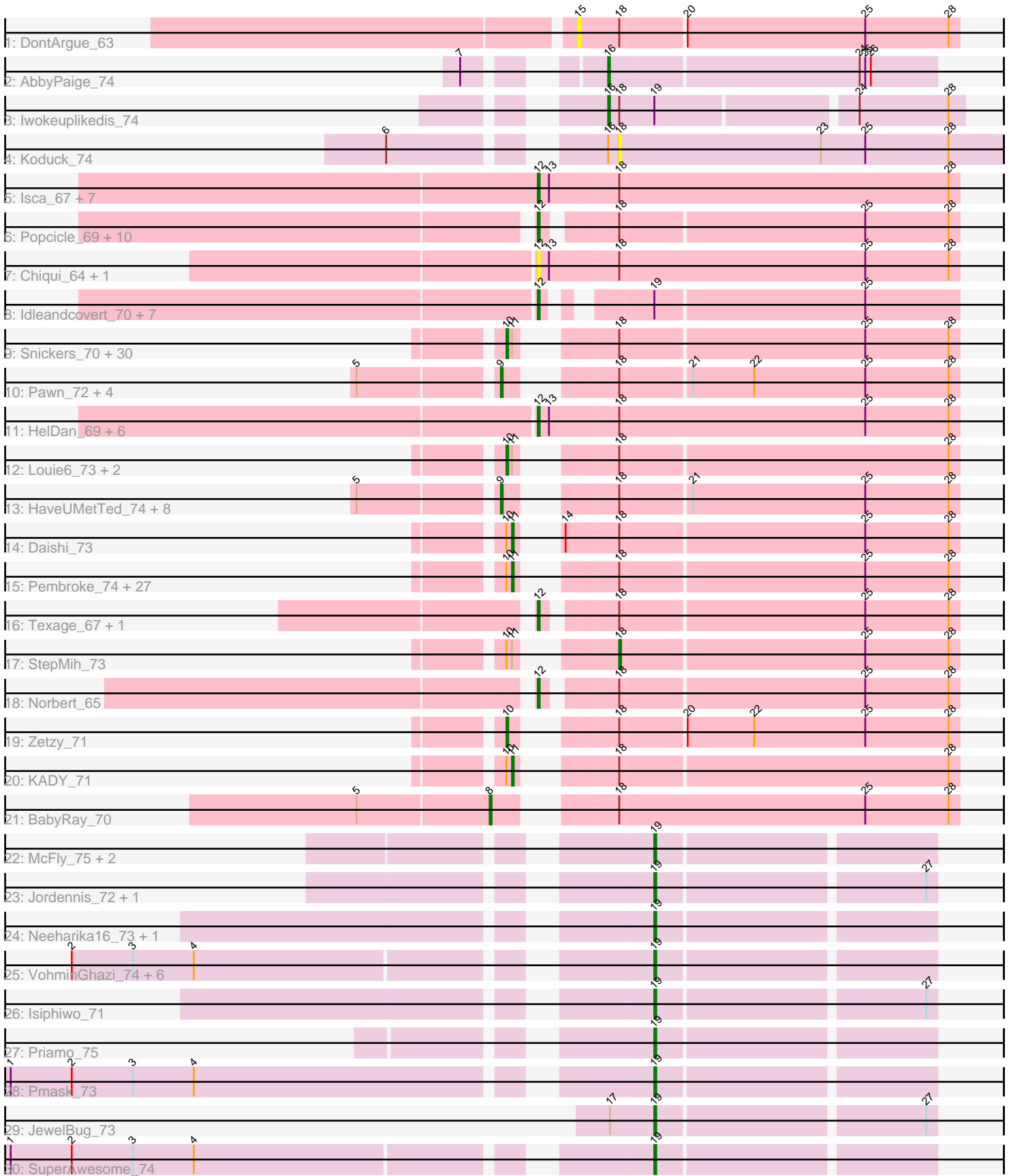


Pham 193804



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 193804 Report

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

Pham number 193804 has 143 members, 14 are drafts.

Phages represented in each track:

- Track 1 : DontArgue\_63
- Track 2 : AbbyPaige\_74
- Track 3 : Iwokeuplikedis\_74
- Track 4 : Koduck\_74
- Track 5 : Isca\_67, JF4\_67, Phantastic\_71, MK4\_69, JF2\_67, B1\_61, Rockstar\_68, MA5\_69
- Track 6 : Popcicle\_69, Caviar\_69, Pocahontas\_68, Todacoro\_69, Veracruz\_66, Panamaxus\_67, Lambert1\_69, ResDef\_67, Margo\_69, Hookmount\_69, QuinnKiro\_68
- Track 7 : Chiqui\_64, BabyJohn\_64
- Track 8 : Idleandcovert\_70, TNguyen7\_70, BlueBird\_72, SaturnRing\_69, Bugatti\_69, Puppy\_70, Giroux\_68, Pistachio\_69
- Track 9 : Snickers\_70, JenCasNa\_75, Methuselah\_67, Mainiac\_73, Cullens\_74, Colbster\_70, Soshari\_76, MoneyMay\_73, Hercules11\_74, Sabia\_72, LugYA\_77, Microwolf\_70, Taurus\_75, MarQuardt\_74, PotatoSplit\_75, Vix\_70, Farber\_74, Phoxy\_74, Tiffany\_73, Wooldri\_76, Anubis\_77, Jobu08\_70, LBerry\_75, DaHudson\_73, JHC117\_70, Rummer\_73, Spike509\_74, P28Green\_74, GingkoMaracino\_74, Phoebe\_75, Grum1\_73
- Track 10 : Pawn\_72, Kalnoky\_74, JeppNRM\_74, Marius\_74, ACFishhook\_71
- Track 11 : HelDan\_69, Heathen\_69, Marchesa\_67, DropBear\_67, Scout\_68, Kachowdy\_67, Fred313\_67
- Track 12 : Louie6\_73, Misomonster\_75, BuzzBuzz\_68
- Track 13 : HaveUMetTed\_74, Gemma\_71, Groupthink\_74, PhishRPhriends\_70, Kalb97\_74, OlanP\_72, Heliosoles\_71, Manu\_73, PurpleHaze\_73
- Track 14 : Daishi\_73
- Track 15 : Pembroke\_74, Marie\_72, Grif\_72, Ollie\_74, BreSam8\_74, SoilDragon\_73, Penny1\_74, GtownJaz\_74, Stagni\_71, Beauxregard13\_73, Lilith\_72, HashRod\_75, Bxz2\_69, Fernando\_74, Grub\_72, Sabinator\_72, Dieselweasel\_74, EpicPhail\_75, MadMarie\_72, Watson\_73, AgronaGT15\_71, LarryKay\_74, PGHhamlin\_76, MuchMore\_77, Malinsilva\_76, Aglet\_75, AugsMagnumOpus\_77, SoYo\_71
- Track 16 : Texage\_67, Noella\_69
- Track 17 : StepMih\_73
- Track 18 : Norbert\_65
- Track 19 : Zetzy\_71
- Track 20 : KADY\_71
- Track 21 : BabyRay\_70

