidate Starts for Lovelyunicorn\_31:  
(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73,  
21280), (77, 21226), (92, 21103),

Gene: Lucky3\_29 Start: 21794, Stop: 20895, Start Num: 17  
Candidate Starts for Lucky3\_29:  
(Start: 15 @21812 has 7 MA's), (Start: 17 @21794 has 145 MA's), (53, 21449), (57, 21428), (64,  
21368), (70, 21320), (77, 21236), (78, 21233), (90, 21134),

Gene: Ludgate\_31 Start: 21792, Stop: 20950, Start Num: 17  
Candidate Starts for Ludgate\_31:  
(Start: 17 @21792 has 145 MA's), (35, 21678), (36, 21648), (54, 21459), (64, 21351), (70, 21300), (73,  
21276), (77, 21222), (92, 21099),

Gene: Luna18\_32 Start: 21467, Stop: 20571, Start Num: 17  
Candidate Starts for Luna18\_32:  
(14, 21488), (Start: 15 @21485 has 7 MA's), (Start: 17 @21467 has 145 MA's), (49, 21131), (56,  
21110), (72, 20960), (83, 20861),

Gene: MCubed\_30 Start: 21857, Stop: 21006, Start Num: 17  
Candidate Starts for MCubed\_30:  
(Start: 15 @21875 has 7 MA's), (Start: 17 @21857 has 145 MA's), (43, 21572), (49, 21518), (64,  
21419), (70, 21371), (72, 21350), (77, 21287), (79, 21281), (84, 21233), (89, 21191), (107, 21053),

Gene: MaeLinda\_31 Start: 21798, Stop: 20956, Start Num: 17  
Candidate Starts for MaeLinda\_31:  
(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73,  
21282), (77, 21228), (79, 21222), (92, 21105), (106, 21024),

Gene: ManRay\_30 Start: 21611, Stop: 20769, Start Num: 17  
Candidate Starts for ManRay\_30:  
(Start: 17 @21611 has 145 MA's), (35, 21497), (36, 21467), (54, 21278), (64, 21170), (70, 21119), (73,  
21095), (77, 21041), (79, 21035), (92, 20918),

Gene: Martin\_32 Start: 21798, Stop: 20956, Start Num: 17  
Candidate Starts for Martin\_32:  
(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73,  
21282), (77, 21228), (79, 21222), (92, 21105),

Gene: Maureen\_23 Start: 19676, Stop: 20467, Start Num: 26

Candidate Starts for Maureen\_23:

(Start: 26 @19676 has 2 MA's), (28, 19685), (Start: 33 @19748 has 4 MA's), (40, 19850), (47, 19925), (85, 20258), (91, 20297),

Gene: McGalleon\_33 Start: 23130, Stop: 22183, Start Num: 11

Candidate Starts for McGalleon\_33:

(Start: 11 @23130 has 3 MA's), (Start: 17 @23094 has 145 MA's), (52, 22749), (60, 22686), (77, 22524), (79, 22518), (85, 22458), (90, 22422), (96, 22320),

Gene: MillyPhilly\_31 Start: 21795, Stop: 20953, Start Num: 17

Candidate Starts for MillyPhilly\_31:

(Start: 17 @21795 has 145 MA's), (35, 21681), (36, 21651), (54, 21462), (64, 21354), (70, 21303), (73, 21279), (77, 21225), (79, 21219), (92, 21102),

Gene: MonChoix\_29 Start: 21781, Stop: 20879, Start Num: 17

Candidate Starts for MonChoix\_29:

(Start: 17 @21781 has 145 MA's), (54, 21448), (64, 21340), (70, 21289), (73, 21265), (77, 21211), (81, 21190), (95, 21013),

Gene: MrWorldwide\_31 Start: 21799, Stop: 20957, Start Num: 17

Candidate Starts for MrWorldwide\_31:

(Start: 17 @21799 has 145 MA's), (35, 21685), (36, 21655), (54, 21466), (64, 21358), (70, 21307), (73, 21283), (77, 21229), (79, 21223), (92, 21106),

Gene: Nagem\_31 Start: 21792, Stop: 20950, Start Num: 17

Candidate Starts for Nagem\_31:

(Start: 17 @21792 has 145 MA's), (35, 21678), (36, 21648), (54, 21459), (64, 21351), (70, 21300), (73, 21276), (77, 21222), (92, 21099),

Gene: Nattles\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for Nattles\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: Nebulous\_29 Start: 22504, Stop: 21605, Start Num: 20

Candidate Starts for Nebulous\_29:

(5, 22642), (Start: 7 @22615 has 1 MA's), (9, 22579), (12, 22561), (Start: 15 @22555 has 7 MA's), (Start: 20 @22504 has 1 MA's), (23, 22498), (49, 22186), (64, 22084), (77, 21952), (79, 21946), (83, 21916),

Gene: NickSell\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for NickSell\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: Oats\_30 Start: 21611, Stop: 20769, Start Num: 17

Candidate Starts for Oats\_30:

(Start: 17 @21611 has 145 MA's), (35, 21497), (36, 21467), (54, 21278), (64, 21170), (70, 21119), (73, 21095), (77, 21041), (79, 21035), (92, 20918),

Gene: OldNelly\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for OldNelly\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (92, 21105),

Gene: Ottawa\_27 Start: 10163, Stop: 10948, Start Num: 31

Candidate Starts for Ottawa\_27:

(Start: 31 @10163 has 6 MA's), (37, 10238), (58, 10445), (61, 10496), (63, 10517), (85, 10727),

Gene: Oxtober96\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for Oxtober96\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (92, 21103),

Gene: Papafritta\_30 Start: 21607, Stop: 20765, Start Num: 17

Candidate Starts for Papafritta\_30:

(Start: 17 @21607 has 145 MA's), (35, 21493), (36, 21463), (54, 21274), (64, 21166), (70, 21115), (73, 21091), (77, 21037), (92, 20914),

Gene: ParleG\_31 Start: 21799, Stop: 20957, Start Num: 17

Candidate Starts for ParleG\_31:

(Start: 17 @21799 has 145 MA's), (35, 21685), (36, 21655), (54, 21466), (64, 21358), (70, 21307), (73, 21283), (77, 21229), (79, 21223), (92, 21106),

Gene: Peep\_31 Start: 21784, Stop: 20942, Start Num: 17

Candidate Starts for Peep\_31:

(Start: 17 @21784 has 145 MA's), (35, 21670), (36, 21640), (54, 21451), (64, 21343), (70, 21292), (73, 21268), (77, 21214), (92, 21091),

Gene: Peppino\_30 Start: 21865, Stop: 20978, Start Num: 17

Candidate Starts for Peppino\_30:

(Start: 17 @21865 has 145 MA's), (36, 21721), (59, 21508), (64, 21448), (67, 21427), (70, 21394), (77, 21316), (81, 21295),

Gene: Pherbot\_29 Start: 21682, Stop: 20789, Start Num: 17

Candidate Starts for Pherbot\_29:

(Start: 11 @21718 has 3 MA's), (Start: 15 @21700 has 7 MA's), (Start: 17 @21682 has 145 MA's), (46, 21376), (57, 21316), (62, 21265), (65, 21247), (77, 21130), (79, 21124), (84, 21076), (90, 21028),

Gene: Pherferi\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for Pherferi\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: Phiderman\_31 Start: 21795, Stop: 20953, Start Num: 17

Candidate Starts for Phiderman\_31:

(Start: 17 @21795 has 145 MA's), (35, 21681), (36, 21651), (54, 21462), (64, 21354), (70, 21303), (73, 21279), (77, 21225), (79, 21219), (92, 21102),

Gene: Phireproof\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for Phireproof\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: PhredFlintston\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for PhredFlintston\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: Phriends\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for Phriends\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (92, 21105),

