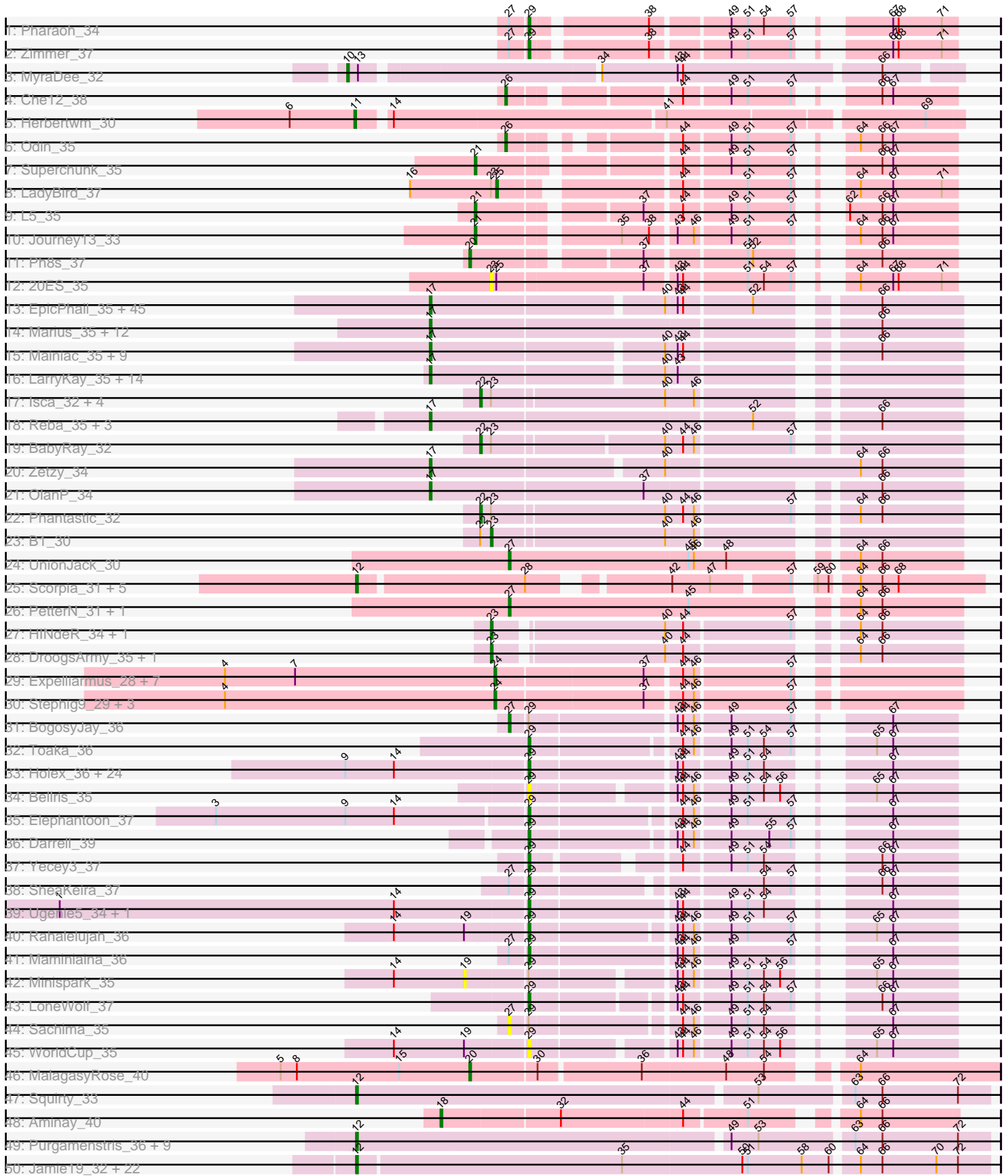


Pham 304704





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 304704 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304704 has 224 members, 21 are drafts.

Phages represented in each track:

- Track 1 : Pharaoh\_34
- Track 2 : Zimmer\_37
- Track 3 : MyraDee\_32
- Track 4 : Che12\_38
- Track 5 : Herbertwm\_30
- Track 6 : Odin\_35
- Track 7 : Superchunk\_35
- Track 8 : LadyBird\_37
- Track 9 : L5\_35
- Track 10 : Journey13\_33
- Track 11 : Ph8s\_37
- Track 12 : 20ES\_35
- Track 13 : EpicPhail\_35, Marie\_35, Vix\_35, Taurus\_35, Microwolf\_35, Dieselweasel\_35, Anubis\_37, LBerry\_35, JenCasNa\_35, Croquant\_36, Lowa\_35, MuchMore\_37, PotatoSplit\_36, Bigflo\_35, Aglet\_35, MarQuardt\_35, DaHudson\_35, Colbster\_35, Cullens\_35, Farber\_35, P28Green\_35, Phoebe\_35, Grum1\_35, AugsMagnumOpus\_37, Jobu08\_34, Malinsilva\_37, Gwennie\_34, GingkoMaracino\_35, SoYo\_35, Ollie\_35, Watson\_35, JHC117\_35, Hercules11\_35, SoilDragon\_34, Beauxregard13\_35, MoneyMay\_35, GtownJaz\_35, PGHhamlin\_37, Pembroke\_35, Wooldri\_37, Sabinator\_35, Fernando\_35, LugYA\_37, Grub\_35, Lilith\_35, Penny1\_35
- Track 14 : Marius\_35, ClownCar\_35, Kalb97\_35, Calvinny\_35, Groupthink\_35, Heliosoles\_34, Manu\_35, JeppNRM\_35, HaveUMetTed\_35, Gemma\_34, Pawn\_34, Kalnoky\_35, PurpleHaze\_34
- Track 15 : Mainiac\_35, MadMarie\_35, Montavir\_34, Tiffany\_35, Grif\_35, Snickers\_35, Sabia\_35, BreSam8\_35, StepMih\_35, Stagni\_35
- Track 16 : LarryKay\_35, TinyPebbles\_35, AgronaGT15\_35, Misomonster\_37, KADY\_36, BuzzBuzz\_34, Phoxy\_35, Rummer\_35, Spike509\_35, Daishi\_34, Methuselah\_34, Soshari\_37, HashRod\_36, Louie6\_35, Bxz2\_33
- Track 17 : Isca\_32, JF2\_32, JF4\_32, MK4\_32, Rockstar\_32
- Track 18 : Reba\_35, Phranny\_35, ACFishhook\_34, PhishRPhriends\_33
- Track 19 : BabyRay\_32
- Track 20 : Zetzy\_34
- Track 21 : OlanP\_34
- Track 22 : Phantastic\_32
- Track 23 : B1\_30
- Track 24 : UnionJack\_30