- Track 22 : McFly\_75, BABullseye\_67, Dorothea\_74
- Track 23 : Jordennis\_72, Newrala\_73
- Track 24 : Neeharika16\_73, SuperCallie99\_71
- Track 25 : VohminGhazi\_74, Hoot\_69, Candra\_72, EricB\_73, Chartreuse\_71, Kipper29\_74, DaVinci\_72
- Track 26 : Isiphiwo\_71
- Track 27 : Priamo\_75
- Track 28 : Pmask\_73
- Track 29 : JewelBug\_73
- Track 30 : SuperAwesome\_74

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

The start number called the most often in the published annotations is 10, it was called in 34 of the 129 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anubis\_77, BuzzBuzz\_68, Colbster\_70, Cullens\_74, DaHudson\_73, Farber\_74, GingkoMaracino\_74, Grum1\_73, Hercules11\_74, JHC117\_70, JenCasNa\_75, Jobu08\_70, LBerry\_75, Louie6\_73, LugYA\_77, Mainiac\_73, MarQuardt\_74, Methuselah\_67, Microwolf\_70, Misomonster\_75, MoneyMay\_73, P28Green\_74, Phoebe\_75, Phoxy\_74, PotatoSplit\_75, Rummer\_73, Sabia\_72, Snickers\_70, Soshari\_76, Spike509\_74, Taurus\_75, Tiffany\_73, Vix\_70, Wooldri\_76, Zetzy\_71,

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

- Aglet\_75, AgronaGT15\_71, AugsMagnumOpus\_77, Beauxregard13\_73, BreSam8\_74, Bxz2\_69, Daishi\_73, Dieselweasel\_74, EpicPhail\_75, Fernando\_74, Grif\_72, Grub\_72, GtownJaz\_74, HashRod\_75, KADY\_71, LarryKay\_74, Lilith\_72, MadMarie\_72, Malinsilva\_76, Marie\_72, MuchMore\_77, Ollie\_74, PGHhamlin\_76, Pembroke\_74, Penny1\_74, Sabinator\_72, SoYo\_71, SoilDragon\_73, Stagni\_71, StepMih\_73, Watson\_73,

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

- ACFishhook\_71, AbbyPaige\_74, B1\_61, BABullseye\_67, BabyJohn\_64, BabyRay\_70, BlueBird\_72, Bugatti\_69, Candra\_72, Caviar\_69, Chartreuse\_71, Chiqui\_64, DaVinci\_72, DontArgue\_63, Dorothea\_74, DropBear\_67, EricB\_73, Fred313\_67, Gemma\_71, Giroux\_68, Groupthink\_74, HaveUMetTed\_74, Heathen\_69, HelDan\_69, Heliosoles\_71, Hookmount\_69, Hoot\_69, Idleandcovert\_70, Isca\_67, Isiphiwo\_71, Iwokeuplikedis\_74, JF2\_67, JF4\_67, JeppNRM\_74, JewelBug\_73, Jordennis\_72, Kachowdy\_67, Kalb97\_74, Kalnoky\_74, Kipper29\_74, Koduck\_74, Lambert1\_69, MA5\_69, MK4\_69, Manu\_73, Marchesa\_67, Margo\_69, Marius\_74, McFly\_75, Neeharika16\_73, Newrala\_73, Noella\_69, Norbert\_65, OlanP\_72, Panamaxus\_67, Pawn\_72, Phantastic\_71, PhishRPhriends\_70, Pistachio\_69, Pmask\_73, Pocahontas\_68, Popcicle\_69, Priamo\_75, Puppy\_70, PurpleHaze\_73, QuinnKiro\_68, ResDef\_67, Rockstar\_68, SaturnRing\_69, Scout\_68, SuperAwesome\_74, SuperCallie99\_71, TNguyen7\_70, Texage\_67, Todacoro\_69, Veracruz\_66, VohminGhazi\_74,

**Summary by start number:**

Start 8:

- Found in 1 of 143 ( 0.7% ) of genes in pham
- Manual Annotations of this start: 1 of 129
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabyRay\_70 (A3),

Start 9:

- Found in 14 of 143 ( 9.8% ) of genes in pham
- Manual Annotations of this start: 13 of 129
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ACFishhook\_71 (A3), Gemma\_71 (A3), Groupthink\_74 (A3), HaveUMetTed\_74 (A3), Heliosoles\_71 (A3), JeppNRM\_74 (A3), Kalb97\_74 (A3), Kainoky\_74 (A3), Manu\_73 (A3), Marius\_74 (A3), OlanP\_72 (A3), Pawn\_72 (A3), PhishRPhriends\_70 (A3), PurpleHaze\_73 (A3),

Start 10:

- Found in 66 of 143 ( 46.2% ) of genes in pham
- Manual Annotations of this start: 34 of 129
- Called 53.0% of time when present
- Phage (with cluster) where this start called: Anubis\_77 (A3), BuzzBuzz\_68 (A3), Colbster\_70 (A3), Cullens\_74 (A3), DaHudson\_73 (A3), Farber\_74 (A3), GingkoMaracino\_74 (A3), Grum1\_73 (A3), Hercules11\_74 (A3), JHC117\_70 (A3), JenCasNa\_75 (A3), Jobu08\_70 (A3), LBerry\_75 (A3), Louie6\_73 (A3), LugYA\_77 (A3), Mainiac\_73 (A3), MarQuardt\_74 (A3), Methuselah\_67 (A3), Microwolf\_70 (A3), Misomonster\_75 (A3), MoneyMay\_73 (A3), P28Green\_74 (A3), Phoebe\_75 (A3), Phoxy\_74 (A3), PotatoSplit\_75 (A3), Rummer\_73 (A3), Sabia\_72 (A3), Snickers\_70 (A3), Soshari\_76 (A3), Spike509\_74 (A3), Taurus\_75 (A3), Tiffany\_73 (A3), Vix\_70 (A3), Wooldri\_76 (A3), Zetzy\_71 (A3),

Start 11:

- Found in 65 of 143 ( 45.5% ) of genes in pham
- Manual Annotations of this start: 30 of 129
- Called 46.2% of time when present
- Phage (with cluster) where this start called: Aglet\_75 (A3), AgronaGT15\_71 (A3), AugsMagnumOpus\_77 (A3), Beauxregard13\_73 (A3), BreSam8\_74 (A3), Bxz2\_69 (A3), Daishi\_73 (A3), Dieselweasel\_74 (A3), EpicPhail\_75 (A3), Fernando\_74 (A3), Grif\_72 (A3), Grub\_72 (A3), GtownJaz\_74 (A3), HashRod\_75 (A3), KADY\_71 (A3), LarryKay\_74 (A3), Lilith\_72 (A3), MadMarie\_72 (A3), Malinsilva\_76 (A3), Marie\_72 (A3), MuchMore\_77 (A3), Ollie\_74 (A3), PGHhamlin\_76 (A3), Pembroke\_74 (A3), Penny1\_74 (A3), Sabinator\_72 (A3), SoYo\_71 (A3), SoilDragon\_73 (A3), Stagni\_71 (A3), Watson\_73 (A3),

Start 12:

- Found in 39 of 143 ( 27.3% ) of genes in pham
- Manual Annotations of this start: 31 of 129
- Called 100.0% of time when present
- Phage (with cluster) where this start called: B1\_61 (A3), BabyJohn\_64 (A3), BlueBird\_72 (A3), Bugatti\_69 (A3), Caviar\_69 (A3), Chiqui\_64 (A3), DropBear\_67 (A3), Fred313\_67 (A3), Giroux\_68 (A3), Heathen\_69 (A3), HelDan\_69 (A3), Hookmount\_69 (A3), Idleandcovert\_70 (A3), Isca\_67 (A3), JF2\_67 (A3), JF4\_67 (A3), Kachowdy\_67 (A3), Lambert1\_69 (A3), MA5\_69 (A3), MK4\_69 (A3), Marchesa\_67 (A3), Margo\_69 (A3), Noella\_69 (A3), Norbert\_65 (A3), Panamaxus\_67 (A3), Phantastic\_71 (A3), Pistachio\_69 (A3), Pocahontas\_68 (A3), Popcicle\_69 (A3),

Puppy\_70 (A3), QuinnKiro\_68 (A3), ResDef\_67 (A3), Rockstar\_68 (A3), SaturnRing\_69 (A3), Scout\_68 (A3), TNguyen7\_70 (A3), Texage\_67 (A3), Todacoro\_69 (A3), Veracruz\_66 (A3),

Start 15:

- Found in 1 of 143 ( 0.7% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DontArgue\_63 (A10),

Start 16:

- Found in 3 of 143 ( 2.1% ) of genes in pham
- Manual Annotations of this start: 2 of 129
- Called 66.7% of time when present
- Phage (with cluster) where this start called: AbbyPaige\_74 (A2), Iwokeuplikedis\_74 (A2),

Start 18:

- Found in 115 of 143 ( 80.4% ) of genes in pham
- Manual Annotations of this start: 1 of 129
- Called 1.7% of time when present
- Phage (with cluster) where this start called: Koduck\_74 (A2), StepMih\_73 (A3),

Start 19:

- Found in 28 of 143 ( 19.6% ) of genes in pham
- Manual Annotations of this start: 17 of 129
- Called 67.9% of time when present
- Phage (with cluster) where this start called: BABullseye\_67 (A6), Candra\_72 (A6), Chartreuse\_71 (A6), DaVinci\_72 (A6), Dorothea\_74 (A6), EricB\_73 (A6), Hoot\_69 (A6), Isiphiwo\_71 (A6), JewelBug\_73 (A6), Jordennis\_72 (A6), Kipper29\_74 (A6), McFly\_75 (A6), Neeharika16\_73 (A6), Newrala\_73 (A6), Pmask\_73 (A6), Priamo\_75 (A6), SuperAwesome\_74 (A6), SuperCallie99\_71 (A6), VohminGhazi\_74 (A6),

### **Summary by clusters:**

There are 4 clusters represented in this pham: A3, A2, A10, A6,

Info for manual annotations of cluster A2:

- Start number 16 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 8 was manually annotated 1 time for cluster A3.
- Start number 9 was manually annotated 13 times for cluster A3.
- Start number 10 was manually annotated 34 times for cluster A3.
- Start number 11 was manually annotated 30 times for cluster A3.
- Start number 12 was manually annotated 31 times for cluster A3.
- Start number 18 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A6:

- Start number 19 was manually annotated 17 times for cluster A6.

**Gene Information:**

Gene: ACFishhook\_71 Start: 42736, Stop: 42518, Start Num: 9

Candidate Starts for ACFishhook\_71:

(5, 42805), (Start: 9 @42736 has 13 MA's), (Start: 18 @42697 has 1 MA's), (21, 42661), (22, 42628), (25, 42568), (28, 42523),

Gene: AbbyPaige\_74 Start: 43716, Stop: 43543, Start Num: 16

Candidate Starts for AbbyPaige\_74:

(7, 43767), (Start: 16 @43716 has 2 MA's), (24, 43584), (25, 43581), (26, 43578),

Gene: Aglet\_75 Start: 42842, Stop: 42630, Start Num: 11

Candidate Starts for Aglet\_75:

(Start: 10 @42845 has 34 MA's), (Start: 11 @42842 has 30 MA's), (Start: 18 @42809 has 1 MA's), (25, 42680), (28, 42635),

Gene: AgronaGT15\_71 Start: 42690, Stop: 42478, Start Num: 11

Candidate Starts for AgronaGT15\_71:

(Start: 10 @42693 has 34 MA's), (Start: 11 @42690 has 30 MA's), (Start: 18 @42657 has 1 MA's), (25, 42528), (28, 42483),

Gene: Anubis\_77 Start: 42731, Stop: 42516, Start Num: 10

Candidate Starts for Anubis\_77:

(Start: 10 @42731 has 34 MA's), (Start: 11 @42728 has 30 MA's), (Start: 18 @42695 has 1 MA's), (25, 42566), (28, 42521),

Gene: AugsMagnumOpus\_77 Start: 42833, Stop: 42621, Start Num: 11

Candidate Starts for AugsMagnumOpus\_77:

(Start: 10 @42836 has 34 MA's), (Start: 11 @42833 has 30 MA's), (Start: 18 @42800 has 1 MA's), (25, 42671), (28, 42626),

Gene: B1\_61 Start: 40764, Stop: 40540, Start Num: 12

Candidate Starts for B1\_61:

(Start: 12 @40764 has 31 MA's), (13, 40758), (Start: 18 @40722 has 1 MA's), (28, 40545),

Gene: BABullseye\_67 Start: 40157, Stop: 40014, Start Num: 19

Candidate Starts for BABullseye\_67:

(Start: 19 @40157 has 17 MA's),

Gene: BabyJohn\_64 Start: 42591, Stop: 42367, Start Num: 12

Candidate Starts for BabyJohn\_64:

(Start: 12 @42591 has 31 MA's), (13, 42585), (Start: 18 @42549 has 1 MA's), (25, 42417), (28, 42372),

Gene: BabyRay\_70 Start: 42572, Stop: 42345, Start Num: 8

Candidate Starts for BabyRay\_70:

(5, 42641), (Start: 8 @42572 has 1 MA's), (Start: 18 @42527 has 1 MA's), (25, 42395), (28, 42350),

Gene: Beauxregard13\_73 Start: 42845, Stop: 42633, Start Num: 11

Candidate Starts for Beauxregard13\_73:

(Start: 10 @42848 has 34 MA's), (Start: 11 @42845 has 30 MA's), (Start: 18 @42812 has 1 MA's), (25, 42683), (28, 42638),

Gene: BlueBird\_72 Start: 42595, Stop: 42392, Start Num: 12  
Candidate Starts for BlueBird\_72:  
(Start: 12 @42595 has 31 MA's), (Start: 19 @42553 has 17 MA's), (25, 42442),

Gene: BreSam8\_74 Start: 42835, Stop: 42623, Start Num: 11  
Candidate Starts for BreSam8\_74:  
(Start: 10 @42838 has 34 MA's), (Start: 11 @42835 has 30 MA's), (Start: 18 @42802 has 1 MA's),  
(25, 42673), (28, 42628),

Gene: Bugatti\_69 Start: 42595, Stop: 42392, Start Num: 12  
Candidate Starts for Bugatti\_69:  
(Start: 12 @42595 has 31 MA's), (Start: 19 @42553 has 17 MA's), (25, 42442),

Gene: BuzzBuzz\_68 Start: 42872, Stop: 42657, Start Num: 10  
Candidate Starts for BuzzBuzz\_68:  
(Start: 10 @42872 has 34 MA's), (Start: 11 @42869 has 30 MA's), (Start: 18 @42836 has 1 MA's),  
(28, 42662),

