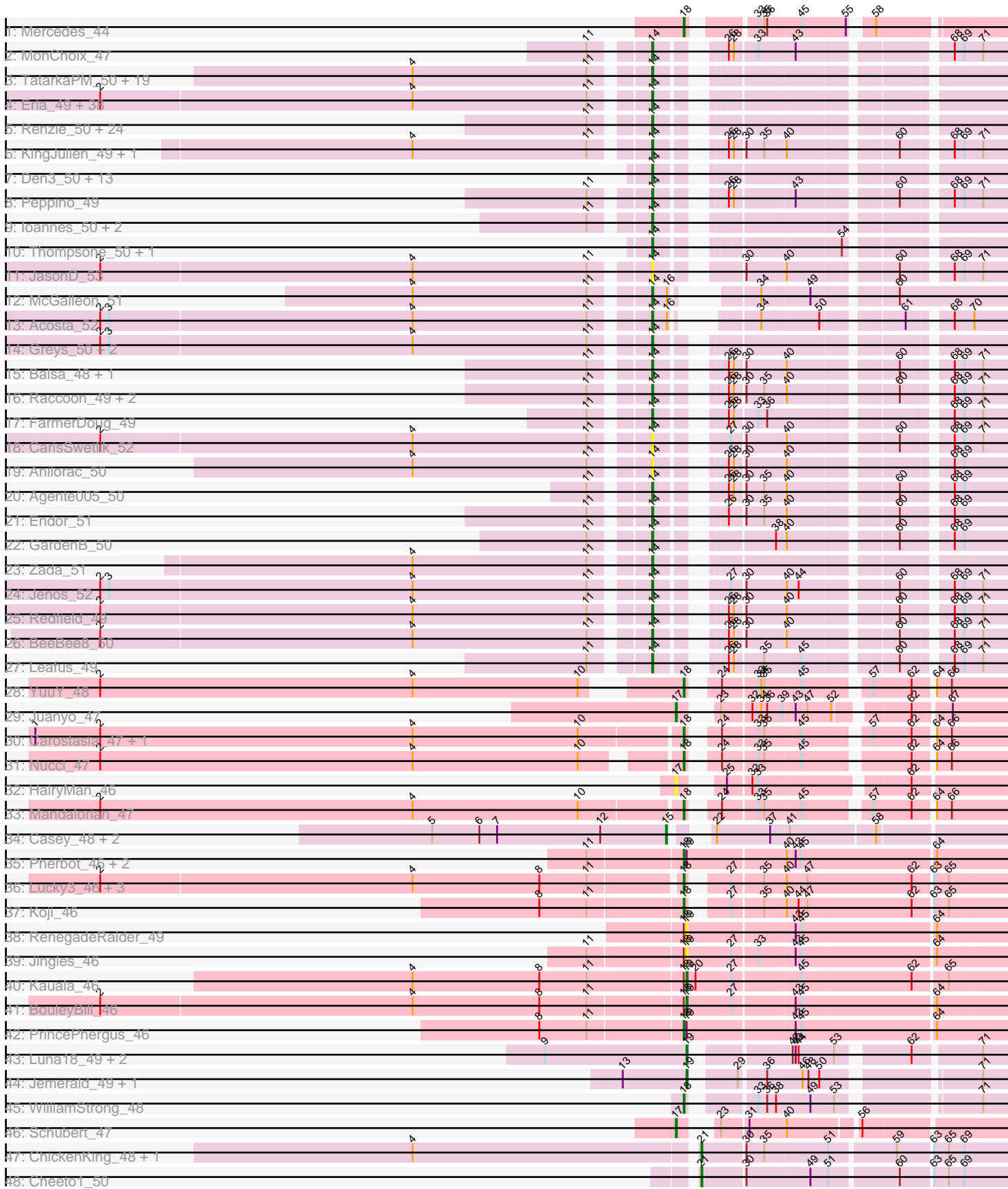


Pham 224337



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 224337 Report

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

Pham number 224337 has 163 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Mercedes\_44
- Track 2 : MonChoix\_47
- Track 3 : TatarkaPM\_50, PhredFlintston\_50, TinSulphur\_51, Dothraki\_50, Inventa\_50, ParleG\_50, BeautPeep30\_50, MillyPhilly\_50, Stanktossa\_49, Rappheph\_50, Byron23\_51, Phiderman\_50, MrWorldwide\_50, Shee\_50, Riyhil\_50, NickSell\_50, Martin\_51, Kurt1\_50, Pherferi\_50, Bandik\_50
- Track 4 : Erla\_49, Pocket\_49, SJay\_50, Kale\_49, StingRay\_49, Asta\_49, TeddyBear\_49, Papafritta\_49, Winzigespinne\_49, Benjalauren\_50, Garey24\_50, Espinosa\_49, Baines\_49, Exploradora\_49, Chamuel\_49, JeriBeth\_51, Aubergine\_49, Nattles\_49, SonOfLevi\_50, Rog141\_49, Gershwin\_49, KannH\_49, AranulaLuti\_49, RosieMae\_51, Calix\_49, JasperRussell\_49, Klimt\_50, Christoph\_49, Etta\_49, Gelo\_49, Janus167\_49, Oats\_49, ManRay\_49, Nagem\_50, Tenda\_49, Chako\_49, HankSprout\_50, Bonino\_49, Jerbirus\_51
- Track 5 : Renzie\_50, SoilGremlin\_51, StirfryIV\_49, MaeLinda\_50, Thorongil\_50, HungryHenry\_49, Strathdee\_50, Alyxandracam\_50, Superfresh\_50, Peep\_50, Ilzat\_49, Dave\_50, Clancy\_49, Robinson\_50, Antoinette\_50, Phriends\_50, Delphidian\_50, Figueroism\_50, AlexAdler\_50, ShaiHulud\_51, Vispistious\_50, PuppyEggo\_50, Ludgate\_50, OldNelly\_51, Gubbabump\_49
- Track 6 : KingJulien\_49, Stormbreaker8\_48
- Track 7 : Den3\_50, BonesMcCoy\_50, Blage\_50, Oxtober96\_51, BigRedClifford\_50, Velene\_50, AxiPup\_50, Convict\_50, WildNOut\_50, Knox\_50, Lovelyunicorn\_50, Teagan\_50, Raptor\_50, Phireproof\_50
- Track 8 : Peppino\_49
- Track 9 : Ioannes\_50, Duocatuli\_49, HanSolo\_49
- Track 10 : Thompsone\_50, Gargoyle\_50
- Track 11 : JasonD\_53
- Track 12 : McGalleon\_51
- Track 13 : Acosta\_52
- Track 14 : Greys\_50, Symere\_51, Sedgewig\_49
- Track 15 : Balsa\_48, Schnapsidee\_49
- Track 16 : Raccoon\_49, Etna\_49, Hamlet\_49
- Track 17 : FarmerDoug\_49
- Track 18 : CarisSwetlik\_52
- Track 19 : Anilorac\_50
- Track 20 : Agente005\_50
- Track 21 : Endor\_51
- Track 22 : GardenB\_50

- Track 23 : Zada\_51
- Track 24 : Jenos\_52
- Track 25 : Redfield\_49
- Track 26 : BeeBee8\_50
- Track 27 : Leafus\_49
- Track 28 : YuuY\_48
- Track 29 : Juanyo\_47
- Track 30 : Carostasia\_47, Quartz\_48
- Track 31 : Nucci\_47
- Track 32 : HairyMan\_46
- Track 33 : Mandalorian\_47
- Track 34 : Casey\_48, Pajaza\_48, Pikmin\_48
- Track 35 : Pherbot\_46, Bustleton\_46, Sinatra\_47
- Track 36 : Lucky3\_46, SirVictor\_47, Golden\_46, Guetzie\_47
- Track 37 : Koji\_46
- Track 38 : RenegadeRaider\_49
- Track 39 : Jingles\_46
- Track 40 : Kauala\_46
- Track 41 : BouleyBill\_46
- Track 42 : PrincePhergus\_46
- Track 43 : Luna18\_49, KatChan\_48, Chepli\_49
- Track 44 : Jemerald\_49, Juicer\_49
- Track 45 : WilliamStrong\_48
- Track 46 : Schubert\_47
- Track 47 : ChickenKing\_48, GaeCeo\_50
- Track 48 : Cheeto1\_50