Gene: Pocket\_30 Start: 21596, Stop: 20754, Start Num: 17

Candidate Starts for Pocket\_30:

(Start: 17 @21596 has 145 MA's), (35, 21482), (36, 21452), (54, 21263), (64, 21155), (70, 21104), (73, 21080), (77, 21026), (79, 21020), (92, 20903),

Gene: PrincePhergus\_29 Start: 21721, Stop: 20792, Start Num: 11

Candidate Starts for PrincePhergus\_29:

(Start: 11 @21721 has 3 MA's), (Start: 15 @21703 has 7 MA's), (Start: 17 @21685 has 145 MA's), (57, 21319), (62, 21268), (65, 21250), (77, 21133), (79, 21127), (84, 21079),

Gene: PuppyEggo\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for PuppyEggo\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (92, 21103),

Gene: Raccoon\_30 Start: 21834, Stop: 20986, Start Num: 17

Candidate Starts for Raccoon\_30:

(Start: 17 @21834 has 145 MA's), (54, 21501), (64, 21393), (70, 21342), (73, 21318), (77, 21258), (79, 21252), (92, 21135), (107, 21033),

Gene: Rapheph\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for Rapheph\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: Raptor\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for Raptor\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (79, 21220), (92, 21103),

Gene: Redfield\_30 Start: 21872, Stop: 20985, Start Num: 17

Candidate Starts for Redfield\_30:

(Start: 17 @21872 has 145 MA's), (36, 21728), (59, 21515), (64, 21455), (67, 21434), (70, 21401), (77, 21323), (81, 21302),

Gene: Renzie\_31 Start: 21784, Stop: 20942, Start Num: 17

Candidate Starts for Renzie\_31:

(Start: 17 @21784 has 145 MA's), (35, 21670), (36, 21640), (54, 21451), (64, 21343), (70, 21292), (73, 21268), (77, 21214), (92, 21091),

Gene: RikSengupta\_41 Start: 25754, Stop: 26620, Start Num: 17

Candidate Starts for RikSengupta\_41:

(1, 25553), (6, 25661), (10, 25712), (Start: 17 @25754 has 145 MA's), (27, 25805), (50, 26093), (52, 26099), (64, 26186), (70, 26234), (80, 26330), (85, 26387), (86, 26393), (98, 26507), (99, 26519), (100, 26525),

Gene: Riyhil\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for Riyhil\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (92, 21105),

Gene: Robinson\_31 Start: 21790, Stop: 20948, Start Num: 17

Candidate Starts for Robinson\_31:

(Start: 17 @21790 has 145 MA's), (35, 21676), (36, 21646), (54, 21457), (64, 21349), (70, 21298), (73, 21274), (77, 21220), (79, 21214), (92, 21097),

Gene: Rog141\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for Rog141\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: SJay\_31 Start: 21793, Stop: 20951, Start Num: 17

Candidate Starts for SJay\_31:

(Start: 17 @21793 has 145 MA's), (35, 21679), (36, 21649), (54, 21460), (64, 21352), (70, 21301), (73, 21277), (77, 21223), (92, 21100),

Gene: Sansa\_29 Start: 21875, Stop: 21006, Start Num: 15

Candidate Starts for Sansa\_29:

(Start: 15 @21875 has 7 MA's), (Start: 17 @21857 has 145 MA's), (43, 21572), (49, 21518), (64, 21419), (70, 21371), (71, 21368), (72, 21350), (77, 21287), (79, 21281), (83, 21251), (84, 21233), (89, 21191), (97, 21116), (107, 21053),

Gene: Saratos\_30 Start: 21832, Stop: 20981, Start Num: 17

Candidate Starts for Saratos\_30:

(Start: 15 @21850 has 7 MA's), (Start: 17 @21832 has 145 MA's), (43, 21547), (49, 21493), (64, 21394), (70, 21346), (71, 21343), (72, 21325), (77, 21262), (79, 21256), (84, 21208), (89, 21166), (97, 21091), (107, 21028),