Gene: Bxz2\_69 Start: 42876, Stop: 42664, Start Num: 11  
Candidate Starts for Bxz2\_69:  
(Start: 10 @42879 has 34 MA's), (Start: 11 @42876 has 30 MA's), (Start: 18 @42843 has 1 MA's),  
(25, 42714), (28, 42669),

Gene: Candra\_72 Start: 41853, Stop: 41710, Start Num: 19  
Candidate Starts for Candra\_72:  
(2, 42138), (3, 42105), (4, 42072), (Start: 19 @41853 has 17 MA's),

Gene: Caviar\_69 Start: 42560, Stop: 42348, Start Num: 12  
Candidate Starts for Caviar\_69:  
(Start: 12 @42560 has 31 MA's), (Start: 18 @42527 has 1 MA's), (25, 42398), (28, 42353),

Gene: Chartreuse\_71 Start: 41164, Stop: 41021, Start Num: 19  
Candidate Starts for Chartreuse\_71:  
(2, 41449), (3, 41416), (4, 41383), (Start: 19 @41164 has 17 MA's),

Gene: Chiqui\_64 Start: 42600, Stop: 42376, Start Num: 12  
Candidate Starts for Chiqui\_64:  
(Start: 12 @42600 has 31 MA's), (13, 42594), (Start: 18 @42558 has 1 MA's), (25, 42426), (28,  
42381),

Gene: Colbster\_70 Start: 42848, Stop: 42633, Start Num: 10  
Candidate Starts for Colbster\_70:  
(Start: 10 @42848 has 34 MA's), (Start: 11 @42845 has 30 MA's), (Start: 18 @42812 has 1 MA's),  
(25, 42683), (28, 42638),

Gene: Cullens\_74 Start: 42844, Stop: 42629, Start Num: 10  
Candidate Starts for Cullens\_74:  
(Start: 10 @42844 has 34 MA's), (Start: 11 @42841 has 30 MA's), (Start: 18 @42808 has 1 MA's),  
(25, 42679), (28, 42634),

Gene: DaHudson\_73 Start: 42837, Stop: 42622, Start Num: 10  
Candidate Starts for DaHudson\_73:

(Start: 10 @42837 has 34 MA's), (Start: 11 @42834 has 30 MA's), (Start: 18 @42801 has 1 MA's),  
(25, 42672), (28, 42627),

Gene: DaVinci\_72 Start: 41218, Stop: 41075, Start Num: 19  
Candidate Starts for DaVinci\_72:  
(2, 41503), (3, 41470), (4, 41437), (Start: 19 @41218 has 17 MA's),

Gene: Daishi\_73 Start: 41709, Stop: 41497, Start Num: 11  
Candidate Starts for Daishi\_73:  
(Start: 10 @41712 has 34 MA's), (Start: 11 @41709 has 30 MA's), (14, 41703), (Start: 18 @41676 has  
1 MA's), (25, 41547), (28, 41502),

Gene: Dieselweasel\_74 Start: 42843, Stop: 42631, Start Num: 11  
Candidate Starts for Dieselweasel\_74:  
(Start: 10 @42846 has 34 MA's), (Start: 11 @42843 has 30 MA's), (Start: 18 @42810 has 1 MA's),  
(25, 42681), (28, 42636),

Gene: DontArgue\_63 Start: 40833, Stop: 40633, Start Num: 15  
Candidate Starts for DontArgue\_63:  
(15, 40833), (Start: 18 @40812 has 1 MA's), (20, 40779), (25, 40683), (28, 40638),

Gene: Dorothea\_74 Start: 42463, Stop: 42320, Start Num: 19  
Candidate Starts for Dorothea\_74:  
(Start: 19 @42463 has 17 MA's),

Gene: DropBear\_67 Start: 42515, Stop: 42291, Start Num: 12  
Candidate Starts for DropBear\_67:  
(Start: 12 @42515 has 31 MA's), (13, 42509), (Start: 18 @42473 has 1 MA's), (25, 42341), (28,  
42296),

Gene: EpicPhail\_75 Start: 42845, Stop: 42633, Start Num: 11  
Candidate Starts for EpicPhail\_75:  
(Start: 10 @42848 has 34 MA's), (Start: 11 @42845 has 30 MA's), (Start: 18 @42812 has 1 MA's),  
(25, 42683), (28, 42638),

Gene: EricB\_73 Start: 41810, Stop: 41667, Start Num: 19  
Candidate Starts for EricB\_73:  
(2, 42095), (3, 42062), (4, 42029), (Start: 19 @41810 has 17 MA's),

Gene: Farber\_74 Start: 42834, Stop: 42619, Start Num: 10  
Candidate Starts for Farber\_74:  
(Start: 10 @42834 has 34 MA's), (Start: 11 @42831 has 30 MA's), (Start: 18 @42798 has 1 MA's),  
(25, 42669), (28, 42624),

Gene: Fernando\_74 Start: 42841, Stop: 42629, Start Num: 11  
Candidate Starts for Fernando\_74:  
(Start: 10 @42844 has 34 MA's), (Start: 11 @42841 has 30 MA's), (Start: 18 @42808 has 1 MA's),  
(25, 42679), (28, 42634),

Gene: Fred313\_67 Start: 42209, Stop: 41985, Start Num: 12  
Candidate Starts for Fred313\_67:  
(Start: 12 @42209 has 31 MA's), (13, 42203), (Start: 18 @42167 has 1 MA's), (25, 42035), (28,  
41990),



Gene: Gemma\_71 Start: 42660, Stop: 42442, Start Num: 9  
Candidate Starts for Gemma\_71:  
(5, 42729), (Start: 9 @42660 has 13 MA's), (Start: 18 @42621 has 1 MA's), (21, 42585), (25, 42492),  
(28, 42447),

Gene: GingkoMaracino\_74 Start: 42730, Stop: 42515, Start Num: 10  
Candidate Starts for GingkoMaracino\_74:  
(Start: 10 @42730 has 34 MA's), (Start: 11 @42727 has 30 MA's), (Start: 18 @42694 has 1 MA's),  
(25, 42565), (28, 42520),

Gene: Giroux\_68 Start: 42594, Stop: 42391, Start Num: 12  
Candidate Starts for Giroux\_68:  
(Start: 12 @42594 has 31 MA's), (Start: 19 @42552 has 17 MA's), (25, 42441),

Gene: Grif\_72 Start: 42915, Stop: 42703, Start Num: 11  
Candidate Starts for Grif\_72:  
(Start: 10 @42918 has 34 MA's), (Start: 11 @42915 has 30 MA's), (Start: 18 @42882 has 1 MA's),  
(25, 42753), (28, 42708),

Gene: Groupthink\_74 Start: 42664, Stop: 42446, Start Num: 9  
Candidate Starts for Groupthink\_74:  
(5, 42733), (Start: 9 @42664 has 13 MA's), (Start: 18 @42625 has 1 MA's), (21, 42589), (25, 42496),  
(28, 42451),

Gene: Grub\_72 Start: 42833, Stop: 42621, Start Num: 11  
Candidate Starts for Grub\_72:  
(Start: 10 @42836 has 34 MA's), (Start: 11 @42833 has 30 MA's), (Start: 18 @42800 has 1 MA's),  
(25, 42671), (28, 42626),

Gene: Grum1\_73 Start: 42844, Stop: 42629, Start Num: 10  
Candidate Starts for Grum1\_73:  
(Start: 10 @42844 has 34 MA's), (Start: 11 @42841 has 30 MA's), (Start: 18 @42808 has 1 MA's),  
(25, 42679), (28, 42634),