- Track 25 : Scorpia\_31, ElTiger69\_30, Benedict\_30, Jabiru\_30, Airmid\_30, Naca\_30
- Track 26 : PetterN\_31, Chadwick\_31
- Track 27 : HINdeR\_34, Sheen\_35
- Track 28 : DroogsArmy\_35, Timshel\_35
- Track 29 : Expelliarmus\_28, NearlyHeadless\_29, Groundhog\_28, Phillis\_29, Astro\_29, Danforth\_28, Smeadley\_29, Saintus\_29
- Track 30 : StepHig9\_29, Dixon\_29, Caitlin\_28, Roary\_29
- Track 31 : BogosyJay\_36
- Track 32 : Toaka\_36
- Track 33 : Hoxex\_36, Catalina\_39, EdogawaKiddo\_35, Jiawan\_36, PackMan\_37, Conquerage\_38, Phaeder\_38, Aliter\_38, RyeScarlet\_39, Onglai\_36, EmyBug\_37, Fayely\_38, Eidsmoe\_38, Myxus\_38, Hanray\_36, Phonnegut\_38, Tubs\_38, Pioneer\_38, Spouty\_38, Ayanochan\_38, Priya\_38, HortumSL17\_38, Qobbit\_38, Beemo\_38, ExplosioNervosa\_38
- Track 34 : Bellris\_35
- Track 35 : Elephantoan\_37
- Track 36 : Darrell\_39
- Track 37 : Yecey3\_37
- Track 38 : SheaKeira\_37
- Track 39 : Ugenie5\_34, Scherzo\_37
- Track 40 : Rahalelujah\_36
- Track 41 : Maminiaina\_36
- Track 42 : Minispark\_35
- Track 43 : LoneWolf\_37
- Track 44 : Sachima\_35
- Track 45 : WorldCup\_35
- Track 46 : MalagasyRose\_40
- Track 47 : Squirty\_33
- Track 48 : Aminay\_40
- Track 49 : Purgamenstris\_36, Phrann\_36, Hanako\_36, PhancyPhin\_36, Impisi\_38, BabeRuth\_37, ShrimpFriedEgg\_36, Redi\_36, Spinach\_36, Nenae\_36
- Track 50 : Jamie19\_32, Duplicity\_35, Phloss\_33, Silvafighter\_36, Parmesanjohn\_35, Panchino\_31, Chewbacca\_36, MichelleMyBell\_33, Melville\_37, Pipsqueaks\_35, Andies\_32, Smurph\_35, Gex\_35, Magsby\_35, Shweta\_32, SpongeBob\_32, Schnauzer\_35, Carcharodon\_35, Xerxes\_35, Fulbright\_34, Xeno\_32, Tapioca\_36, Snekmaggon\_32
- Track 51 : Journey\_33, Silvy\_33, Charlie\_33, EGUnicorn\_33, Aggie\_33, Tortoise12\_33, Philonius\_33, SkinnyPete\_30, Bosection6\_33
- Track 52 : Rubeelu\_36, Kevin1\_34, Butters\_36
- Track 53 : Raymond7\_30

***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 83 of the 203 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- ACFishhook\_34, Aglet\_35, AgronaGT15\_35, Anubis\_37, AugsMagnumOpus\_37, Beauxregard13\_35, Bigflo\_35, BreSam8\_35, BuzzBuzz\_34, Bxz2\_33, Calvinny\_35, ClownCar\_35, Colbster\_35, Croquant\_36, Cullens\_35, DaHudson\_35, Daishi\_34,

Dieselweasel\_35, EpicPhail\_35, Farber\_35, Fernando\_35, Gemma\_34, GingkoMaracino\_35, Grif\_35, Groupthink\_35, Grub\_35, Grum1\_35, GtownJaz\_35, Gwennie\_34, HashRod\_36, HaveUMetTed\_35, Heliosoles\_34, Hercules11\_35, JHC117\_35, JenCasNa\_35, JeppNRM\_35, Jobu08\_34, KADY\_36, Kalb97\_35, Kalnoky\_35, LBerry\_35, LarryKay\_35, Lilith\_35, Louie6\_35, Lowa\_35, LugYA\_37, MadMarie\_35, Mainiac\_35, Malinsilva\_37, Manu\_35, MarQuardt\_35, Marie\_35, Marius\_35, Methuselah\_34, Microwolf\_35, Misomonster\_37, MoneyMay\_35, Montavir\_34, MuchMore\_37, OlanP\_34, Ollie\_35, P28Green\_35, PGHhamlin\_37, Pawn\_34, Pembroke\_35, Penny1\_35, PhishRPhriends\_33, Phoebe\_35, Phoxy\_35, Phranny\_35, PotatoSplit\_36, PurpleHaze\_34, Reba\_35, Rummer\_35, Sabia\_35, Sabinator\_35, Snickers\_35, SoYo\_35, SoilDragon\_34, Soshari\_37, Spike509\_35, Stagni\_35, StepMih\_35, Taurus\_35, Tiffany\_35, TinyPebbles\_35, Vix\_35, Watson\_35, Wooldri\_37, Zetzy\_34,

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

- 

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

- 20ES\_35, Aggie\_33, Airmid\_30, Aliter\_38, Aminay\_40, Andies\_32, Astro\_29, Ayanochan\_38, B1\_30, BabeRuth\_37, BabyRay\_32, Beemo\_38, Bellris\_35, Benedict\_30, BogosyJay\_36, Bosection6\_33, Butters\_36, Caitlin\_28, Carcharodon\_35, Catalina\_39, Chadwick\_31, Charlie\_33, Che12\_38, Chewbacca\_36, Conquerage\_38, Danforth\_28, Darrell\_39, Dixon\_29, DroogsArmy\_35, Duplicity\_35, EGUunicorn\_33, EdogawaKiddo\_35, Eidsmoe\_38, EITiger69\_30, Elephantoon\_37, EmyBug\_37, Expelliarmus\_28, ExplosioNervosa\_38, Fayely\_38, Fulbright\_34, Gex\_35, Groundhog\_28, HINdeR\_34, Hanako\_36, Hanray\_36, Herbertwm\_30, Holes\_36, HortumSL17\_38, Impisi\_38, Isca\_32, JF2\_32, JF4\_32, Jabiru\_30, Jamie19\_32, Jiawan\_36, Journey13\_33, Journey\_33, Kevin1\_34, L5\_35, LadyBird\_37, LoneWolf\_37, MK4\_32, Magsby\_35, MalagasyRose\_40, Maminiaina\_36, Melville\_37, MichelleMyBell\_33, Minispark\_35, MyraDee\_32, Myxus\_38, Naca\_30, NearlyHeadless\_29, Nenae\_36, Odin\_35, Onglai\_36, PackMan\_37, Panchino\_31, ParmesanJohn\_35, PetterN\_31, Ph8s\_37, Phaeder\_38, PhancyPhin\_36, Phantastic\_32, Pharaoh\_34, Phillis\_29, Philonius\_33, Phloss\_33, Phonnegut\_38, Phrann\_36, Pioneer\_38, Pipsqueaks\_35, Priya\_38, Purgamenstris\_36, Qobbit\_38, Rahalelujah\_36, Raymond7\_30, Redi\_36, Roary\_29, Rockstar\_32, Rubeelu\_36, RyeScarlet\_39, Sachima\_35, Saintus\_29, Scherzo\_37, Schnauzer\_35, Scorpia\_31, SheaKeira\_37, Sheen\_35, ShrimpFriedEgg\_36, Shweta\_32, Silvafighter\_36, Silvy\_33, SkinnyPete\_30, Smeadley\_29, Smurph\_35, Snekmaggon\_32, Spinach\_36, SpongeBob\_32, Spouty\_38, Squirty\_33, Stephig9\_29, Superchunk\_35, Tapioca\_36, Timshel\_35, Toaka\_36, Tortoise12\_33, Tubs\_38, Ugenie5\_34, UnionJack\_30, WorldCup\_35, Xeno\_32, Xerxes\_35, Yecey3\_37, Zimmer\_37,