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

The start number called the most often in the published annotations is 14, it was called in 120 of the 151 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acosta\_52, Agente005\_50, AlexAdler\_50, Alyxandracam\_50, Anilorac\_50, Antoinette\_50, AranulaLuti\_49, Asta\_49, Aubergine\_49, AxiPup\_50, Baines\_49, Balsa\_48, Bandik\_50, BeautPeep30\_50, BeeBee8\_50, Benjalauren\_50, BigRedClifford\_50, Blage\_50, BonesMcCoy\_50, Bonino\_49, Byron23\_51, Calix\_49, CarisSwetlik\_52, Chako\_49, Chamuel\_49, Christoph\_49, Clancy\_49, Convict\_50, Dave\_50, Delphidian\_50, Den3\_50, Dothraki\_50, Duocatuli\_49, Endor\_51, Erla\_49, Espinosa\_49, Etna\_49, Etta\_49, Exploradora\_49, FarmerDoug\_49, Figueroism\_50, GardenB\_50, Garey24\_50, Gargoyle\_50, Gelo\_49, Gershwin\_49, Greys\_50, Gubbabump\_49, Hamlet\_49, HanSolo\_49, HankSprout\_50, HungryHenry\_49, Ilzat\_49, Inventa\_50, Ioannes\_50, Janus167\_49, JasonD\_53, JasperRussell\_49, Jenos\_52, Jerbirus\_51, JeriBeth\_51, Kale\_49, KannH\_49, KingJulien\_49, Klimt\_50, Knox\_50, Kurt1\_50, Leafus\_49, Lovelyunicorn\_50, Ludgate\_50, MaeLinda\_50, ManRay\_49, Martin\_51, McGalleon\_51, MillyPhilly\_50, MonChoix\_47, MrWorldwide\_50, Nagem\_50, Nattles\_49, NickSell\_50, Oats\_49, OldNelly\_51, Oxtober96\_51, Papafritta\_49, ParleG\_50, Peep\_50, Peppino\_49, Pherferi\_50, Phiderman\_50, Phireproof\_50, PhredFlintston\_50, Phriends\_50, Pocket\_49, PuppyEggo\_50, Raccoon\_49, Rapheph\_50, Raptor\_50, Redfield\_49, Renzie\_50,

Riyhil\_50, Robinson\_50, Rog141\_49, RosieMae\_51, SJay\_50, Schnapsidee\_49, Sedgewig\_49, ShaiHulud\_51, Shee\_50, SoilGremlin\_51, SonOfLevi\_50, Stanktossa\_49, StingRay\_49, StirfryIV\_49, Stormbreaker8\_48, Strathdee\_50, Superfresh\_50, Symere\_51, TatarkaPM\_50, Teagan\_50, TeddyBear\_49, Tenda\_49, Thompsone\_50, Thorongil\_50, TinSulphur\_51, Velene\_50, Vispistious\_50, WildNOut\_50, Winzigespinne\_49, Zada\_51,

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

- 

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

- BouleyBill\_46, Bustleton\_46, Carostasia\_47, Casey\_48, Cheeto1\_50, Chepli\_49, ChickenKing\_48, GaeCeo\_50, Golden\_46, Guetzie\_47, HairyMan\_46, Jemerald\_49, Jingles\_46, Juanyo\_47, Juicer\_49, KatChan\_48, Kauala\_46, Koji\_46, Lucky3\_46, Luna18\_49, Mandalorian\_47, Mercedes\_44, Nucci\_47, Pajaza\_48, Pherbot\_46, Pikmin\_48, PrincePhergus\_46, Quartz\_48, RenegadeRaider\_49, Schubert\_47, Sinatra\_47, SirVictor\_47, WilliamStrong\_48, YuuY\_48,

### Summary by start number:

Start 14:

- Found in 129 of 163 ( 79.1% ) of genes in pham
- Manual Annotations of this start: 120 of 151
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acosta\_52 (EA1), Agente005\_50 (EA1), AlexAdler\_50 (EA1), Alyxandracam\_50 (EA1), Anilorac\_50 (EA1), Antoinette\_50 (EA1), AranulaLuti\_49 (EA1), Asta\_49 (EA1), Aubergine\_49 (EA1), AxiPup\_50 (EA1), Baines\_49 (EA1), Balsa\_48 (EA1), Bandik\_50 (EA1), BeautPeep30\_50 (EA1), BeeBee8\_50 (EA1), Benjalauen\_50 (EA1), BigRedClifford\_50 (EA1), Blage\_50 (EA1), BonesMcCoy\_50 (EA1), Bonino\_49 (EA1), Byron23\_51 (EA1), Calix\_49 (EA1), CarisSwetlik\_52 (EA1), Chako\_49 (EA1), Chamuel\_49 (EA1), Christoph\_49 (EA1), Clancy\_49 (EA1), Convict\_50 (EA1), Dave\_50 (EA1), Delphidian\_50 (EA1), Den3\_50 (EA1), Dothraki\_50 (EA1), Duocatuli\_49 (EA1), Endor\_51 (EA1), Erla\_49 (EA1), Espinosa\_49 (EA1), Etna\_49 (EA1), Etta\_49 (EA1), Exploradora\_49 (EA1), FarmerDoug\_49 (EA1), Figueroism\_50 (EA1), GardenB\_50 (EA1), Garey24\_50 (EA1), Gargoyle\_50 (EA1), Gelo\_49 (EA1), Gershwin\_49 (EA1), Greys\_50 (EA1), Gubbabump\_49 (EA1), Hamlet\_49 (EA1), HanSolo\_49 (EA1), HankSprout\_50 (EA1), HungryHenry\_49 (EA1), Ilzat\_49 (EA1), Inventa\_50 (EA1), Ioannes\_50 (EA1), Janus167\_49 (EA1), JasonD\_53 (EA1), JasperRussell\_49 (EA1), Jenos\_52 (EA1), Jerbirus\_51 (EA1), JeriBeth\_51 (EA1), Kale\_49 (EA1), KannH\_49 (EA1), KingJulien\_49 (EA1), Klimt\_50 (EA1), Knox\_50 (EA1), Kurt1\_50 (EA1), Leafus\_49 (EA1), Lovelyunicorn\_50 (EA1), Ludgate\_50 (EA1), MaeLinda\_50 (EA1), ManRay\_49 (EA1), Martin\_51 (EA1), McGalleon\_51 (EA1), MillyPhilly\_50 (EA1), MonChoix\_47 (EA1), MrWorldwide\_50 (EA1), Nagem\_50 (EA1), Nattles\_49 (EA1), NickSell\_50 (EA1), Oats\_49 (EA1), OldNelly\_51 (EA1), Oxtober96\_51 (EA1), Papafritta\_49 (EA1), ParleG\_50 (EA1), Peep\_50 (EA1), Peppino\_49 (EA1), Pherferi\_50 (EA1), Phiderman\_50 (EA1), Phireproof\_50 (EA1), PhredFlintston\_50 (EA1), Phriends\_50 (EA1), Pocket\_49 (EA1), PuppyEggo\_50 (EA1), Raccoon\_49 (EA1), Rapheph\_50 (EA1), Raptor\_50 (EA1), Redfield\_49 (EA1), Renzie\_50 (EA1), Riyhil\_50 (EA1), Robinson\_50 (EA1), Rog141\_49 (EA1), RosieMae\_51 (EA1), SJay\_50 (EA1), Schnapsidee\_49 (EA1), Sedgewig\_49 (EA1), ShaiHulud\_51 (EA1), Shee\_50 (EA1), SoilGremlin\_51 (EA1), SonOfLevi\_50 (EA1), Stanktossa\_49 (EA1), StingRay\_49 (EA1), StirfryIV\_49 (EA1), Stormbreaker8\_48 (EA1), Strathdee\_50 (EA1),