Gene: GtownJaz\_74 Start: 42842, Stop: 42630, Start Num: 11  
Candidate Starts for GtownJaz\_74:  
(Start: 10 @42845 has 34 MA's), (Start: 11 @42842 has 30 MA's), (Start: 18 @42809 has 1 MA's),  
(25, 42680), (28, 42635),

Gene: HashRod\_75 Start: 42869, Stop: 42657, Start Num: 11  
Candidate Starts for HashRod\_75:  
(Start: 10 @42872 has 34 MA's), (Start: 11 @42869 has 30 MA's), (Start: 18 @42836 has 1 MA's),  
(25, 42707), (28, 42662),

Gene: HaveUMetTed\_74 Start: 42649, Stop: 42431, Start Num: 9  
Candidate Starts for HaveUMetTed\_74:  
(5, 42718), (Start: 9 @42649 has 13 MA's), (Start: 18 @42610 has 1 MA's), (21, 42574), (25, 42481),  
(28, 42436),

Gene: Heathen\_69 Start: 42304, Stop: 42080, Start Num: 12  
Candidate Starts for Heathen\_69:

(Start: 12 @42304 has 31 MA's), (13, 42298), (Start: 18 @42262 has 1 MA's), (25, 42130), (28, 42085),

Gene: HelDan\_69 Start: 42520, Stop: 42296, Start Num: 12

Candidate Starts for HelDan\_69:

(Start: 12 @42520 has 31 MA's), (13, 42514), (Start: 18 @42478 has 1 MA's), (25, 42346), (28, 42301),

Gene: Heliosoles\_71 Start: 42667, Stop: 42449, Start Num: 9

Candidate Starts for Heliosoles\_71:

(5, 42736), (Start: 9 @42667 has 13 MA's), (Start: 18 @42628 has 1 MA's), (21, 42592), (25, 42499), (28, 42454),

Gene: Hercules11\_74 Start: 42853, Stop: 42638, Start Num: 10

Candidate Starts for Hercules11\_74:

(Start: 10 @42853 has 34 MA's), (Start: 11 @42850 has 30 MA's), (Start: 18 @42817 has 1 MA's), (25, 42688), (28, 42643),

Gene: Hookmount\_69 Start: 42561, Stop: 42349, Start Num: 12

Candidate Starts for Hookmount\_69:

(Start: 12 @42561 has 31 MA's), (Start: 18 @42528 has 1 MA's), (25, 42399), (28, 42354),

Gene: Hoot\_69 Start: 39668, Stop: 39525, Start Num: 19

Candidate Starts for Hoot\_69:

(2, 39953), (3, 39920), (4, 39887), (Start: 19 @39668 has 17 MA's),

Gene: Idleandcovert\_70 Start: 42595, Stop: 42392, Start Num: 12

Candidate Starts for Idleandcovert\_70:

(Start: 12 @42595 has 31 MA's), (Start: 19 @42553 has 17 MA's), (25, 42442),

Gene: Isca\_67 Start: 42069, Stop: 41845, Start Num: 12

Candidate Starts for Isca\_67:

(Start: 12 @42069 has 31 MA's), (13, 42063), (Start: 18 @42027 has 1 MA's), (28, 41850),

Gene: Isiphiwo\_71 Start: 41832, Stop: 41689, Start Num: 19

Candidate Starts for Isiphiwo\_71:

(Start: 19 @41832 has 17 MA's), (27, 41694),

Gene: Iwokeuplikedis\_74 Start: 43821, Stop: 43639, Start Num: 16

Candidate Starts for Iwokeuplikedis\_74:

(Start: 16 @43821 has 2 MA's), (Start: 18 @43815 has 1 MA's), (Start: 19 @43797 has 17 MA's), (24, 43695), (28, 43647),

Gene: JF2\_67 Start: 40764, Stop: 40540, Start Num: 12

Candidate Starts for JF2\_67:

(Start: 12 @40764 has 31 MA's), (13, 40758), (Start: 18 @40722 has 1 MA's), (28, 40545),

Gene: JF4\_67 Start: 40764, Stop: 40540, Start Num: 12

Candidate Starts for JF4\_67:

(Start: 12 @40764 has 31 MA's), (13, 40758), (Start: 18 @40722 has 1 MA's), (28, 40545),

Gene: JHC117\_70 Start: 42842, Stop: 42627, Start Num: 10

Candidate Starts for JHC117\_70:

(Start: 10 @42842 has 34 MA's), (Start: 11 @42839 has 30 MA's), (Start: 18 @42806 has 1 MA's),  
(25, 42677), (28, 42632),

Gene: JenCasNa\_75 Start: 42844, Stop: 42629, Start Num: 10

Candidate Starts for JenCasNa\_75:

(Start: 10 @42844 has 34 MA's), (Start: 11 @42841 has 30 MA's), (Start: 18 @42808 has 1 MA's),  
(25, 42679), (28, 42634),

Gene: JeppNRM\_74 Start: 42665, Stop: 42447, Start Num: 9

Candidate Starts for JeppNRM\_74:

(5, 42734), (Start: 9 @42665 has 13 MA's), (Start: 18 @42626 has 1 MA's), (21, 42590), (22, 42557),  
(25, 42497), (28, 42452),

Gene: JewelBug\_73 Start: 42554, Stop: 42411, Start Num: 19

Candidate Starts for JewelBug\_73:

(17, 42578), (Start: 19 @42554 has 17 MA's), (27, 42416),

Gene: Jobu08\_70 Start: 42676, Stop: 42461, Start Num: 10

Candidate Starts for Jobu08\_70:

(Start: 10 @42676 has 34 MA's), (Start: 11 @42673 has 30 MA's), (Start: 18 @42640 has 1 MA's),  
(25, 42511), (28, 42466),

Gene: Jordennis\_72 Start: 42048, Stop: 41905, Start Num: 19

Candidate Starts for Jordennis\_72:

(Start: 19 @42048 has 17 MA's), (27, 41910),

Gene: KADY\_71 Start: 42869, Stop: 42657, Start Num: 11

Candidate Starts for KADY\_71:

(Start: 10 @42872 has 34 MA's), (Start: 11 @42869 has 30 MA's), (Start: 18 @42836 has 1 MA's),  
(28, 42662),

Gene: Kachowdy\_67 Start: 42556, Stop: 42332, Start Num: 12

Candidate Starts for Kachowdy\_67:

(Start: 12 @42556 has 31 MA's), (13, 42550), (Start: 18 @42514 has 1 MA's), (25, 42382), (28,  
42337),

Gene: Kalb97\_74 Start: 42663, Stop: 42445, Start Num: 9

Candidate Starts for Kalb97\_74:

(5, 42732), (Start: 9 @42663 has 13 MA's), (Start: 18 @42624 has 1 MA's), (21, 42588), (25, 42495),  
(28, 42450),

Gene: Kalnoky\_74 Start: 42661, Stop: 42443, Start Num: 9

Candidate Starts for Kalnoky\_74:

(5, 42730), (Start: 9 @42661 has 13 MA's), (Start: 18 @42622 has 1 MA's), (21, 42586), (22, 42553),  
(25, 42493), (28, 42448),

Gene: Kipper29\_74 Start: 41836, Stop: 41693, Start Num: 19

Candidate Starts for Kipper29\_74:

(2, 42121), (3, 42088), (4, 42055), (Start: 19 @41836 has 17 MA's),

Gene: Koduck\_74 Start: 42710, Stop: 42504, Start Num: 18

Candidate Starts for Koduck\_74:

(6, 42809), (Start: 16 @42716 has 2 MA's), (Start: 18 @42710 has 1 MA's), (23, 42602), (25, 42578), (28, 42533),

Gene: LBerry\_75 Start: 42848, Stop: 42633, Start Num: 10

Candidate Starts for LBerry\_75:

(Start: 10 @42848 has 34 MA's), (Start: 11 @42845 has 30 MA's), (Start: 18 @42812 has 1 MA's), (25, 42683), (28, 42638),

Gene: Lambert1\_69 Start: 42560, Stop: 42348, Start Num: 12

Candidate Starts for Lambert1\_69:

(Start: 12 @42560 has 31 MA's), (Start: 18 @42527 has 1 MA's), (25, 42398), (28, 42353),

Gene: LarryKay\_74 Start: 42870, Stop: 42658, Start Num: 11

Candidate Starts for LarryKay\_74:

(Start: 10 @42873 has 34 MA's), (Start: 11 @42870 has 30 MA's), (Start: 18 @42837 has 1 MA's), (25, 42708), (28, 42663),

Gene: Lilit\_72 Start: 42834, Stop: 42622, Start Num: 11

Candidate Starts for Lilit\_72:

(Start: 10 @42837 has 34 MA's), (Start: 11 @42834 has 30 MA's), (Start: 18 @42801 has 1 MA's), (25, 42672), (28, 42627),

Gene: Louie6\_73 Start: 42874, Stop: 42659, Start Num: 10

Candidate Starts for Louie6\_73:

(Start: 10 @42874 has 34 MA's), (Start: 11 @42871 has 30 MA's), (Start: 18 @42838 has 1 MA's), (28, 42664),

Gene: LugYA\_77 Start: 42845, Stop: 42630, Start Num: 10

Candidate Starts for LugYA\_77:

(Start: 10 @42845 has 34 MA's), (Start: 11 @42842 has 30 MA's), (Start: 18 @42809 has 1 MA's), (25, 42680), (28, 42635),

Gene: MA5\_69 Start: 41973, Stop: 41749, Start Num: 12

Candidate Starts for MA5\_69:

(Start: 12 @41973 has 31 MA's), (13, 41967), (Start: 18 @41931 has 1 MA's), (28, 41754),

Gene: MK4\_69 Start: 42048, Stop: 41824, Start Num: 12

Candidate Starts for MK4\_69:

(Start: 12 @42048 has 31 MA's), (13, 42042), (Start: 18 @42006 has 1 MA's), (28, 41829),

Gene: MadMarie\_72 Start: 42842, Stop: 42630, Start Num: 11

Candidate Starts for MadMarie\_72:

(Start: 10 @42845 has 34 MA's), (Start: 11 @42842 has 30 MA's), (Start: 18 @42809 has 1 MA's), (25, 42680), (28, 42635),

Gene: Mainiac\_73 Start: 42837, Stop: 42622, Start Num: 10

Candidate Starts for Mainiac\_73:

(Start: 10 @42837 has 34 MA's), (Start: 11 @42834 has 30 MA's), (Start: 18 @42801 has 1 MA's), (25, 42672), (28, 42627),

Gene: Malinsilva\_76 Start: 42833, Stop: 42621, Start Num: 11

Candidate Starts for Malinsilva\_76:

(Start: 10 @42836 has 34 MA's), (Start: 11 @42833 has 30 MA's), (Start: 18 @42800 has 1 MA's),  
(25, 42671), (28, 42626),

Gene: Manu\_73 Start: 42664, Stop: 42446, Start Num: 9

Candidate Starts for Manu\_73:

(5, 42733), (Start: 9 @42664 has 13 MA's), (Start: 18 @42625 has 1 MA's), (21, 42589), (25, 42496),  
(28, 42451),

Gene: MarQuardt\_74 Start: 42846, Stop: 42631, Start Num: 10

Candidate Starts for MarQuardt\_74:

(Start: 10 @42846 has 34 MA's), (Start: 11 @42843 has 30 MA's), (Start: 18 @42810 has 1 MA's),  
(25, 42681), (28, 42636),

Gene: Marchesa\_67 Start: 42506, Stop: 42282, Start Num: 12

Candidate Starts for Marchesa\_67:

(Start: 12 @42506 has 31 MA's), (13, 42500), (Start: 18 @42464 has 1 MA's), (25, 42332), (28,  
42287),

Gene: Margo\_69 Start: 42586, Stop: 42374, Start Num: 12

Candidate Starts for Margo\_69:

(Start: 12 @42586 has 31 MA's), (Start: 18 @42553 has 1 MA's), (25, 42424), (28, 42379),

Gene: Marie\_72 Start: 42841, Stop: 42629, Start Num: 11

Candidate Starts for Marie\_72:

(Start: 10 @42844 has 34 MA's), (Start: 11 @42841 has 30 MA's), (Start: 18 @42808 has 1 MA's),  
(25, 42679), (28, 42634),

Gene: Marius\_74 Start: 42661, Stop: 42443, Start Num: 9

Candidate Starts for Marius\_74:

(5, 42730), (Start: 9 @42661 has 13 MA's), (Start: 18 @42622 has 1 MA's), (21, 42586), (22, 42553),  
(25, 42493), (28, 42448),

Gene: McFly\_75 Start: 42451, Stop: 42308, Start Num: 19

Candidate Starts for McFly\_75:

(Start: 19 @42451 has 17 MA's),

Gene: Methuselah\_67 Start: 42868, Stop: 42653, Start Num: 10

Candidate Starts for Methuselah\_67:

(Start: 10 @42868 has 34 MA's), (Start: 11 @42865 has 30 MA's), (Start: 18 @42832 has 1 MA's),  
(25, 42703), (28, 42658),

Gene: Microwolf\_70 Start: 42860, Stop: 42645, Start Num: 10

Candidate Starts for Microwolf\_70:

(Start: 10 @42860 has 34 MA's), (Start: 11 @42857 has 30 MA's), (Start: 18 @42824 has 1 MA's),  
(25, 42695), (28, 42650),

Gene: Misomonster\_75 Start: 42871, Stop: 42656, Start Num: 10

Candidate Starts for Misomonster\_75:

(Start: 10 @42871 has 34 MA's), (Start: 11 @42868 has 30 MA's), (Start: 18 @42835 has 1 MA's),  
(28, 42661),

Gene: MoneyMay\_73 Start: 42844, Stop: 42629, Start Num: 10

Candidate Starts for MoneyMay\_73:

(Start: 10 @42844 has 34 MA's), (Start: 11 @42841 has 30 MA's), (Start: 18 @42808 has 1 MA's), (25, 42679), (28, 42634),

Gene: MuchMore\_77 Start: 42833, Stop: 42621, Start Num: 11

Candidate Starts for MuchMore\_77:

(Start: 10 @42836 has 34 MA's), (Start: 11 @42833 has 30 MA's), (Start: 18 @42800 has 1 MA's), (25, 42671), (28, 42626),

Gene: Neeharika16\_73 Start: 41917, Stop: 41774, Start Num: 19

Candidate Starts for Neeharika16\_73:

(Start: 19 @41917 has 17 MA's),

Gene: Newrala\_73 Start: 42257, Stop: 42114, Start Num: 19

Candidate Starts for Newrala\_73:

(Start: 19 @42257 has 17 MA's), (27, 42119),

Gene: Noella\_69 Start: 42561, Stop: 42349, Start Num: 12

Candidate Starts for Noella\_69:

(Start: 12 @42561 has 31 MA's), (Start: 18 @42528 has 1 MA's), (25, 42399), (28, 42354),

Gene: Norbert\_65 Start: 42560, Stop: 42348, Start Num: 12

Candidate Starts for Norbert\_65:

(Start: 12 @42560 has 31 MA's), (Start: 18 @42527 has 1 MA's), (25, 42398), (28, 42353),

Gene: OlanP\_72 Start: 42837, Stop: 42619, Start Num: 9

Candidate Starts for OlanP\_72:

(5, 42906), (Start: 9 @42837 has 13 MA's), (Start: 18 @42798 has 1 MA's), (21, 42762), (25, 42669), (28, 42624),

Gene: Ollie\_74 Start: 42712, Stop: 42500, Start Num: 11

Candidate Starts for Ollie\_74:

(Start: 10 @42715 has 34 MA's), (Start: 11 @42712 has 30 MA's), (Start: 18 @42679 has 1 MA's), (25, 42550), (28, 42505),

Gene: P28Green\_74 Start: 42847, Stop: 42632, Start Num: 10

Candidate Starts for P28Green\_74:

(Start: 10 @42847 has 34 MA's), (Start: 11 @42844 has 30 MA's), (Start: 18 @42811 has 1 MA's), (25, 42682), (28, 42637),

Gene: PGHhamlin\_76 Start: 42833, Stop: 42621, Start Num: 11

Candidate Starts for PGHhamlin\_76:

(Start: 10 @42836 has 34 MA's), (Start: 11 @42833 has 30 MA's), (Start: 18 @42800 has 1 MA's), (25, 42671), (28, 42626),

Gene: Panamaxus\_67 Start: 42560, Stop: 42348, Start Num: 12

Candidate Starts for Panamaxus\_67:

(Start: 12 @42560 has 31 MA's), (Start: 18 @42527 has 1 MA's), (25, 42398), (28, 42353),

Gene: Pawn\_72 Start: 42668, Stop: 42450, Start Num: 9

Candidate Starts for Pawn\_72:

(5, 42737), (Start: 9 @42668 has 13 MA's), (Start: 18 @42629 has 1 MA's), (21, 42593), (22, 42560), (25, 42500), (28, 42455),

Gene: Pembroke\_74 Start: 42842, Stop: 42630, Start Num: 11  
Candidate Starts for Pembroke\_74:  
(Start: 10 @42845 has 34 MA's), (Start: 11 @42842 has 30 MA's), (Start: 18 @42809 has 1 MA's),  
(25, 42680), (28, 42635),

Gene: Penny1\_74 Start: 42845, Stop: 42633, Start Num: 11  
Candidate Starts for Penny1\_74:  
(Start: 10 @42848 has 34 MA's), (Start: 11 @42845 has 30 MA's), (Start: 18 @42812 has 1 MA's),  
(25, 42683), (28, 42638),

Gene: Phantastic\_71 Start: 42234, Stop: 42010, Start Num: 12  
Candidate Starts for Phantastic\_71:  
(Start: 12 @42234 has 31 MA's), (13, 42228), (Start: 18 @42192 has 1 MA's), (28, 42015),

Gene: PhishRPhriends\_70 Start: 41845, Stop: 41627, Start Num: 9  
Candidate Starts for PhishRPhriends\_70:  
(5, 41914), (Start: 9 @41845 has 13 MA's), (Start: 18 @41806 has 1 MA's), (21, 41770), (25, 41677),  
(28, 41632),

Gene: Phoebe\_75 Start: 42837, Stop: 42622, Start Num: 10  
Candidate Starts for Phoebe\_75:  
(Start: 10 @42837 has 34 MA's), (Start: 11 @42834 has 30 MA's), (Start: 18 @42801 has 1 MA's),  
(25, 42672), (28, 42627),

Gene: Phoxy\_74 Start: 42869, Stop: 42654, Start Num: 10  
Candidate Starts for Phoxy\_74:  
(Start: 10 @42869 has 34 MA's), (Start: 11 @42866 has 30 MA's), (Start: 18 @42833 has 1 MA's),  
(25, 42704), (28, 42659),

Gene: Pistachio\_69 Start: 42142, Stop: 41939, Start Num: 12  
Candidate Starts for Pistachio\_69:  
(Start: 12 @42142 has 31 MA's), (Start: 19 @42100 has 17 MA's), (25, 41989),

Gene: Pmask\_73 Start: 42453, Stop: 42310, Start Num: 19  
Candidate Starts for Pmask\_73:  
(1, 42774), (2, 42741), (3, 42708), (4, 42675), (Start: 19 @42453 has 17 MA's),

Gene: Pocahontas\_68 Start: 42557, Stop: 42345, Start Num: 12  
Candidate Starts for Pocahontas\_68:  
(Start: 12 @42557 has 31 MA's), (Start: 18 @42524 has 1 MA's), (25, 42395), (28, 42350),

Gene: Popcicle\_69 Start: 42557, Stop: 42345, Start Num: 12  
Candidate Starts for Popcicle\_69:  
(Start: 12 @42557 has 31 MA's), (Start: 18 @42524 has 1 MA's), (25, 42395), (28, 42350),

Gene: PotatoSplit\_75 Start: 42848, Stop: 42633, Start Num: 10  
Candidate Starts for PotatoSplit\_75:  
(Start: 10 @42848 has 34 MA's), (Start: 11 @42845 has 30 MA's), (Start: 18 @42812 has 1 MA's),  
(25, 42683), (28, 42638),

Gene: Priamo\_75 Start: 42118, Stop: 41975, Start Num: 19  
Candidate Starts for Priamo\_75:  
(Start: 19 @42118 has 17 MA's),

Gene: Puppy\_70 Start: 42214, Stop: 42011, Start Num: 12  
Candidate Starts for Puppy\_70:  
(Start: 12 @42214 has 31 MA's), (Start: 19 @42172 has 17 MA's), (25, 42061),

Gene: PurpleHaze\_73 Start: 42663, Stop: 42445, Start Num: 9  
Candidate Starts for PurpleHaze\_73:  
(5, 42732), (Start: 9 @42663 has 13 MA's), (Start: 18 @42624 has 1 MA's), (21, 42588), (25, 42495),  
(28, 42450),

Gene: QuinnKiro\_68 Start: 42560, Stop: 42348, Start Num: 12  
Candidate Starts for QuinnKiro\_68:  
(Start: 12 @42560 has 31 MA's), (Start: 18 @42527 has 1 MA's), (25, 42398), (28, 42353),

Gene: ResDef\_67 Start: 42560, Stop: 42348, Start Num: 12  
Candidate Starts for ResDef\_67:  
(Start: 12 @42560 has 31 MA's), (Start: 18 @42527 has 1 MA's), (25, 42398), (28, 42353),

Gene: Rockstar\_68 Start: 42057, Stop: 41833, Start Num: 12  
Candidate Starts for Rockstar\_68:  
(Start: 12 @42057 has 31 MA's), (13, 42051), (Start: 18 @42015 has 1 MA's), (28, 41838),