### Summary by start number:

Start 10:

- Found in 1 of 224 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MyraDee\_32 (A18),

Start 11:

- Found in 1 of 224 ( 0.4% ) of genes in pham

- Manual Annotations of this start: 1 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Herbertwm\_30 (A2),

#### Start 12:

- Found in 53 of 224 ( 23.7% ) of genes in pham
- Manual Annotations of this start: 52 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aggie\_33 (N), Airmid\_30 (A5), Andies\_32 (N), BabeRuth\_37 (N), Benedict\_30 (A5), Bosection6\_33 (N), Butters\_36 (N), Carcharodon\_35 (N), Charlie\_33 (N), Chewbacca\_36 (N), Duplicity\_35 (N), EGUnicorn\_33 (N), EITiger69\_30 (A5), Fulbright\_34 (N), Gex\_35 (N), Hanako\_36 (N), Impisi\_38 (N), Jabiru\_30 (A5), Jamie19\_32 (N), Journey\_33 (N), Kevin1\_34 (N), Magsby\_35 (N), Melville\_37 (N), MichelleMyBell\_33 (N), Naca\_30 (A5), Nenae\_36 (N), Panchino\_31 (N), Parmesanjohn\_35 (N), PhancyPhin\_36 (N), Philonius\_33 (N), Phloss\_33 (N), Phrann\_36 (N), Pipsqueaks\_35 (N), Purgamenstris\_36 (N), Raymond7\_30 (N), Redi\_36 (N), Rubeelu\_36 (N), Schnauzer\_35 (N), Scorpiia\_31 (A5), ShrimpFriedEgg\_36 (N), Shweta\_32 (N), Silvafighter\_36 (N), Silvy\_33 (N), SkinnyPete\_30 (N), Smurph\_35 (N), Snekmaggon\_32 (N), Spinach\_36 (N), SpongeBob\_32 (N), Squirty\_33 (F3), Tapioca\_36 (N), Tortoise12\_33 (N), Xeno\_32 (N), Xerxes\_35 (N),

#### Start 17:

- Found in 90 of 224 ( 40.2% ) of genes in pham
- Manual Annotations of this start: 83 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ACFishhook\_34 (A3), Aglet\_35 (A3), AgronaGT15\_35 (A3), Anubis\_37 (A3), AugsMagnumOpus\_37 (A3), Beauxregard13\_35 (A3), Bigflo\_35 (A3), BreSam8\_35 (A3), BuzzBuzz\_34 (A3), Bxz2\_33 (A3), Calvinny\_35 (A3), ClownCar\_35 (A3), Colbster\_35 (A3), Croquant\_36 (A3), Cullens\_35 (A3), DaHudson\_35 (A3), Daishi\_34 (A3), Dieselweasel\_35 (A3), EpicPhail\_35 (A3), Farber\_35 (A3), Fernando\_35 (A3), Gemma\_34 (A3), GingkoMaracino\_35 (A3), Grif\_35 (A3), Groupthink\_35 (A3), Grub\_35 (A3), Grum1\_35 (A3), GtownJaz\_35 (A3), Gwennie\_34 (A3), HashRod\_36 (A3), HaveUMetTed\_35 (A3), Heliosoles\_34 (A3), Hercules11\_35 (A3), JHC117\_35 (A3), JenCasNa\_35 (A3), JeppNRM\_35 (A3), Jobu08\_34 (A3), KADY\_36 (A3), Kalb97\_35 (A3), Kalnoky\_35 (A3), LBerry\_35 (A3), LarryKay\_35 (A3), Lilith\_35 (A3), Louie6\_35 (A3), Iowa\_35 (A3), LugYA\_37 (A3), MadMarie\_35 (A3), Mainiac\_35 (A3), Malinsilva\_37 (A3), Manu\_35 (A3), MarQuardt\_35 (A3), Marie\_35 (A3), Marius\_35 (A3), Methuselah\_34 (A3), Microwolf\_35 (A3), Misomonster\_37 (A3), MoneyMay\_35 (A3), Montavir\_34 (A3), MuchMore\_37 (A3), OlanP\_34 (A3), Ollie\_35 (A3), P28Green\_35 (A3), PGHhamlin\_37 (A3), Pawn\_34 (A3), Pembroke\_35 (A3), Penny1\_35 (A3), PhishRPhriends\_33 (A3), Phoebe\_35 (A3), Phoxy\_35 (A3), Phranny\_35 (A3), PotatoSplit\_36 (A3), PurpleHaze\_34 (A3), Reba\_35 (A3), Rummer\_35 (A3), Sabia\_35 (A3), Sabinator\_35 (A3), Snickers\_35 (A3), SoYo\_35 (A3), SoilDragon\_34 (A3), Soshari\_37 (A3), Spike509\_35 (A3), Stagni\_35 (A3), StepMih\_35 (A3), Taurus\_35 (A3), Tiffany\_35 (A3), TinyPebbles\_35 (A3), Vix\_35 (A3), Watson\_35 (A3), Wooldri\_37 (A3), Zetsy\_34 (A3),

#### Start 18:

- Found in 1 of 224 ( 0.4% ) of genes in pham
- Manual Annotations of this start: 1 of 203
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Aminay\_40 (K7),

Start 19:

- Found in 3 of 224 ( 1.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Minispark\_35 (A9),

Start 20:

- Found in 2 of 224 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MalagasyRose\_40 (AG), Ph8s\_37 (A2),

Start 21:

- Found in 3 of 224 ( 1.3% ) of genes in pham
- Manual Annotations of this start: 3 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Journey13\_33 (A2), L5\_35 (A2), Superchunk\_35 (A2),

Start 22:

- Found in 8 of 224 ( 3.6% ) of genes in pham
- Manual Annotations of this start: 7 of 203
- Called 87.5% of time when present
- Phage (with cluster) where this start called: BabyRay\_32 (A3), Isca\_32 (A3), JF2\_32 (A3), JF4\_32 (A3), MK4\_32 (A3), Phantastic\_32 (A3), Rockstar\_32 (A3),

Start 23:

- Found in 14 of 224 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 5 of 203
- Called 42.9% of time when present
- Phage (with cluster) where this start called: 20ES\_35 (A2), B1\_30 (A3), DroogsArmy\_35 (A7), HINdeR\_34 (A7), Sheen\_35 (A7), Timshel\_35 (A7),

Start 24:

- Found in 12 of 224 ( 5.4% ) of genes in pham
- Manual Annotations of this start: 11 of 203
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Astro\_29 (A8), Caitlin\_28 (A8), Danforth\_28 (A8), Dixon\_29 (A8), Expelliarmus\_28 (A8), Groundhog\_28 (A8), NearlyHeadless\_29 (A8), Phillis\_29 (A8), Roary\_29 (A8), Saintus\_29 (A8), Smeadley\_29 (A8), Stephig9\_29 (A8),

Start 25:

- Found in 2 of 224 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 203
- Called 50.0% of time when present
- Phage (with cluster) where this start called: LadyBird\_37 (A2),

Start 26:

- Found in 2 of 224 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 203

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che12\_38 (A2), Odin\_35 (A2),

Start 27:

- Found in 9 of 224 ( 4.0% ) of genes in pham
- Manual Annotations of this start: 4 of 203
- Called 55.6% of time when present
- Phage (with cluster) where this start called: BogosyJay\_36 (A9), Chadwick\_31 (A5), PetterN\_31 (A5), Sachima\_35 (A9), UnionJack\_30 (A5),

Start 29:

- Found in 42 of 224 ( 18.8% ) of genes in pham
- Manual Annotations of this start: 30 of 203
- Called 92.9% of time when present
- Phage (with cluster) where this start called: Aliter\_38 (A9), Ayanochan\_38 (A9), Beemo\_38 (A9), Bellris\_35 (A9), Catalina\_39 (A9), Conquerage\_38 (A9), Darrell\_39 (A9), EdogawaKiddo\_35 (A9), Eidsmoe\_38 (A9), Elephantoon\_37 (A9), EmyBug\_37 (A9), ExplosioNervosa\_38 (A9), Fayely\_38 (A9), Hanray\_36 (A9), Horex\_36 (A9), HortumSL17\_38 (A9), Jiawan\_36 (A9), LoneWolf\_37 (A9), Maminina\_36 (A9), Myxus\_38 (A9), Onglai\_36 (A9), PackMan\_37 (A9), Phaeder\_38 (A9), Pharaoh\_34 (A12), Phonnegut\_38 (A9), Pioneer\_38 (A9), Priya\_38 (A9), Qobbit\_38 (A9), Rahalelujah\_36 (A9), RyeScarlet\_39 (A9), Scherzo\_37 (A9), SheaKeira\_37 (A9), Spouty\_38 (A9), Toaka\_36 (A9), Tubs\_38 (A9), Ugenie5\_34 (A9), WorldCup\_35 (A9), Yecey3\_37 (A9), Zimmer\_37 (A12),

### Summary by clusters:

There are 12 clusters represented in this pham: F3, AG, A12, A18, N, A3, A2, A5, A7, A9, A8, K7,

Info for manual annotations of cluster A12:

- Start number 29 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A18:

- Start number 10 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A2:

- Start number 11 was manually annotated 1 time for cluster A2.
- Start number 20 was manually annotated 1 time for cluster A2.
- Start number 21 was manually annotated 3 times for cluster A2.
- Start number 25 was manually annotated 1 time for cluster A2.
- Start number 26 was manually annotated 2 times for cluster A2.

Info for manual annotations of cluster A3:

- Start number 17 was manually annotated 83 times for cluster A3.
- Start number 22 was manually annotated 7 times for cluster A3.
- Start number 23 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A5:

- Start number 12 was manually annotated 6 times for cluster A5.
- Start number 27 was manually annotated 3 times for cluster A5.

Info for manual annotations of cluster A7:

- Start number 23 was manually annotated 4 times for cluster A7.

Info for manual annotations of cluster A8:

- Start number 24 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 27 was manually annotated 1 time for cluster A9.
- Start number 29 was manually annotated 28 times for cluster A9.

Info for manual annotations of cluster AG:

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

Info for manual annotations of cluster F3:

- Start number 12 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster K7:

- Start number 18 was manually annotated 1 time for cluster K7.

Info for manual annotations of cluster N:

- Start number 12 was manually annotated 45 times for cluster N.

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

Gene: 20ES\_35 Start: 26963, Stop: 27184, Start Num: 23

Candidate Starts for 20ES\_35:

(Start: 23 @26963 has 5 MA's), (Start: 25 @26966 has 1 MA's), (37, 27044), (43, 27059), (44, 27062), (51, 27095), (54, 27104), (57, 27119), (64, 27131), (67, 27149), (68, 27152), (71, 27176),

Gene: ACFishhook\_34 Start: 25582, Stop: 25310, Start Num: 17

Candidate Starts for ACFishhook\_34:

(Start: 17 @25582 has 83 MA's), (52, 25408), (66, 25354),

Gene: Aggie\_33 Start: 26384, Stop: 26043, Start Num: 12

Candidate Starts for Aggie\_33:

(Start: 12 @26384 has 52 MA's), (35, 26240), (50, 26174), (51, 26171), (60, 26126), (64, 26114), (66, 26102), (68, 26093), (70, 26072), (72, 26060),

Gene: Aglet\_35 Start: 25649, Stop: 25383, Start Num: 17

Candidate Starts for Aglet\_35:

(Start: 17 @25649 has 83 MA's), (40, 25526), (43, 25520), (44, 25517), (52, 25481), (66, 25427),

Gene: AgronaGT15\_35 Start: 25544, Stop: 25278, Start Num: 17

Candidate Starts for AgronaGT15\_35:

(Start: 17 @25544 has 83 MA's), (40, 25421), (43, 25415),

Gene: Airmid\_30 Start: 23936, Stop: 23637, Start Num: 12

Candidate Starts for Airmid\_30:

(Start: 12 @23936 has 52 MA's), (28, 23849), (42, 23786), (47, 23765), (57, 23726), (59, 23723), (60, 23717), (64, 23705), (66, 23693), (68, 23684),

Gene: Aliter\_38 Start: 28128, Stop: 27928, Start Num: 29

Candidate Starts for Aliter\_38:

(9, 28227), (14, 28200), (Start: 29 @28128 has 30 MA's), (43, 28053), (44, 28050), (49, 28026), (51, 28017), (54, 28008), (67, 27963),

Gene: Aminay\_40 Start: 32095, Stop: 32355, Start Num: 18

Candidate Starts for Aminay\_40:

(Start: 18 @32095 has 1 MA's), (32, 32158), (44, 32224), (51, 32257), (64, 32302), (66, 32314),

Gene: Andies\_32 Start: 26902, Stop: 26561, Start Num: 12

Candidate Starts for Andies\_32:

(Start: 12 @26902 has 52 MA's), (35, 26758), (50, 26692), (51, 26689), (58, 26659), (60, 26644), (64, 26632), (66, 26620), (70, 26590), (72, 26578),

Gene: Anubis\_37 Start: 25534, Stop: 25268, Start Num: 17

Candidate Starts for Anubis\_37:

(Start: 17 @25534 has 83 MA's), (40, 25411), (43, 25405), (44, 25402), (52, 25366), (66, 25312),

Gene: Astro\_29 Start: 23519, Stop: 23289, Start Num: 24

Candidate Starts for Astro\_29:

(4, 23669), (7, 23630), (Start: 24 @23519 has 11 MA's), (37, 23441), (44, 23423), (46, 23417), (57, 23366),

Gene: AugsMagnumOpus\_37 Start: 25640, Stop: 25374, Start Num: 17

Candidate Starts for AugsMagnumOpus\_37:

(Start: 17 @25640 has 83 MA's), (40, 25517), (43, 25511), (44, 25508), (52, 25472), (66, 25418),

Gene: Ayanochan\_38 Start: 28255, Stop: 28055, Start Num: 29

Candidate Starts for Ayanochan\_38:

(9, 28354), (14, 28327), (Start: 29 @28255 has 30 MA's), (43, 28180), (44, 28177), (49, 28153), (51, 28144), (54, 28135), (67, 28090),

Gene: B1\_30 Start: 24676, Stop: 24440, Start Num: 23

Candidate Starts for B1\_30:

(Start: 22 @24682 has 7 MA's), (Start: 23 @24676 has 5 MA's), (40, 24583), (46, 24568),

Gene: BabeRuth\_37 Start: 28019, Stop: 27681, Start Num: 12

Candidate Starts for BabeRuth\_37:

(Start: 12 @28019 has 52 MA's), (49, 27818), (53, 27803), (63, 27755), (66, 27740), (72, 27698),

Gene: BabyRay\_32 Start: 25239, Stop: 25000, Start Num: 22

Candidate Starts for BabyRay\_32:

(Start: 22 @25239 has 7 MA's), (Start: 23 @25233 has 5 MA's), (40, 25143), (44, 25134), (46, 25128), (57, 25077),

Gene: Beauxregard13\_35 Start: 25648, Stop: 25382, Start Num: 17

Candidate Starts for Beauxregard13\_35:

(Start: 17 @25648 has 83 MA's), (40, 25525), (43, 25519), (44, 25516), (52, 25480), (66, 25426),

Gene: Beemo\_38 Start: 28256, Stop: 28056, Start Num: 29

Candidate Starts for Beemo\_38:

(9, 28355), (14, 28328), (Start: 29 @28256 has 30 MA's), (43, 28181), (44, 28178), (49, 28154), (51, 28145), (54, 28136), (67, 28091),

Gene: Bellris\_35 Start: 27289, Stop: 27095, Start Num: 29

Candidate Starts for Bellris\_35:

(Start: 29 @27289 has 30 MA's), (43, 27220), (44, 27217), (46, 27211), (49, 27193), (51, 27184), (54, 27175), (56, 27166), (65, 27139), (67, 27130),

Gene: Benedict\_30 Start: 23939, Stop: 23640, Start Num: 12

Candidate Starts for Benedict\_30:

(Start: 12 @23939 has 52 MA's), (28, 23852), (42, 23789), (47, 23768), (57, 23729), (59, 23726), (60, 23720), (64, 23708), (66, 23696), (68, 23687),

Gene: Bigflo\_35 Start: 25647, Stop: 25381, Start Num: 17

Candidate Starts for Bigflo\_35:

(Start: 17 @25647 has 83 MA's), (40, 25524), (43, 25518), (44, 25515), (52, 25479), (66, 25425),

Gene: BogosyJay\_36 Start: 27810, Stop: 27601, Start Num: 27

Candidate Starts for BogosyJay\_36:

(Start: 27 @27810 has 4 MA's), (Start: 29 @27801 has 30 MA's), (43, 27726), (44, 27723), (46, 27717), (49, 27699), (57, 27666), (67, 27636),

Gene: Bosection6\_33 Start: 26405, Stop: 26064, Start Num: 12

Candidate Starts for Bosection6\_33:

(Start: 12 @26405 has 52 MA's), (35, 26261), (50, 26195), (51, 26192), (60, 26147), (64, 26135), (66, 26123), (68, 26114), (70, 26093), (72, 26081),

Gene: BreSam8\_35 Start: 25641, Stop: 25375, Start Num: 17

Candidate Starts for BreSam8\_35:

(Start: 17 @25641 has 83 MA's), (40, 25518), (43, 25512), (44, 25509), (66, 25419),

Gene: Butters\_36 Start: 28446, Stop: 28135, Start Num: 12

Candidate Starts for Butters\_36:

(Start: 12 @28446 has 52 MA's), (39, 28296), (47, 28266), (52, 28248), (57, 28227), (59, 28224), (61, 28215), (63, 28209), (66, 28194), (70, 28164), (72, 28152),

Gene: BuzzBuzz\_34 Start: 25723, Stop: 25457, Start Num: 17

Candidate Starts for BuzzBuzz\_34:

(Start: 17 @25723 has 83 MA's), (40, 25600), (43, 25594),

Gene: Bxz2\_33 Start: 25730, Stop: 25464, Start Num: 17

Candidate Starts for Bxz2\_33:

(Start: 17 @25730 has 83 MA's), (40, 25607), (43, 25601),

Gene: Caitlin\_28 Start: 23512, Stop: 23282, Start Num: 24

Candidate Starts for Caitlin\_28:

(4, 23662), (Start: 24 @23512 has 11 MA's), (37, 23434), (44, 23416), (46, 23410), (57, 23359),