Gene: Schimmels22\_31 Start: 21105, Stop: 20230, Start Num: 15

Candidate Starts for Schimmels22\_31:

(Start: 15 @21105 has 7 MA's), (Start: 17 @21087 has 145 MA's), (36, 20925), (39, 20901), (41, 20853), (45, 20793), (49, 20751), (54, 20736), (64, 20691), (70, 20640), (75, 20583), (77, 20556), (79, 20550), (82, 20523), (89, 20460),

Gene: Schnapsidee\_30 Start: 21866, Stop: 20979, Start Num: 17

Candidate Starts for Schnapsidee\_30:

(Start: 17 @21866 has 145 MA's), (36, 21722), (59, 21509), (64, 21449), (67, 21428), (70, 21395), (77, 21317), (81, 21296),

Gene: Sedgewig\_30 Start: 21590, Stop: 20748, Start Num: 17

Candidate Starts for Sedgewig\_30:

(Start: 17 @21590 has 145 MA's), (35, 21476), (36, 21446), (54, 21257), (64, 21149), (70, 21098), (73, 21074), (77, 21020), (92, 20897),

Gene: ShaiHulud\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for ShaiHulud\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (92, 21103),

Gene: Shamu\_30 Start: 21847, Stop: 20996, Start Num: 17

Candidate Starts for Shamu\_30:

(Start: 15 @21865 has 7 MA's), (Start: 17 @21847 has 145 MA's), (43, 21562), (49, 21508), (64, 21409), (70, 21361), (71, 21358), (72, 21340), (77, 21277), (79, 21271), (84, 21223), (89, 21181), (97, 21106), (107, 21043),

Gene: Shee\_31 Start: 21795, Stop: 20953, Start Num: 17

Candidate Starts for Shee\_31:

(Start: 17 @21795 has 145 MA's), (35, 21681), (36, 21651), (54, 21462), (64, 21354), (70, 21303), (73, 21279), (77, 21225), (79, 21219), (92, 21102),

Gene: Sinatra\_29 Start: 21682, Stop: 20789, Start Num: 17

Candidate Starts for Sinatra\_29:

(Start: 15 @21700 has 7 MA's), (Start: 17 @21682 has 145 MA's), (36, 21520), (57, 21316), (62, 21265), (65, 21247), (72, 21187), (77, 21130), (79, 21124), (84, 21076),

Gene: SirVictor\_29 Start: 21782, Stop: 20883, Start Num: 17

Candidate Starts for SirVictor\_29:

(Start: 15 @21800 has 7 MA's), (Start: 17 @21782 has 145 MA's), (53, 21437), (57, 21416), (64, 21356), (70, 21308), (77, 21224), (78, 21221), (90, 21122),

Gene: SoilGremlin\_31 Start: 21795, Stop: 20953, Start Num: 17

Candidate Starts for SoilGremlin\_31:

(Start: 17 @21795 has 145 MA's), (35, 21681), (36, 21651), (54, 21462), (64, 21354), (70, 21303), (73, 21279), (77, 21225), (92, 21102),

Gene: SonOfLevi\_30 Start: 21593, Stop: 20751, Start Num: 17

Candidate Starts for SonOfLevi\_30:

(Start: 17 @21593 has 145 MA's), (35, 21479), (36, 21449), (54, 21260), (64, 21152), (70, 21101), (73, 21077), (77, 21023), (79, 21017), (92, 20900),

Gene: Sonali\_99 Start: 61044, Stop: 60199, Start Num: 22

Candidate Starts for Sonali\_99:

(18, 61053), (Start: 22 @61044 has 1 MA's), (Start: 31 @60981 has 6 MA's), (37, 60906), (38, 60903), (58, 60696), (61, 60645), (81, 60459), (85, 60414), (101, 60288),