Gene: Rummer\_73 Start: 42872, Stop: 42657, Start Num: 10  
Candidate Starts for Rummer\_73:  
(Start: 10 @42872 has 34 MA's), (Start: 11 @42869 has 30 MA's), (Start: 18 @42836 has 1 MA's),  
(25, 42707), (28, 42662),

Gene: Sabia\_72 Start: 42852, Stop: 42637, Start Num: 10  
Candidate Starts for Sabia\_72:  
(Start: 10 @42852 has 34 MA's), (Start: 11 @42849 has 30 MA's), (Start: 18 @42816 has 1 MA's),  
(25, 42687), (28, 42642),

Gene: Sabinator\_72 Start: 42840, Stop: 42628, Start Num: 11  
Candidate Starts for Sabinator\_72:  
(Start: 10 @42843 has 34 MA's), (Start: 11 @42840 has 30 MA's), (Start: 18 @42807 has 1 MA's),  
(25, 42678), (28, 42633),

Gene: SaturnRing\_69 Start: 42595, Stop: 42392, Start Num: 12  
Candidate Starts for SaturnRing\_69:  
(Start: 12 @42595 has 31 MA's), (Start: 19 @42553 has 17 MA's), (25, 42442),

Gene: Scout\_68 Start: 41767, Stop: 41543, Start Num: 12  
Candidate Starts for Scout\_68:  
(Start: 12 @41767 has 31 MA's), (13, 41761), (Start: 18 @41725 has 1 MA's), (25, 41593), (28,  
41548),

Gene: Snickers\_70 Start: 42817, Stop: 42602, Start Num: 10  
Candidate Starts for Snickers\_70:  
(Start: 10 @42817 has 34 MA's), (Start: 11 @42814 has 30 MA's), (Start: 18 @42781 has 1 MA's),  
(25, 42652), (28, 42607),

Gene: SoYo\_71 Start: 42753, Stop: 42541, Start Num: 11  
Candidate Starts for SoYo\_71:



(Start: 10 @42756 has 34 MA's), (Start: 11 @42753 has 30 MA's), (Start: 18 @42720 has 1 MA's), (25, 42591), (28, 42546),

Gene: SoilDragon\_73 Start: 42289, Stop: 42077, Start Num: 11

Candidate Starts for SoilDragon\_73:

(Start: 10 @42292 has 34 MA's), (Start: 11 @42289 has 30 MA's), (Start: 18 @42256 has 1 MA's), (25, 42127), (28, 42082),

Gene: Soshari\_76 Start: 42868, Stop: 42653, Start Num: 10

Candidate Starts for Soshari\_76:

(Start: 10 @42868 has 34 MA's), (Start: 11 @42865 has 30 MA's), (Start: 18 @42832 has 1 MA's), (25, 42703), (28, 42658),

Gene: Spike509\_74 Start: 42869, Stop: 42654, Start Num: 10

Candidate Starts for Spike509\_74:

(Start: 10 @42869 has 34 MA's), (Start: 11 @42866 has 30 MA's), (Start: 18 @42833 has 1 MA's), (25, 42704), (28, 42659),

Gene: Stagni\_71 Start: 42844, Stop: 42632, Start Num: 11

Candidate Starts for Stagni\_71:

(Start: 10 @42847 has 34 MA's), (Start: 11 @42844 has 30 MA's), (Start: 18 @42811 has 1 MA's), (25, 42682), (28, 42637),

Gene: StepMih\_73 Start: 42802, Stop: 42623, Start Num: 18

Candidate Starts for StepMih\_73:

(Start: 10 @42838 has 34 MA's), (Start: 11 @42835 has 30 MA's), (Start: 18 @42802 has 1 MA's), (25, 42673), (28, 42628),

Gene: SuperAwesome\_74 Start: 42495, Stop: 42352, Start Num: 19

Candidate Starts for SuperAwesome\_74:

(1, 42813), (2, 42780), (3, 42747), (4, 42714), (Start: 19 @42495 has 17 MA's),

Gene: SuperCallie99\_71 Start: 42337, Stop: 42194, Start Num: 19

Candidate Starts for SuperCallie99\_71:

(Start: 19 @42337 has 17 MA's),

Gene: TNguyen7\_70 Start: 42555, Stop: 42352, Start Num: 12

Candidate Starts for TNguyen7\_70:

(Start: 12 @42555 has 31 MA's), (Start: 19 @42513 has 17 MA's), (25, 42402),

Gene: Taurus\_75 Start: 42844, Stop: 42629, Start Num: 10

Candidate Starts for Taurus\_75:

(Start: 10 @42844 has 34 MA's), (Start: 11 @42841 has 30 MA's), (Start: 18 @42808 has 1 MA's), (25, 42679), (28, 42634),

Gene: Texage\_67 Start: 42561, Stop: 42349, Start Num: 12

Candidate Starts for Texage\_67:

(Start: 12 @42561 has 31 MA's), (Start: 18 @42528 has 1 MA's), (25, 42399), (28, 42354),

Gene: Tiffany\_73 Start: 42729, Stop: 42514, Start Num: 10

Candidate Starts for Tiffany\_73:

(Start: 10 @42729 has 34 MA's), (Start: 11 @42726 has 30 MA's), (Start: 18 @42693 has 1 MA's), (25, 42564), (28, 42519),

Gene: Todacoro\_69 Start: 42560, Stop: 42348, Start Num: 12

Candidate Starts for Todacoro\_69:

(Start: 12 @42560 has 31 MA's), (Start: 18 @42527 has 1 MA's), (25, 42398), (28, 42353),

Gene: Veracruz\_66 Start: 42560, Stop: 42348, Start Num: 12

Candidate Starts for Veracruz\_66:

(Start: 12 @42560 has 31 MA's), (Start: 18 @42527 has 1 MA's), (25, 42398), (28, 42353),

Gene: Vix\_70 Start: 42927, Stop: 42712, Start Num: 10

Candidate Starts for Vix\_70:

(Start: 10 @42927 has 34 MA's), (Start: 11 @42924 has 30 MA's), (Start: 18 @42891 has 1 MA's), (25, 42762), (28, 42717),

Gene: VohminGhazi\_74 Start: 41818, Stop: 41675, Start Num: 19

Candidate Starts for VohminGhazi\_74:

(2, 42103), (3, 42070), (4, 42037), (Start: 19 @41818 has 17 MA's),

Gene: Watson\_73 Start: 42833, Stop: 42621, Start Num: 11

Candidate Starts for Watson\_73:

(Start: 10 @42836 has 34 MA's), (Start: 11 @42833 has 30 MA's), (Start: 18 @42800 has 1 MA's), (25, 42671), (28, 42626),

Gene: Wooldri\_76 Start: 42756, Stop: 42541, Start Num: 10

Candidate Starts for Wooldri\_76:

(Start: 10 @42756 has 34 MA's), (Start: 11 @42753 has 30 MA's), (Start: 18 @42720 has 1 MA's), (25, 42591), (28, 42546),

Gene: Zetzy\_71 Start: 42407, Stop: 42192, Start Num: 10

Candidate Starts for Zetzy\_71:

(Start: 10 @42407 has 34 MA's), (Start: 18 @42371 has 1 MA's), (20, 42338), (22, 42302), (25, 42242), (28, 42197),