Gene: Calvinny\_35 Start: 25501, Stop: 25229, Start Num: 17

Candidate Starts for Calvinny\_35:

(Start: 17 @25501 has 83 MA's), (66, 25273),

Gene: Carcharodon\_35 Start: 27713, Stop: 27372, Start Num: 12

Candidate Starts for Carcharodon\_35:

(Start: 12 @27713 has 52 MA's), (35, 27569), (50, 27503), (51, 27500), (58, 27470), (60, 27455), (64, 27443), (66, 27431), (70, 27401), (72, 27389),

Gene: Catalina\_39 Start: 28201, Stop: 28001, Start Num: 29  
Candidate Starts for Catalina\_39:  
(9, 28300), (14, 28273), (Start: 29 @28201 has 30 MA's), (43, 28126), (44, 28123), (49, 28099), (51, 28090), (54, 28081), (67, 28036),

Gene: Chadwick\_31 Start: 23833, Stop: 23600, Start Num: 27  
Candidate Starts for Chadwick\_31:  
(Start: 27 @23833 has 4 MA's), (45, 23734), (64, 23656), (66, 23644),

Gene: Charlie\_33 Start: 26404, Stop: 26063, Start Num: 12  
Candidate Starts for Charlie\_33:  
(Start: 12 @26404 has 52 MA's), (35, 26260), (50, 26194), (51, 26191), (60, 26146), (64, 26134), (66, 26122), (68, 26113), (70, 26092), (72, 26080),

Gene: Che12\_38 Start: 26571, Stop: 26371, Start Num: 26  
Candidate Starts for Che12\_38:  
(Start: 26 @26571 has 2 MA's), (44, 26493), (49, 26469), (51, 26460), (57, 26436), (66, 26412), (67, 26406),

Gene: Chewbacca\_36 Start: 27713, Stop: 27372, Start Num: 12  
Candidate Starts for Chewbacca\_36:  
(Start: 12 @27713 has 52 MA's), (35, 27569), (50, 27503), (51, 27500), (58, 27470), (60, 27455), (64, 27443), (66, 27431), (70, 27401), (72, 27389),

Gene: ClownCar\_35 Start: 25493, Stop: 25221, Start Num: 17  
Candidate Starts for ClownCar\_35:  
(Start: 17 @25493 has 83 MA's), (66, 25265),

Gene: Colbster\_35 Start: 25648, Stop: 25382, Start Num: 17  
Candidate Starts for Colbster\_35:  
(Start: 17 @25648 has 83 MA's), (40, 25525), (43, 25519), (44, 25516), (52, 25480), (66, 25426),

Gene: Conquerage\_38 Start: 28230, Stop: 28030, Start Num: 29  
Candidate Starts for Conquerage\_38:  
(9, 28329), (14, 28302), (Start: 29 @28230 has 30 MA's), (43, 28155), (44, 28152), (49, 28128), (51, 28119), (54, 28110), (67, 28065),

Gene: Croquant\_36 Start: 25646, Stop: 25380, Start Num: 17  
Candidate Starts for Croquant\_36:  
(Start: 17 @25646 has 83 MA's), (40, 25523), (43, 25517), (44, 25514), (52, 25478), (66, 25424),

Gene: Cullens\_35 Start: 25647, Stop: 25381, Start Num: 17  
Candidate Starts for Cullens\_35:  
(Start: 17 @25647 has 83 MA's), (40, 25524), (43, 25518), (44, 25515), (52, 25479), (66, 25425),

Gene: DaHudson\_35 Start: 25640, Stop: 25374, Start Num: 17  
Candidate Starts for DaHudson\_35:  
(Start: 17 @25640 has 83 MA's), (40, 25517), (43, 25511), (44, 25508), (52, 25472), (66, 25418),

Gene: Daishi\_34 Start: 24564, Stop: 24298, Start Num: 17  
Candidate Starts for Daishi\_34:  
(Start: 17 @24564 has 83 MA's), (40, 24441), (43, 24435),

Gene: Danforth\_28 Start: 23494, Stop: 23264, Start Num: 24

Candidate Starts for Danforth\_28:

(4, 23644), (7, 23605), (Start: 24 @23494 has 11 MA's), (37, 23416), (44, 23398), (46, 23392), (57, 23341),

Gene: Darrell\_39 Start: 28636, Stop: 28439, Start Num: 29

Candidate Starts for Darrell\_39:

(Start: 29 @28636 has 30 MA's), (43, 28564), (44, 28561), (46, 28555), (49, 28537), (55, 28516), (57, 28504), (67, 28474),

Gene: Dieselweasel\_35 Start: 25650, Stop: 25384, Start Num: 17

Candidate Starts for Dieselweasel\_35:

(Start: 17 @25650 has 83 MA's), (40, 25527), (43, 25521), (44, 25518), (52, 25482), (66, 25428),

Gene: Dixon\_29 Start: 23513, Stop: 23283, Start Num: 24

Candidate Starts for Dixon\_29:

(4, 23663), (Start: 24 @23513 has 11 MA's), (37, 23435), (44, 23417), (46, 23411), (57, 23360),

Gene: DroogsArmy\_35 Start: 29491, Stop: 29261, Start Num: 23

Candidate Starts for DroogsArmy\_35:

(Start: 23 @29491 has 5 MA's), (40, 29404), (44, 29395), (64, 29317), (66, 29305),

Gene: Duplicity\_35 Start: 27722, Stop: 27381, Start Num: 12

Candidate Starts for Duplicity\_35:

(Start: 12 @27722 has 52 MA's), (35, 27578), (50, 27512), (51, 27509), (58, 27479), (60, 27464), (64, 27452), (66, 27440), (70, 27410), (72, 27398),

Gene: EGUunicorn\_33 Start: 26404, Stop: 26063, Start Num: 12

Candidate Starts for EGUunicorn\_33:

(Start: 12 @26404 has 52 MA's), (35, 26260), (50, 26194), (51, 26191), (60, 26146), (64, 26134), (66, 26122), (68, 26113), (70, 26092), (72, 26080),

Gene: EdogawaKiddo\_35 Start: 28207, Stop: 28007, Start Num: 29

Candidate Starts for EdogawaKiddo\_35:

(9, 28306), (14, 28279), (Start: 29 @28207 has 30 MA's), (43, 28132), (44, 28129), (49, 28105), (51, 28096), (54, 28087), (67, 28042),

Gene: Eidsmoe\_38 Start: 28264, Stop: 28064, Start Num: 29

Candidate Starts for Eidsmoe\_38:

(9, 28363), (14, 28336), (Start: 29 @28264 has 30 MA's), (43, 28189), (44, 28186), (49, 28162), (51, 28153), (54, 28144), (67, 28099),