Gene: Sparcetus\_41 Start: 25633, Stop: 26499, Start Num: 17

Candidate Starts for Sparcetus\_41:

(1, 25432), (6, 25540), (10, 25591), (Start: 17 @25633 has 145 MA's), (27, 25684), (52, 25978), (64, 26065), (70, 26113), (85, 26266), (86, 26272), (98, 26386), (100, 26404),

Gene: Stanktossa\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for Stanktossa\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: StingRay\_30 Start: 21608, Stop: 20766, Start Num: 17

Candidate Starts for StingRay\_30:

(Start: 17 @21608 has 145 MA's), (35, 21494), (36, 21464), (54, 21275), (64, 21167), (70, 21116), (73, 21092), (77, 21038), (92, 20915),

Gene: StirfryIV\_30 Start: 21598, Stop: 20756, Start Num: 17

Candidate Starts for StirfryIV\_30:

(Start: 17 @21598 has 145 MA's), (35, 21484), (36, 21454), (54, 21265), (64, 21157), (70, 21106), (73, 21082), (77, 21028), (79, 21022), (92, 20905),

Gene: Stormbreaker8\_30 Start: 21869, Stop: 20982, Start Num: 17

Candidate Starts for Stormbreaker8\_30:

(Start: 17 @21869 has 145 MA's), (59, 21512), (64, 21452), (67, 21431), (70, 21398), (77, 21320), (81, 21299),

Gene: Strathdee\_31 Start: 21797, Stop: 20955, Start Num: 17

Candidate Starts for Strathdee\_31:

(Start: 17 @21797 has 145 MA's), (35, 21683), (36, 21653), (54, 21464), (64, 21356), (70, 21305), (73, 21281), (77, 21227), (79, 21221), (92, 21104),

Gene: Superfresh\_31 Start: 21784, Stop: 20942, Start Num: 17

Candidate Starts for Superfresh\_31:

(Start: 17 @21784 has 145 MA's), (35, 21670), (36, 21640), (54, 21451), (64, 21343), (70, 21292), (73, 21268), (77, 21214), (92, 21091),

Gene: TatarkaPM\_31 Start: 21798, Stop: 20956, Start Num: 17

Candidate Starts for TatarkaPM\_31:

(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: Teagan\_31 Start: 21792, Stop: 20950, Start Num: 17

Candidate Starts for Teagan\_31:

(Start: 17 @21792 has 145 MA's), (35, 21678), (36, 21648), (54, 21459), (64, 21351), (70, 21300), (73, 21276), (77, 21222), (92, 21099),

Gene: TeddyBear\_30 Start: 21611, Stop: 20769, Start Num: 17

Candidate Starts for TeddyBear\_30:

(Start: 17 @21611 has 145 MA's), (35, 21497), (36, 21467), (54, 21278), (64, 21170), (70, 21119), (73, 21095), (77, 21041), (79, 21035), (92, 20918),

Gene: Tenda\_30 Start: 21609, Stop: 20767, Start Num: 17

Candidate Starts for Tenda\_30:

(Start: 17 @21609 has 145 MA's), (35, 21495), (36, 21465), (54, 21276), (64, 21168), (70, 21117), (73, 21093), (77, 21039), (79, 21033), (92, 20916),

Gene: Theresita\_50 Start: 33880, Stop: 33122, Start Num: 33

Candidate Starts for Theresita\_50:

(Start: 33 @33880 has 4 MA's), (44, 33712), (61, 33574), (69, 33514), (88, 33319), (90, 33307), (93, 33277), (102, 33208), (106, 33193),

Gene: Thompsone\_31 Start: 21796, Stop: 20954, Start Num: 17

Candidate Starts for Thompsone\_31:

(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (79, 21220), (92, 21103),



Gene: Thorongil\_31 Start: 21796, Stop: 20954, Start Num: 17  
Candidate Starts for Thorongil\_31:  
(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (92, 21103),