Superfresh\_50 (EA1), Symere\_51 (EA1), TatarkaPM\_50 (EA1), Teagan\_50 (EA1), TeddyBear\_49 (EA1), Tenda\_49 (EA1), Thompsone\_50 (EA1), Thorongil\_50 (EA1), TinSulphur\_51 (EA1), Velene\_50 (EA1), Vispistious\_50 (EA1), WildNOut\_50 (EA1), Winzigespinne\_49 (EA1), Zada\_51 (EA1),

Start 15:

- Found in 3 of 163 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 3 of 151
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Casey\_48 (EA3), Pajaza\_48 (EA3), Pikmin\_48 (EA3),

Start 17:

- Found in 3 of 163 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 2 of 151
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HairyMan\_46 (EA10), Juanyo\_47 (EA10), Schubert\_47 (EA8),

Start 18:

- Found in 20 of 163 ( 12.3% ) of genes in pham
- Manual Annotations of this start: 16 of 151
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Bustleton\_46 (EA4), Carostasia\_47 (EA10), Golden\_46 (EA4), Guetzie\_47 (EA4), Koji\_46 (EA4), Lucky3\_46 (EA4), Mandalorian\_47 (EA10), Mercedes\_44 (EA), Nucci\_47 (EA10), Pherbot\_46 (EA4), PrincePhergus\_46 (EA4), Quartz\_48 (EA10), Sinatra\_47 (EA4), SirVictor\_47 (EA4), WilliamStrong\_48 (EA6), YuuY\_48 (EA10),

Start 19:

- Found in 13 of 163 ( 8.0% ) of genes in pham
- Manual Annotations of this start: 7 of 151
- Called 69.2% of time when present
- Phage (with cluster) where this start called: BouleyBill\_46 (EA4), Chepli\_49 (EA6), Jemerald\_49 (EA6), Jingles\_46 (EA4), Juicer\_49 (EA6), KatChan\_48 (EA6), Kauala\_46 (EA4), Luna18\_49 (EA6), RenegadeRaider\_49 (EA4),

Start 21:

- Found in 3 of 163 ( 1.8% ) of genes in pham
- Manual Annotations of this start: 3 of 151
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cheeto1\_50 (EA9), ChickenKing\_48 (EA9), GaeCeo\_50 (EA9),

### **Summary by clusters:**

There are 8 clusters represented in this pham: EA10, EA, EA9, EA8, EA1, EA3, EA4, EA6,

Info for manual annotations of cluster EA:

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

Info for manual annotations of cluster EA1:

- Start number 14 was manually annotated 120 times for cluster EA1.

Info for manual annotations of cluster EA10:

- Start number 17 was manually annotated 1 time for cluster EA10.
- Start number 18 was manually annotated 5 times for cluster EA10.

Info for manual annotations of cluster EA3:

- Start number 15 was manually annotated 3 times for cluster EA3.

Info for manual annotations of cluster EA4:

- Start number 18 was manually annotated 9 times for cluster EA4.
- Start number 19 was manually annotated 2 times for cluster EA4.

Info for manual annotations of cluster EA6:

- Start number 18 was manually annotated 1 time for cluster EA6.
- Start number 19 was manually annotated 5 times for cluster EA6.

Info for manual annotations of cluster EA8:

- Start number 17 was manually annotated 1 time for cluster EA8.

Info for manual annotations of cluster EA9:

- Start number 21 was manually annotated 3 times for cluster EA9.

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

Gene: Acosta\_52 Start: 36041, Stop: 35763, Start Num: 14

Candidate Starts for Acosta\_52:

(2, 36581), (3, 36572), (4, 36266), (11, 36089), (Start: 14 @36041 has 120 MA's), (16, 36026), (34, 35987), (50, 35930), (61, 35858), (68, 35822), (70, 35804),

Gene: Agente005\_50 Start: 35925, Stop: 35587, Start Num: 14

Candidate Starts for Agente005\_50:

(11, 35973), (Start: 14 @35925 has 120 MA's), (26, 35880), (28, 35877), (30, 35868), (35, 35850), (40, 35829), (60, 35730), (68, 35688), (69, 35679),

Gene: AlexAdler\_50 Start: 35893, Stop: 35597, Start Num: 14

Candidate Starts for AlexAdler\_50:

(11, 35941), (Start: 14 @35893 has 120 MA's),

Gene: Alyxandracam\_50 Start: 35903, Stop: 35607, Start Num: 14

Candidate Starts for Alyxandracam\_50:

(11, 35951), (Start: 14 @35903 has 120 MA's),

Gene: Anilorac\_50 Start: 35867, Stop: 35529, Start Num: 14

Candidate Starts for Anilorac\_50:

(4, 36092), (11, 35915), (Start: 14 @35867 has 120 MA's), (26, 35822), (28, 35819), (30, 35810), (40, 35771), (68, 35630), (69, 35621),

Gene: Antoinette\_50 Start: 35893, Stop: 35597, Start Num: 14

Candidate Starts for Antoinette\_50:

(11, 35941), (Start: 14 @35893 has 120 MA's),

Gene: AranulaLuti\_49 Start: 35605, Stop: 35309, Start Num: 14  
Candidate Starts for AranulaLuti\_49:  
(2, 36145), (4, 35830), (11, 35653), (Start: 14 @35605 has 120 MA's),

Gene: Asta\_49 Start: 35615, Stop: 35319, Start Num: 14  
Candidate Starts for Asta\_49:  
(2, 36155), (4, 35840), (11, 35663), (Start: 14 @35615 has 120 MA's),

Gene: Aubergine\_49 Start: 35615, Stop: 35319, Start Num: 14  
Candidate Starts for Aubergine\_49:  
(2, 36155), (4, 35840), (11, 35663), (Start: 14 @35615 has 120 MA's),

Gene: AxiPup\_50 Start: 35872, Stop: 35576, Start Num: 14  
Candidate Starts for AxiPup\_50:  
(Start: 14 @35872 has 120 MA's),

Gene: Baines\_49 Start: 35608, Stop: 35312, Start Num: 14  
Candidate Starts for Baines\_49:  
(2, 36148), (4, 35833), (11, 35656), (Start: 14 @35608 has 120 MA's),

Gene: Balsa\_48 Start: 35687, Stop: 35349, Start Num: 14  
Candidate Starts for Balsa\_48:  
(11, 35735), (Start: 14 @35687 has 120 MA's), (26, 35642), (28, 35639), (30, 35630), (40, 35591), (60, 35492), (68, 35450), (69, 35441), (71, 35423),

Gene: Bandik\_50 Start: 35898, Stop: 35602, Start Num: 14  
Candidate Starts for Bandik\_50:  
(4, 36123), (11, 35946), (Start: 14 @35898 has 120 MA's),

Gene: BeautPeep30\_50 Start: 35904, Stop: 35608, Start Num: 14  
Candidate Starts for BeautPeep30\_50:  
(4, 36129), (11, 35952), (Start: 14 @35904 has 120 MA's),