Gene: EITiger69\_30 Start: 23937, Stop: 23638, Start Num: 12

Candidate Starts for EITiger69\_30:

(Start: 12 @23937 has 52 MA's), (28, 23850), (42, 23787), (47, 23766), (57, 23727), (59, 23724), (60, 23718), (64, 23706), (66, 23694), (68, 23685),

Gene: Elephantoon\_37 Start: 27631, Stop: 27434, Start Num: 29

Candidate Starts for Elephantoon\_37:

(3, 27799), (9, 27727), (14, 27700), (Start: 29 @27631 has 30 MA's), (44, 27556), (46, 27550), (49, 27532), (51, 27523), (57, 27499), (67, 27469),

Gene: EmyBug\_37 Start: 28266, Stop: 28066, Start Num: 29  
Candidate Starts for EmyBug\_37:  
(9, 28365), (14, 28338), (Start: 29 @28266 has 30 MA's), (43, 28191), (44, 28188), (49, 28164), (51, 28155), (54, 28146), (67, 28101),

Gene: EpicPhail\_35 Start: 25648, Stop: 25382, Start Num: 17  
Candidate Starts for EpicPhail\_35:  
(Start: 17 @25648 has 83 MA's), (40, 25525), (43, 25519), (44, 25516), (52, 25480), (66, 25426),

Gene: Expelliarmus\_28 Start: 23480, Stop: 23250, Start Num: 24  
Candidate Starts for Expelliarmus\_28:  
(4, 23630), (7, 23591), (Start: 24 @23480 has 11 MA's), (37, 23402), (44, 23384), (46, 23378), (57, 23327),

Gene: ExplosioNervosa\_38 Start: 28290, Stop: 28090, Start Num: 29  
Candidate Starts for ExplosioNervosa\_38:  
(9, 28389), (14, 28362), (Start: 29 @28290 has 30 MA's), (43, 28215), (44, 28212), (49, 28188), (51, 28179), (54, 28170), (67, 28125),

Gene: Farber\_35 Start: 25641, Stop: 25375, Start Num: 17  
Candidate Starts for Farber\_35:  
(Start: 17 @25641 has 83 MA's), (40, 25518), (43, 25512), (44, 25509), (52, 25473), (66, 25419),

Gene: Fayely\_38 Start: 28233, Stop: 28033, Start Num: 29  
Candidate Starts for Fayely\_38:  
(9, 28332), (14, 28305), (Start: 29 @28233 has 30 MA's), (43, 28158), (44, 28155), (49, 28131), (51, 28122), (54, 28113), (67, 28068),

Gene: Fernando\_35 Start: 25647, Stop: 25381, Start Num: 17  
Candidate Starts for Fernando\_35:  
(Start: 17 @25647 has 83 MA's), (40, 25524), (43, 25518), (44, 25515), (52, 25479), (66, 25425),

Gene: Fulbright\_34 Start: 26802, Stop: 26461, Start Num: 12  
Candidate Starts for Fulbright\_34:  
(Start: 12 @26802 has 52 MA's), (35, 26658), (50, 26592), (51, 26589), (58, 26559), (60, 26544), (64, 26532), (66, 26520), (70, 26490), (72, 26478),

Gene: Gemma\_34 Start: 25497, Stop: 25225, Start Num: 17  
Candidate Starts for Gemma\_34:  
(Start: 17 @25497 has 83 MA's), (66, 25269),

Gene: Gex\_35 Start: 27729, Stop: 27388, Start Num: 12  
Candidate Starts for Gex\_35:  
(Start: 12 @27729 has 52 MA's), (35, 27585), (50, 27519), (51, 27516), (58, 27486), (60, 27471), (64, 27459), (66, 27447), (70, 27417), (72, 27405),

Gene: GingkoMaracino\_35 Start: 25534, Stop: 25268, Start Num: 17  
Candidate Starts for GingkoMaracino\_35:  
(Start: 17 @25534 has 83 MA's), (40, 25411), (43, 25405), (44, 25402), (52, 25366), (66, 25312),

Gene: Grif\_35 Start: 25722, Stop: 25456, Start Num: 17  
Candidate Starts for Grif\_35:  
(Start: 17 @25722 has 83 MA's), (40, 25599), (43, 25593), (44, 25590), (66, 25500),

Gene: Groundhog\_28 Start: 23481, Stop: 23251, Start Num: 24  
Candidate Starts for Groundhog\_28:  
(4, 23631), (7, 23592), (Start: 24 @23481 has 11 MA's), (37, 23403), (44, 23385), (46, 23379), (57, 23328),

Gene: Groupthink\_35 Start: 25501, Stop: 25229, Start Num: 17  
Candidate Starts for Groupthink\_35:  
(Start: 17 @25501 has 83 MA's), (66, 25273),

Gene: Grub\_35 Start: 25640, Stop: 25374, Start Num: 17  
Candidate Starts for Grub\_35:  
(Start: 17 @25640 has 83 MA's), (40, 25517), (43, 25511), (44, 25508), (52, 25472), (66, 25418),

Gene: Grum1\_35 Start: 25647, Stop: 25381, Start Num: 17  
Candidate Starts for Grum1\_35:  
(Start: 17 @25647 has 83 MA's), (40, 25524), (43, 25518), (44, 25515), (52, 25479), (66, 25425),

Gene: GtownJaz\_35 Start: 25649, Stop: 25383, Start Num: 17  
Candidate Starts for GtownJaz\_35:  
(Start: 17 @25649 has 83 MA's), (40, 25526), (43, 25520), (44, 25517), (52, 25481), (66, 25427),

Gene: Gwennie\_34 Start: 25648, Stop: 25382, Start Num: 17  
Candidate Starts for Gwennie\_34:  
(Start: 17 @25648 has 83 MA's), (40, 25525), (43, 25519), (44, 25516), (52, 25480), (66, 25426),

Gene: HINdeR\_34 Start: 29552, Stop: 29322, Start Num: 23  
Candidate Starts for HINdeR\_34:  
(Start: 23 @29552 has 5 MA's), (40, 29465), (44, 29456), (57, 29399), (64, 29378), (66, 29366),

Gene: Hanako\_36 Start: 28018, Stop: 27680, Start Num: 12  
Candidate Starts for Hanako\_36:  
(Start: 12 @28018 has 52 MA's), (49, 27817), (53, 27802), (63, 27754), (66, 27739), (72, 27697),

Gene: Hanray\_36 Start: 28211, Stop: 28011, Start Num: 29  
Candidate Starts for Hanray\_36:  
(9, 28310), (14, 28283), (Start: 29 @28211 has 30 MA's), (43, 28136), (44, 28133), (49, 28109), (51, 28100), (54, 28091), (67, 28046),