Gene: TinSulphur\_31 Start: 21798, Stop: 20956, Start Num: 17  
Candidate Starts for TinSulphur\_31:  
(Start: 17 @21798 has 145 MA's), (35, 21684), (36, 21654), (54, 21465), (64, 21357), (70, 21306), (73, 21282), (77, 21228), (79, 21222), (92, 21105),

Gene: TinyMiny\_41 Start: 25652, Stop: 26518, Start Num: 17  
Candidate Starts for TinyMiny\_41:  
(1, 25451), (6, 25559), (10, 25610), (Start: 17 @25652 has 145 MA's), (27, 25703), (52, 25997), (64, 26084), (70, 26132), (85, 26285), (86, 26291), (98, 26405), (100, 26423),

Gene: Tinyman4\_31 Start: 20713, Stop: 19856, Start Num: 17  
Candidate Starts for Tinyman4\_31:  
(Start: 15 @20731 has 7 MA's), (Start: 17 @20713 has 145 MA's), (36, 20551), (39, 20527), (41, 20479), (45, 20419), (49, 20377), (54, 20362), (64, 20317), (70, 20266), (77, 20182), (79, 20176), (82, 20149), (89, 20086),

Gene: Velene\_31 Start: 21796, Stop: 20954, Start Num: 17  
Candidate Starts for Velene\_31:  
(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (92, 21103),

Gene: Vispitious\_31 Start: 21796, Stop: 20954, Start Num: 17  
Candidate Starts for Vispitious\_31:  
(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (92, 21103),

Gene: WestPM\_29 Start: 20570, Stop: 19713, Start Num: 17  
Candidate Starts for WestPM\_29:  
(Start: 15 @20588 has 7 MA's), (Start: 17 @20570 has 145 MA's), (36, 20408), (41, 20336), (45, 20276), (49, 20234), (54, 20219), (64, 20174), (70, 20123), (77, 20039), (79, 20033), (82, 20006), (85, 19973), (89, 19943),

Gene: WildNOut\_31 Start: 21796, Stop: 20954, Start Num: 17  
Candidate Starts for WildNOut\_31:  
(Start: 17 @21796 has 145 MA's), (35, 21682), (36, 21652), (54, 21463), (64, 21355), (70, 21304), (73, 21280), (77, 21226), (92, 21103),

Gene: Winzigespinne\_30 Start: 21597, Stop: 20755, Start Num: 17  
Candidate Starts for Winzigespinne\_30:  
(Start: 17 @21597 has 145 MA's), (35, 21483), (36, 21453), (54, 21264), (64, 21156), (70, 21105), (73, 21081), (77, 21027), (79, 21021), (92, 20904),

Gene: YuuY\_29 Start: 21987, Stop: 21088, Start Num: 17  
Candidate Starts for YuuY\_29:  
(Start: 17 @21987 has 145 MA's), (49, 21648), (57, 21618), (64, 21546), (72, 21477), (78, 21411), (79, 21408), (89, 21318),

Gene: Zada\_31 Start: 21777, Stop: 20935, Start Num: 17

Candidate Starts for Zada\_31:

(Start: 17 @21777 has 145 MA's), (35, 21663), (36, 21633), (54, 21444), (64, 21336), (70, 21285), (73, 21261), (77, 21207), (92, 21084),

Gene: Zenitsu\_30 Start: 21862, Stop: 21011, Start Num: 17

Candidate Starts for Zenitsu\_30:

(Start: 15 @21880 has 7 MA's), (Start: 17 @21862 has 145 MA's), (43, 21577), (49, 21523), (64, 21424), (70, 21376), (71, 21373), (72, 21355), (77, 21292), (79, 21286), (84, 21238), (89, 21196), (97, 21121), (107, 21058),

Gene: Zeta1847\_49 Start: 35401, Stop: 36153, Start Num: 32

Candidate Starts for Zeta1847\_49:

(Start: 32 @35401 has 1 MA's), (Start: 33 @35416 has 4 MA's), (66, 35752),