Gene: BeeBee8\_50 Start: 35858, Stop: 35520, Start Num: 14  
Candidate Starts for BeeBee8\_50:  
(2, 36398), (4, 36083), (11, 35906), (Start: 14 @35858 has 120 MA's), (26, 35813), (28, 35810), (30, 35801), (40, 35762), (60, 35663), (68, 35621), (69, 35612), (71, 35594),

Gene: Benjalauren\_50 Start: 35621, Stop: 35325, Start Num: 14  
Candidate Starts for Benjalauren\_50:  
(2, 36161), (4, 35846), (11, 35669), (Start: 14 @35621 has 120 MA's),

Gene: BigRedClifford\_50 Start: 35899, Stop: 35603, Start Num: 14  
Candidate Starts for BigRedClifford\_50:  
(Start: 14 @35899 has 120 MA's),

Gene: Blage\_50 Start: 35899, Stop: 35603, Start Num: 14  
Candidate Starts for Blage\_50:  
(Start: 14 @35899 has 120 MA's),

Gene: BonesMcCoy\_50 Start: 35899, Stop: 35603, Start Num: 14  
Candidate Starts for BonesMcCoy\_50:

(Start: 14 @35899 has 120 MA's),

Gene: Bonino\_49 Start: 35594, Stop: 35298, Start Num: 14

Candidate Starts for Bonino\_49:

(2, 36134), (4, 35819), (11, 35642), (Start: 14 @35594 has 120 MA's),

Gene: BouleyBill\_46 Start: 34037, Stop: 33723, Start Num: 19

Candidate Starts for BouleyBill\_46:

(2, 34625), (4, 34310), (8, 34181), (11, 34133), (Start: 18 @34040 has 16 MA's), (Start: 19 @34037 has 7 MA's), (27, 33992), (43, 33932), (45, 33926), (64, 33794),

Gene: Bustleton\_46 Start: 33834, Stop: 33517, Start Num: 18

Candidate Starts for Bustleton\_46:

(11, 33927), (Start: 18 @33834 has 16 MA's), (Start: 19 @33831 has 7 MA's), (40, 33735), (43, 33726), (45, 33720), (64, 33588),

Gene: Byron23\_51 Start: 35901, Stop: 35605, Start Num: 14

Candidate Starts for Byron23\_51:

(4, 36126), (11, 35949), (Start: 14 @35901 has 120 MA's),

Gene: Calix\_49 Start: 35601, Stop: 35305, Start Num: 14

Candidate Starts for Calix\_49:

(2, 36141), (4, 35826), (11, 35649), (Start: 14 @35601 has 120 MA's),

Gene: CarisSwetlik\_52 Start: 36277, Stop: 35933, Start Num: 14

Candidate Starts for CarisSwetlik\_52:

(2, 36817), (4, 36502), (11, 36325), (Start: 14 @36277 has 120 MA's), (27, 36226), (30, 36214), (40, 36175), (60, 36076), (68, 36034), (69, 36025), (71, 36007),

Gene: Carostasia\_47 Start: 34378, Stop: 34094, Start Num: 18

Candidate Starts for Carostasia\_47:

(1, 35029), (2, 34963), (4, 34645), (10, 34477), (Start: 18 @34378 has 16 MA's), (24, 34360), (33, 34327), (35, 34321), (45, 34285), (57, 34228), (62, 34189), (64, 34171), (66, 34156),

Gene: Casey\_48 Start: 34605, Stop: 34303, Start Num: 15

Candidate Starts for Casey\_48:

(5, 34842), (6, 34794), (7, 34776), (12, 34671), (Start: 15 @34605 has 3 MA's), (22, 34587), (37, 34533), (41, 34515), (58, 34431),

Gene: Chako\_49 Start: 35605, Stop: 35309, Start Num: 14

Candidate Starts for Chako\_49:

(2, 36145), (4, 35830), (11, 35653), (Start: 14 @35605 has 120 MA's),

Gene: Chamuel\_49 Start: 35627, Stop: 35331, Start Num: 14

Candidate Starts for Chamuel\_49:

(2, 36167), (4, 35852), (11, 35675), (Start: 14 @35627 has 120 MA's),

Gene: Cheeto1\_50 Start: 35303, Stop: 35010, Start Num: 21

Candidate Starts for Cheeto1\_50:

(Start: 21 @35303 has 3 MA's), (30, 35261), (49, 35198), (51, 35180), (60, 35114), (63, 35084), (65, 35069), (69, 35054),

Gene: Chepli\_49 Start: 34188, Stop: 33892, Start Num: 19



Candidate Starts for Chepli\_49:

(9, 34332), (Start: 19 @34188 has 7 MA's), (42, 34107), (43, 34104), (44, 34101), (53, 34065), (62, 34002), (71, 33939),

Gene: ChickenKing\_48 Start: 35196, Stop: 34903, Start Num: 21

Candidate Starts for ChickenKing\_48:

(4, 35475), (Start: 21 @35196 has 3 MA's), (30, 35154), (35, 35136), (51, 35073), (59, 35010), (63, 34977), (65, 34962), (69, 34947),

Gene: Christoph\_49 Start: 35614, Stop: 35318, Start Num: 14

Candidate Starts for Christoph\_49:

(2, 36154), (4, 35839), (11, 35662), (Start: 14 @35614 has 120 MA's),

Gene: Clancy\_49 Start: 35650, Stop: 35354, Start Num: 14

Candidate Starts for Clancy\_49:

(11, 35698), (Start: 14 @35650 has 120 MA's),

Gene: Convict\_50 Start: 35899, Stop: 35603, Start Num: 14

Candidate Starts for Convict\_50:

(Start: 14 @35899 has 120 MA's),

Gene: Dave\_50 Start: 35893, Stop: 35597, Start Num: 14

Candidate Starts for Dave\_50:

(11, 35941), (Start: 14 @35893 has 120 MA's),

Gene: Delphidian\_50 Start: 35901, Stop: 35605, Start Num: 14

Candidate Starts for Delphidian\_50:

(11, 35949), (Start: 14 @35901 has 120 MA's),

Gene: Den3\_50 Start: 35904, Stop: 35608, Start Num: 14

Candidate Starts for Den3\_50:

(Start: 14 @35904 has 120 MA's),

Gene: Dothraki\_50 Start: 35901, Stop: 35605, Start Num: 14

Candidate Starts for Dothraki\_50:

(4, 36126), (11, 35949), (Start: 14 @35901 has 120 MA's),

Gene: Duocatuli\_49 Start: 35605, Stop: 35309, Start Num: 14

Candidate Starts for Duocatuli\_49:

(11, 35653), (Start: 14 @35605 has 120 MA's),

Gene: Endor\_51 Start: 36129, Stop: 35791, Start Num: 14

Candidate Starts for Endor\_51:

(11, 36177), (Start: 14 @36129 has 120 MA's), (26, 36084), (30, 36072), (35, 36054), (40, 36033), (60, 35934), (68, 35892), (69, 35883),

Gene: Erla\_49 Start: 35598, Stop: 35302, Start Num: 14

Candidate Starts for Erla\_49:

(2, 36138), (4, 35823), (11, 35646), (Start: 14 @35598 has 120 MA's),

Gene: Espinosa\_49 Start: 35613, Stop: 35317, Start Num: 14

Candidate Starts for Espinosa\_49:

(2, 36153), (4, 35838), (11, 35661), (Start: 14 @35613 has 120 MA's),

Gene: Etna\_49 Start: 35734, Stop: 35396, Start Num: 14

Candidate Starts for Etna\_49:

(11, 35782), (Start: 14 @35734 has 120 MA's), (26, 35689), (28, 35686), (30, 35677), (35, 35659), (40, 35638), (60, 35539), (68, 35497), (69, 35488), (71, 35470),

Gene: Etta\_49 Start: 35602, Stop: 35306, Start Num: 14

Candidate Starts for Etta\_49:

(2, 36142), (4, 35827), (11, 35650), (Start: 14 @35602 has 120 MA's),

Gene: Exploradora\_49 Start: 35605, Stop: 35309, Start Num: 14

Candidate Starts for Exploradora\_49:

(2, 36145), (4, 35830), (11, 35653), (Start: 14 @35605 has 120 MA's),

Gene: FarmerDoug\_49 Start: 35636, Stop: 35298, Start Num: 14

Candidate Starts for FarmerDoug\_49:

(11, 35684), (Start: 14 @35636 has 120 MA's), (26, 35591), (28, 35588), (33, 35567), (36, 35558), (68, 35399), (69, 35390), (71, 35372),

Gene: Figueroism\_50 Start: 35892, Stop: 35596, Start Num: 14

Candidate Starts for Figueroism\_50:

(11, 35940), (Start: 14 @35892 has 120 MA's),

Gene: GaeCeo\_50 Start: 35429, Stop: 35136, Start Num: 21

Candidate Starts for GaeCeo\_50:

(4, 35708), (Start: 21 @35429 has 3 MA's), (30, 35387), (35, 35369), (51, 35306), (59, 35243), (63, 35210), (65, 35195), (69, 35180),

Gene: GardenB\_50 Start: 35899, Stop: 35561, Start Num: 14

Candidate Starts for GardenB\_50:

(11, 35947), (Start: 14 @35899 has 120 MA's), (38, 35812), (40, 35803), (60, 35704), (68, 35662), (69, 35653),

Gene: Garey24\_50 Start: 35581, Stop: 35285, Start Num: 14

Candidate Starts for Garey24\_50:

(2, 36121), (4, 35806), (11, 35629), (Start: 14 @35581 has 120 MA's),

Gene: Gargoyle\_50 Start: 35904, Stop: 35608, Start Num: 14

Candidate Starts for Gargoyle\_50:

(Start: 14 @35904 has 120 MA's), (54, 35754),

Gene: Gelo\_49 Start: 35608, Stop: 35312, Start Num: 14

Candidate Starts for Gelo\_49:

(2, 36148), (4, 35833), (11, 35656), (Start: 14 @35608 has 120 MA's),

Gene: Gershwin\_49 Start: 35615, Stop: 35319, Start Num: 14

Candidate Starts for Gershwin\_49:

(2, 36155), (4, 35840), (11, 35663), (Start: 14 @35615 has 120 MA's),

Gene: Golden\_46 Start: 33894, Stop: 33598, Start Num: 18

Candidate Starts for Golden\_46:

(2, 34473), (4, 34158), (8, 34029), (11, 33981), (Start: 18 @33894 has 16 MA's), (27, 33867), (35, 33837), (40, 33816), (47, 33795), (62, 33690), (63, 33672), (65, 33657),

Gene: Greys\_50 Start: 35900, Stop: 35604, Start Num: 14  
Candidate Starts for Greys\_50:  
(2, 36440), (3, 36431), (4, 36125), (11, 35948), (Start: 14 @35900 has 120 MA's),

Gene: Gubbabump\_49 Start: 35595, Stop: 35299, Start Num: 14  
Candidate Starts for Gubbabump\_49:  
(11, 35643), (Start: 14 @35595 has 120 MA's),

Gene: Guetzie\_47 Start: 33879, Stop: 33583, Start Num: 18  
Candidate Starts for Guetzie\_47:  
(2, 34458), (4, 34143), (8, 34014), (11, 33966), (Start: 18 @33879 has 16 MA's), (27, 33852), (35, 33822), (40, 33801), (47, 33780), (62, 33675), (63, 33657), (65, 33642),

Gene: HairyMan\_46 Start: 34255, Stop: 33980, Start Num: 17  
Candidate Starts for HairyMan\_46:  
(Start: 17 @34255 has 2 MA's), (25, 34231), (32, 34210), (33, 34204), (62, 34066),

Gene: Hamlet\_49 Start: 35679, Stop: 35341, Start Num: 14  
Candidate Starts for Hamlet\_49:  
(11, 35727), (Start: 14 @35679 has 120 MA's), (26, 35634), (28, 35631), (30, 35622), (35, 35604), (40, 35583), (60, 35484), (68, 35442), (69, 35433), (71, 35415),

Gene: HanSolo\_49 Start: 35605, Stop: 35309, Start Num: 14  
Candidate Starts for HanSolo\_49:  
(11, 35653), (Start: 14 @35605 has 120 MA's),

Gene: HankSprout\_50 Start: 35482, Stop: 35186, Start Num: 14  
Candidate Starts for HankSprout\_50:  
(2, 36022), (4, 35707), (11, 35530), (Start: 14 @35482 has 120 MA's),

Gene: HungryHenry\_49 Start: 35610, Stop: 35314, Start Num: 14  
Candidate Starts for HungryHenry\_49:  
(11, 35658), (Start: 14 @35610 has 120 MA's),

Gene: Ilzat\_49 Start: 35621, Stop: 35325, Start Num: 14  
Candidate Starts for Ilzat\_49:  
(11, 35669), (Start: 14 @35621 has 120 MA's),

Gene: Inventa\_50 Start: 35898, Stop: 35602, Start Num: 14  
Candidate Starts for Inventa\_50:  
(4, 36123), (11, 35946), (Start: 14 @35898 has 120 MA's),

Gene: Ioannes\_50 Start: 35902, Stop: 35606, Start Num: 14  
Candidate Starts for Ioannes\_50:  
(11, 35950), (Start: 14 @35902 has 120 MA's),

Gene: Janus167\_49 Start: 35632, Stop: 35336, Start Num: 14  
Candidate Starts for Janus167\_49:  
(2, 36172), (4, 35857), (11, 35680), (Start: 14 @35632 has 120 MA's),

Gene: JasonD\_53 Start: 35820, Stop: 35476, Start Num: 14  
Candidate Starts for JasonD\_53:

(2, 36360), (4, 36045), (11, 35868), (Start: 14 @35820 has 120 MA's), (30, 35757), (40, 35718), (60, 35619), (68, 35577), (69, 35568), (71, 35550),

Gene: JasperRussell\_49 Start: 35605, Stop: 35309, Start Num: 14

Candidate Starts for JasperRussell\_49:

(2, 36145), (4, 35830), (11, 35653), (Start: 14 @35605 has 120 MA's),

Gene: Jemerald\_49 Start: 35246, Stop: 34971, Start Num: 19

Candidate Starts for Jemerald\_49:

(13, 35309), (Start: 19 @35246 has 7 MA's), (29, 35213), (36, 35189), (46, 35153), (48, 35147), (50, 35138), (71, 35000),

Gene: Jenos\_52 Start: 36555, Stop: 36211, Start Num: 14

Candidate Starts for Jenos\_52:

(2, 37095), (3, 37086), (4, 36780), (11, 36603), (Start: 14 @36555 has 120 MA's), (27, 36504), (30, 36492), (40, 36453), (44, 36441), (60, 36354), (68, 36312), (69, 36303), (71, 36285),

Gene: Jerbirus\_51 Start: 35605, Stop: 35309, Start Num: 14

Candidate Starts for Jerbirus\_51:

(2, 36145), (4, 35830), (11, 35653), (Start: 14 @35605 has 120 MA's),

Gene: JeriBeth\_51 Start: 35468, Stop: 35172, Start Num: 14

Candidate Starts for JeriBeth\_51:

(2, 36008), (4, 35693), (11, 35516), (Start: 14 @35468 has 120 MA's),

Gene: Jingles\_46 Start: 34046, Stop: 33732, Start Num: 19

Candidate Starts for Jingles\_46:

(11, 34142), (Start: 18 @34049 has 16 MA's), (Start: 19 @34046 has 7 MA's), (27, 34001), (33, 33977), (43, 33941), (45, 33935), (64, 33803),

Gene: Juanyo\_47 Start: 34226, Stop: 33948, Start Num: 17

Candidate Starts for Juanyo\_47:

(Start: 17 @34226 has 2 MA's), (23, 34208), (32, 34181), (34, 34172), (36, 34166), (39, 34151), (43, 34139), (47, 34127), (52, 34103), (62, 34040), (67, 34007),

Gene: Juicer\_49 Start: 35246, Stop: 34971, Start Num: 19

Candidate Starts for Juicer\_49:

(13, 35309), (Start: 19 @35246 has 7 MA's), (29, 35213), (36, 35189), (46, 35153), (48, 35147), (50, 35138), (71, 35000),

Gene: Kale\_49 Start: 35617, Stop: 35321, Start Num: 14

Candidate Starts for Kale\_49:

(2, 36157), (4, 35842), (11, 35665), (Start: 14 @35617 has 120 MA's),

Gene: KannH\_49 Start: 35605, Stop: 35309, Start Num: 14

Candidate Starts for KannH\_49:

(2, 36145), (4, 35830), (11, 35653), (Start: 14 @35605 has 120 MA's),

Gene: KatChan\_48 Start: 34200, Stop: 33904, Start Num: 19

Candidate Starts for KatChan\_48:

(9, 34344), (Start: 19 @34200 has 7 MA's), (42, 34119), (43, 34116), (44, 34113), (53, 34077), (62, 34014), (71, 33951),

Gene: Kauala\_46 Start: 34203, Stop: 33889, Start Num: 19

Candidate Starts for Kauala\_46:

(4, 34479), (8, 34350), (11, 34302), (Start: 18 @34206 has 16 MA's), (Start: 19 @34203 has 7 MA's), (20, 34194), (27, 34158), (45, 34092), (62, 33981), (65, 33948),

Gene: KingJulien\_49 Start: 35570, Stop: 35232, Start Num: 14

Candidate Starts for KingJulien\_49:

(4, 35795), (11, 35618), (Start: 14 @35570 has 120 MA's), (26, 35525), (28, 35522), (30, 35513), (35, 35495), (40, 35474), (60, 35375), (68, 35333), (69, 35324), (71, 35306),

Gene: Klimt\_50 Start: 35633, Stop: 35337, Start Num: 14

Candidate Starts for Klimt\_50:

(2, 36173), (4, 35858), (11, 35681), (Start: 14 @35633 has 120 MA's),

Gene: Knox\_50 Start: 35899, Stop: 35603, Start Num: 14

Candidate Starts for Knox\_50:

(Start: 14 @35899 has 120 MA's),

Gene: Koji\_46 Start: 34187, Stop: 33891, Start Num: 18

Candidate Starts for Koji\_46:

(8, 34328), (11, 34280), (Start: 18 @34187 has 16 MA's), (27, 34160), (35, 34130), (40, 34109), (44, 34097), (47, 34088), (62, 33983), (63, 33965), (65, 33950),

Gene: Kurt1\_50 Start: 35898, Stop: 35602, Start Num: 14

Candidate Starts for Kurt1\_50:

(4, 36123), (11, 35946), (Start: 14 @35898 has 120 MA's),

Gene: Leafus\_49 Start: 35833, Stop: 35495, Start Num: 14

Candidate Starts for Leafus\_49:

(11, 35881), (Start: 14 @35833 has 120 MA's), (26, 35788), (28, 35785), (35, 35758), (45, 35722), (60, 35638), (68, 35596), (69, 35587), (71, 35569),

Gene: Lovelyunicorn\_50 Start: 35900, Stop: 35604, Start Num: 14

Candidate Starts for Lovelyunicorn\_50:

(Start: 14 @35900 has 120 MA's),

Gene: Lucky3\_46 Start: 33894, Stop: 33598, Start Num: 18

Candidate Starts for Lucky3\_46:

(2, 34473), (4, 34158), (8, 34029), (11, 33981), (Start: 18 @33894 has 16 MA's), (27, 33867), (35, 33837), (40, 33816), (47, 33795), (62, 33690), (63, 33672), (65, 33657),

Gene: Ludgate\_50 Start: 35901, Stop: 35605, Start Num: 14

Candidate Starts for Ludgate\_50:

(11, 35949), (Start: 14 @35901 has 120 MA's),

Gene: Luna18\_49 Start: 34200, Stop: 33904, Start Num: 19

Candidate Starts for Luna18\_49:

(9, 34344), (Start: 19 @34200 has 7 MA's), (42, 34119), (43, 34116), (44, 34113), (53, 34077), (62, 34014), (71, 33951),

Gene: MaeLinda\_50 Start: 35902, Stop: 35606, Start Num: 14

Candidate Starts for MaeLinda\_50:

(11, 35950), (Start: 14 @35902 has 120 MA's),

Gene: ManRay\_49 Start: 35615, Stop: 35319, Start Num: 14  
Candidate Starts for ManRay\_49:  
(2, 36155), (4, 35840), (11, 35663), (Start: 14 @35615 has 120 MA's),

Gene: Mandalorian\_47 Start: 34388, Stop: 34104, Start Num: 18  
Candidate Starts for Mandalorian\_47:  
(2, 34973), (4, 34655), (10, 34487), (Start: 18 @34388 has 16 MA's), (24, 34370), (33, 34337), (35, 34331), (45, 34295), (57, 34238), (62, 34199), (64, 34181), (66, 34166),

Gene: Martin\_51 Start: 35907, Stop: 35611, Start Num: 14  
Candidate Starts for Martin\_51:  
(4, 36132), (11, 35955), (Start: 14 @35907 has 120 MA's),

Gene: McGalleon\_51 Start: 36692, Stop: 36399, Start Num: 14  
Candidate Starts for McGalleon\_51:  
(4, 36917), (11, 36740), (Start: 14 @36692 has 120 MA's), (16, 36677), (34, 36638), (49, 36590), (60, 36515),

Gene: Mercedes\_44 Start: 34254, Stop: 33970, Start Num: 18  
Candidate Starts for Mercedes\_44:  
(Start: 18 @34254 has 16 MA's), (33, 34203), (35, 34197), (36, 34194), (45, 34161), (55, 34116), (58, 34101),

Gene: MillyPhilly\_50 Start: 35895, Stop: 35599, Start Num: 14  
Candidate Starts for MillyPhilly\_50:  
(4, 36120), (11, 35943), (Start: 14 @35895 has 120 MA's),

Gene: MonChoix\_47 Start: 35482, Stop: 35144, Start Num: 14  
Candidate Starts for MonChoix\_47:  
(11, 35530), (Start: 14 @35482 has 120 MA's), (26, 35437), (28, 35434), (33, 35413), (43, 35377), (68, 35245), (69, 35236), (71, 35218),

Gene: MrWorldwide\_50 Start: 35905, Stop: 35609, Start Num: 14  
Candidate Starts for MrWorldwide\_50:  
(4, 36130), (11, 35953), (Start: 14 @35905 has 120 MA's),

Gene: Nagem\_50 Start: 35898, Stop: 35602, Start Num: 14  
Candidate Starts for Nagem\_50:  
(2, 36438), (4, 36123), (11, 35946), (Start: 14 @35898 has 120 MA's),

Gene: Nattles\_49 Start: 35602, Stop: 35306, Start Num: 14  
Candidate Starts for Nattles\_49:  
(2, 36142), (4, 35827), (11, 35650), (Start: 14 @35602 has 120 MA's),

Gene: NickSell\_50 Start: 35908, Stop: 35612, Start Num: 14  
Candidate Starts for NickSell\_50:  
(4, 36133), (11, 35956), (Start: 14 @35908 has 120 MA's),

Gene: Nucci\_47 Start: 34371, Stop: 34087, Start Num: 18  
Candidate Starts for Nucci\_47:  
(2, 34938), (4, 34620), (10, 34452), (Start: 18 @34371 has 16 MA's), (24, 34353), (33, 34320), (35, 34314), (45, 34278), (62, 34182), (64, 34164), (66, 34149),

Gene: Oats\_49 Start: 35615, Stop: 35319, Start Num: 14  
Candidate Starts for Oats\_49:  
(2, 36155), (4, 35840), (11, 35663), (Start: 14 @35615 has 120 MA's),

Gene: OldNelly\_51 Start: 35904, Stop: 35608, Start Num: 14  
Candidate Starts for OldNelly\_51:  
(11, 35952), (Start: 14 @35904 has 120 MA's),

Gene: Oxtober96\_51 Start: 35900, Stop: 35604, Start Num: 14  
Candidate Starts for Oxtober96\_51:  
(Start: 14 @35900 has 120 MA's),

Gene: Pajaza\_48 Start: 34605, Stop: 34303, Start Num: 15  
Candidate Starts for Pajaza\_48:  
(5, 34842), (6, 34794), (7, 34776), (12, 34671), (Start: 15 @34605 has 3 MA's), (22, 34587), (37, 34533), (41, 34515), (58, 34431),

Gene: Papafritta\_49 Start: 35656, Stop: 35360, Start Num: 14  
Candidate Starts for Papafritta\_49:  
(2, 36196), (4, 35881), (11, 35704), (Start: 14 @35656 has 120 MA's),

Gene: ParleG\_50 Start: 35905, Stop: 35609, Start Num: 14  
Candidate Starts for ParleG\_50:  
(4, 36130), (11, 35953), (Start: 14 @35905 has 120 MA's),

Gene: Peep\_50 Start: 35890, Stop: 35594, Start Num: 14  
Candidate Starts for Peep\_50:  
(11, 35938), (Start: 14 @35890 has 120 MA's),

Gene: Peppino\_49 Start: 35679, Stop: 35341, Start Num: 14  
Candidate Starts for Peppino\_49:  
(11, 35727), (Start: 14 @35679 has 120 MA's), (26, 35634), (28, 35631), (43, 35574), (60, 35484), (68, 35442), (69, 35433), (71, 35415),

Gene: Pherbot\_46 Start: 33821, Stop: 33504, Start Num: 18  
Candidate Starts for Pherbot\_46:  
(11, 33914), (Start: 18 @33821 has 16 MA's), (Start: 19 @33818 has 7 MA's), (40, 33722), (43, 33713), (45, 33707), (64, 33575),

Gene: Pherferi\_50 Start: 35898, Stop: 35602, Start Num: 14  
Candidate Starts for Pherferi\_50:  
(4, 36123), (11, 35946), (Start: 14 @35898 has 120 MA's),

Gene: Phiderman\_50 Start: 35895, Stop: 35599, Start Num: 14  
Candidate Starts for Phiderman\_50:  
(4, 36120), (11, 35943), (Start: 14 @35895 has 120 MA's),

Gene: Phireproof\_50 Start: 35904, Stop: 35608, Start Num: 14  
Candidate Starts for Phireproof\_50:  
(Start: 14 @35904 has 120 MA's),

Gene: PhredFlintston\_50 Start: 35898, Stop: 35602, Start Num: 14

Candidate Starts for PhredFlintston\_50:  
(4, 36123), (11, 35946), (Start: 14 @35898 has 120 MA's),

Gene: Phriends\_50 Start: 35904, Stop: 35608, Start Num: 14  
Candidate Starts for Phriends\_50:  
(11, 35952), (Start: 14 @35904 has 120 MA's),

Gene: Pikmin\_48 Start: 34605, Stop: 34303, Start Num: 15  
Candidate Starts for Pikmin\_48:  
(5, 34842), (6, 34794), (7, 34776), (12, 34671), (Start: 15 @34605 has 3 MA's), (22, 34587), (37, 34533), (41, 34515), (58, 34431),

Gene: Pocket\_49 Start: 35642, Stop: 35346, Start Num: 14  
Candidate Starts for Pocket\_49:  
(2, 36182), (4, 35867), (11, 35690), (Start: 14 @35642 has 120 MA's),

Gene: PrincePhergus\_46 Start: 33837, Stop: 33520, Start Num: 18  
Candidate Starts for PrincePhergus\_46:  
(8, 33978), (11, 33930), (Start: 18 @33837 has 16 MA's), (Start: 19 @33834 has 7 MA's), (43, 33729), (45, 33723), (64, 33591),

Gene: PuppyEggo\_50 Start: 35905, Stop: 35609, Start Num: 14  
Candidate Starts for PuppyEggo\_50:  
(11, 35953), (Start: 14 @35905 has 120 MA's),

Gene: Quartz\_48 Start: 34501, Stop: 34217, Start Num: 18  
Candidate Starts for Quartz\_48:  
(1, 35152), (2, 35086), (4, 34768), (10, 34600), (Start: 18 @34501 has 16 MA's), (24, 34483), (33, 34450), (35, 34444), (45, 34408), (57, 34351), (62, 34312), (64, 34294), (66, 34279),

Gene: Raccoon\_49 Start: 35636, Stop: 35298, Start Num: 14  
Candidate Starts for Raccoon\_49:  
(11, 35684), (Start: 14 @35636 has 120 MA's), (26, 35591), (28, 35588), (30, 35579), (35, 35561), (40, 35540), (60, 35441), (68, 35399), (69, 35390), (71, 35372),

Gene: Rapheph\_50 Start: 35898, Stop: 35602, Start Num: 14  
Candidate Starts for Rapheph\_50:  
(4, 36123), (11, 35946), (Start: 14 @35898 has 120 MA's),

Gene: Raptor\_50 Start: 35902, Stop: 35606, Start Num: 14  
Candidate Starts for Raptor\_50:  
(Start: 14 @35902 has 120 MA's),

Gene: Redfield\_49 Start: 35687, Stop: 35349, Start Num: 14  
Candidate Starts for Redfield\_49:  
(2, 36227), (4, 35912), (11, 35735), (Start: 14 @35687 has 120 MA's), (26, 35642), (28, 35639), (30, 35630), (40, 35591), (60, 35492), (68, 35450), (69, 35441), (71, 35423),

Gene: RenegadeRaider\_49 Start: 33889, Stop: 33575, Start Num: 19  
Candidate Starts for RenegadeRaider\_49:  
(Start: 18 @33892 has 16 MA's), (Start: 19 @33889 has 7 MA's), (43, 33784), (45, 33778), (64, 33646),

Gene: Renzie\_50 Start: 35893, Stop: 35597, Start Num: 14



Candidate Starts for Renzie\_50:  
(11, 35941), (Start: 14 @35893 has 120 MA's),

Gene: Riyhil\_50 Start: 35908, Stop: 35612, Start Num: 14  
Candidate Starts for Riyhil\_50:  
(4, 36133), (11, 35956), (Start: 14 @35908 has 120 MA's),

Gene: Robinson\_50 Start: 35896, Stop: 35600, Start Num: 14  
Candidate Starts for Robinson\_50:  
(11, 35944), (Start: 14 @35896 has 120 MA's),

Gene: Rog141\_49 Start: 35605, Stop: 35309, Start Num: 14  
Candidate Starts for Rog141\_49:  
(2, 36145), (4, 35830), (11, 35653), (Start: 14 @35605 has 120 MA's),

Gene: RosieMae\_51 Start: 35660, Stop: 35364, Start Num: 14  
Candidate Starts for RosieMae\_51:  
(2, 36200), (4, 35885), (11, 35708), (Start: 14 @35660 has 120 MA's),

Gene: SJay\_50 Start: 35899, Stop: 35603, Start Num: 14  
Candidate Starts for SJay\_50:  
(2, 36439), (4, 36124), (11, 35947), (Start: 14 @35899 has 120 MA's),

Gene: Schnapsidee\_49 Start: 35694, Stop: 35356, Start Num: 14  
Candidate Starts for Schnapsidee\_49:  
(11, 35742), (Start: 14 @35694 has 120 MA's), (26, 35649), (28, 35646), (30, 35637), (40, 35598), (60, 35499), (68, 35457), (69, 35448), (71, 35430),

Gene: Schubert\_47 Start: 34593, Stop: 34306, Start Num: 17  
Candidate Starts for Schubert\_47:  
(Start: 17 @34593 has 2 MA's), (23, 34575), (31, 34551), (40, 34515), (56, 34449),

Gene: Sedgewig\_49 Start: 35603, Stop: 35307, Start Num: 14  
Candidate Starts for Sedgewig\_49:  
(2, 36143), (3, 36134), (4, 35828), (11, 35651), (Start: 14 @35603 has 120 MA's),

Gene: ShaiHulud\_51 Start: 35914, Stop: 35618, Start Num: 14  
Candidate Starts for ShaiHulud\_51:  
(11, 35962), (Start: 14 @35914 has 120 MA's),

Gene: Shee\_50 Start: 35895, Stop: 35599, Start Num: 14  
Candidate Starts for Shee\_50:  
(4, 36120), (11, 35943), (Start: 14 @35895 has 120 MA's),

Gene: Sinatra\_47 Start: 33832, Stop: 33515, Start Num: 18  
Candidate Starts for Sinatra\_47:  
(11, 33925), (Start: 18 @33832 has 16 MA's), (Start: 19 @33829 has 7 MA's), (40, 33733), (43, 33724), (45, 33718), (64, 33586),

Gene: SirVictor\_47 Start: 33879, Stop: 33583, Start Num: 18  
Candidate Starts for SirVictor\_47:  
(2, 34458), (4, 34143), (8, 34014), (11, 33966), (Start: 18 @33879 has 16 MA's), (27, 33852), (35, 33822), (40, 33801), (47, 33780), (62, 33675), (63, 33657), (65, 33642),

Gene: SoilGremlin\_51 Start: 35901, Stop: 35605, Start Num: 14

Candidate Starts for SoilGremlin\_51:

(11, 35949), (Start: 14 @35901 has 120 MA's),

Gene: SonOfLevi\_50 Start: 35633, Stop: 35337, Start Num: 14

Candidate Starts for SonOfLevi\_50:

(2, 36173), (4, 35858), (11, 35681), (Start: 14 @35633 has 120 MA's),

Gene: Stanktossa\_49 Start: 35898, Stop: 35602, Start Num: 14

Candidate Starts for Stanktossa\_49:

(4, 36123), (11, 35946), (Start: 14 @35898 has 120 MA's),

Gene: StingRay\_49 Start: 35619, Stop: 35323, Start Num: 14

Candidate Starts for StingRay\_49:

(2, 36159), (4, 35844), (11, 35667), (Start: 14 @35619 has 120 MA's),

Gene: StirfryIV\_49 Start: 35614, Stop: 35318, Start Num: 14

Candidate Starts for StirfryIV\_49:

(11, 35662), (Start: 14 @35614 has 120 MA's),

Gene: Stormbreaker8\_48 Start: 35571, Stop: 35233, Start Num: 14

Candidate Starts for Stormbreaker8\_48:

(4, 35796), (11, 35619), (Start: 14 @35571 has 120 MA's), (26, 35526), (28, 35523), (30, 35514), (35, 35496), (40, 35475), (60, 35376), (68, 35334), (69, 35325), (71, 35307),

Gene: Strathdee\_50 Start: 35904, Stop: 35608, Start Num: 14

Candidate Starts for Strathdee\_50:

(11, 35952), (Start: 14 @35904 has 120 MA's),

Gene: Superfresh\_50 Start: 35893, Stop: 35597, Start Num: 14

Candidate Starts for Superfresh\_50:

(11, 35941), (Start: 14 @35893 has 120 MA's),

Gene: Symere\_51 Start: 35613, Stop: 35317, Start Num: 14

Candidate Starts for Symere\_51:

(2, 36153), (3, 36144), (4, 35838), (11, 35661), (Start: 14 @35613 has 120 MA's),

Gene: TatarkaPM\_50 Start: 35908, Stop: 35612, Start Num: 14

Candidate Starts for TatarkaPM\_50:

(4, 36133), (11, 35956), (Start: 14 @35908 has 120 MA's),

Gene: Teagan\_50 Start: 35895, Stop: 35599, Start Num: 14

Candidate Starts for Teagan\_50:

(Start: 14 @35895 has 120 MA's),

Gene: TeddyBear\_49 Start: 35615, Stop: 35319, Start Num: 14

Candidate Starts for TeddyBear\_49:

(2, 36155), (4, 35840), (11, 35663), (Start: 14 @35615 has 120 MA's),

Gene: Tenda\_49 Start: 35613, Stop: 35317, Start Num: 14

Candidate Starts for Tenda\_49:

(2, 36153), (4, 35838), (11, 35661), (Start: 14 @35613 has 120 MA's),

Gene: Thompsone\_50 Start: 35902, Stop: 35606, Start Num: 14  
Candidate Starts for Thompsone\_50:  
(Start: 14 @35902 has 120 MA's), (54, 35752),

Gene: Thorongil\_50 Start: 35419, Stop: 35123, Start Num: 14  
Candidate Starts for Thorongil\_50:  
(11, 35467), (Start: 14 @35419 has 120 MA's),

Gene: TinSulphur\_51 Start: 35904, Stop: 35608, Start Num: 14  
Candidate Starts for TinSulphur\_51:  
(4, 36129), (11, 35952), (Start: 14 @35904 has 120 MA's),

Gene: Velene\_50 Start: 35900, Stop: 35604, Start Num: 14  
Candidate Starts for Velene\_50:  
(Start: 14 @35900 has 120 MA's),

Gene: Vispitious\_50 Start: 35905, Stop: 35609, Start Num: 14  
Candidate Starts for Vispitious\_50:  
(11, 35953), (Start: 14 @35905 has 120 MA's),

Gene: WildNOut\_50 Start: 35898, Stop: 35602, Start Num: 14  
Candidate Starts for WildNOut\_50:  
(Start: 14 @35898 has 120 MA's),

Gene: WilliamStrong\_48 Start: 34727, Stop: 34443, Start Num: 18  
Candidate Starts for WilliamStrong\_48:  
(Start: 18 @34727 has 16 MA's), (33, 34676), (36, 34667), (38, 34658), (49, 34625), (53, 34601), (71, 34478),

Gene: Winzigespinne\_49 Start: 35601, Stop: 35305, Start Num: 14  
Candidate Starts for Winzigespinne\_49:  
(2, 36141), (4, 35826), (11, 35649), (Start: 14 @35601 has 120 MA's),

Gene: YuuY\_48 Start: 34957, Stop: 34676, Start Num: 18  
Candidate Starts for YuuY\_48:  
(2, 35509), (4, 35191), (10, 35023), (Start: 18 @34957 has 16 MA's), (24, 34939), (33, 34906), (34, 34903), (35, 34900), (45, 34864), (57, 34807), (62, 34768), (64, 34750), (66, 34735),

Gene: Zada\_51 Start: 35874, Stop: 35578, Start Num: 14  
Candidate Starts for Zada\_51:  
(4, 36099), (11, 35922), (Start: 14 @35874 has 120 MA's),