Gene: HashRod\_36 Start: 25723, Stop: 25457, Start Num: 17  
Candidate Starts for HashRod\_36:  
(Start: 17 @25723 has 83 MA's), (40, 25600), (43, 25594),

Gene: HaveUMetTed\_35 Start: 25494, Stop: 25222, Start Num: 17  
Candidate Starts for HaveUMetTed\_35:  
(Start: 17 @25494 has 83 MA's), (66, 25266),

Gene: Heliosoles\_34 Start: 25501, Stop: 25229, Start Num: 17  
Candidate Starts for Heliosoles\_34:  
(Start: 17 @25501 has 83 MA's), (66, 25273),

Gene: Herbertwm\_30 Start: 24275, Stop: 23961, Start Num: 11  
Candidate Starts for Herbertwm\_30:

(6, 24311), (Start: 11 @24275 has 1 MA's), (14, 24260), (41, 24113), (69, 23981),

Gene: Hercules11\_35 Start: 25656, Stop: 25390, Start Num: 17

Candidate Starts for Hercules11\_35:

(Start: 17 @25656 has 83 MA's), (40, 25533), (43, 25527), (44, 25524), (52, 25488), (66, 25434),

Gene: Horex\_36 Start: 28224, Stop: 28024, Start Num: 29

Candidate Starts for Horex\_36:

(9, 28323), (14, 28296), (Start: 29 @28224 has 30 MA's), (43, 28149), (44, 28146), (49, 28122), (51, 28113), (54, 28104), (67, 28059),

Gene: HortumSL17\_38 Start: 28200, Stop: 28000, Start Num: 29

Candidate Starts for HortumSL17\_38:

(9, 28299), (14, 28272), (Start: 29 @28200 has 30 MA's), (43, 28125), (44, 28122), (49, 28098), (51, 28089), (54, 28080), (67, 28035),

Gene: Impisi\_38 Start: 28574, Stop: 28236, Start Num: 12

Candidate Starts for Impisi\_38:

(Start: 12 @28574 has 52 MA's), (49, 28373), (53, 28358), (63, 28310), (66, 28295), (72, 28253),

Gene: Isca\_32 Start: 24932, Stop: 24690, Start Num: 22

Candidate Starts for Isca\_32:

(Start: 22 @24932 has 7 MA's), (Start: 23 @24926 has 5 MA's), (40, 24833), (46, 24818),

Gene: JF2\_32 Start: 24682, Stop: 24440, Start Num: 22

Candidate Starts for JF2\_32:

(Start: 22 @24682 has 7 MA's), (Start: 23 @24676 has 5 MA's), (40, 24583), (46, 24568),

Gene: JF4\_32 Start: 24682, Stop: 24440, Start Num: 22

Candidate Starts for JF4\_32:

(Start: 22 @24682 has 7 MA's), (Start: 23 @24676 has 5 MA's), (40, 24583), (46, 24568),

Gene: JHC117\_35 Start: 25646, Stop: 25380, Start Num: 17

Candidate Starts for JHC117\_35:

(Start: 17 @25646 has 83 MA's), (40, 25523), (43, 25517), (44, 25514), (52, 25478), (66, 25424),

Gene: Jabiru\_30 Start: 23986, Stop: 23687, Start Num: 12

Candidate Starts for Jabiru\_30:

(Start: 12 @23986 has 52 MA's), (28, 23899), (42, 23836), (47, 23815), (57, 23776), (59, 23773), (60, 23767), (64, 23755), (66, 23743), (68, 23734),

Gene: Jamie19\_32 Start: 26783, Stop: 26442, Start Num: 12

Candidate Starts for Jamie19\_32:

(Start: 12 @26783 has 52 MA's), (35, 26639), (50, 26573), (51, 26570), (58, 26540), (60, 26525), (64, 26513), (66, 26501), (70, 26471), (72, 26459),

Gene: JenCasNa\_35 Start: 25647, Stop: 25381, Start Num: 17

Candidate Starts for JenCasNa\_35:

(Start: 17 @25647 has 83 MA's), (40, 25524), (43, 25518), (44, 25515), (52, 25479), (66, 25425),

Gene: JeppNRM\_35 Start: 25500, Stop: 25228, Start Num: 17

Candidate Starts for JeppNRM\_35:

(Start: 17 @25500 has 83 MA's), (66, 25272),

Gene: Jiawan\_36 Start: 28243, Stop: 28043, Start Num: 29

Candidate Starts for Jiawan\_36:

(9, 28342), (14, 28315), (Start: 29 @28243 has 30 MA's), (43, 28168), (44, 28165), (49, 28141), (51, 28132), (54, 28123), (67, 28078),

Gene: Jobu08\_34 Start: 25478, Stop: 25212, Start Num: 17

Candidate Starts for Jobu08\_34:

(Start: 17 @25478 has 83 MA's), (40, 25355), (43, 25349), (44, 25346), (52, 25310), (66, 25256),

Gene: Journey\_33 Start: 26404, Stop: 26063, Start Num: 12

Candidate Starts for Journey\_33:

(Start: 12 @26404 has 52 MA's), (35, 26260), (50, 26194), (51, 26191), (60, 26146), (64, 26134), (66, 26122), (68, 26113), (70, 26092), (72, 26080),

Gene: Journey13\_33 Start: 26731, Stop: 26510, Start Num: 21

Candidate Starts for Journey13\_33:

(Start: 21 @26731 has 3 MA's), (35, 26662), (38, 26647), (43, 26635), (46, 26626), (49, 26608), (51, 26599), (57, 26575), (64, 26563), (66, 26551), (67, 26545),

Gene: KADY\_36 Start: 25723, Stop: 25457, Start Num: 17

Candidate Starts for KADY\_36:

(Start: 17 @25723 has 83 MA's), (40, 25600), (43, 25594),

Gene: Kalb97\_35 Start: 25500, Stop: 25228, Start Num: 17

Candidate Starts for Kalb97\_35:

(Start: 17 @25500 has 83 MA's), (66, 25272),

Gene: Kalnoky\_35 Start: 25501, Stop: 25229, Start Num: 17

Candidate Starts for Kalnoky\_35:

(Start: 17 @25501 has 83 MA's), (66, 25273),

Gene: Kevin1\_34 Start: 27625, Stop: 27314, Start Num: 12

Candidate Starts for Kevin1\_34:

(Start: 12 @27625 has 52 MA's), (39, 27475), (47, 27445), (52, 27427), (57, 27406), (59, 27403), (61, 27394), (63, 27388), (66, 27373), (70, 27343), (72, 27331),

Gene: L5\_35 Start: 26547, Stop: 26329, Start Num: 21

Candidate Starts for L5\_35:

(Start: 21 @26547 has 3 MA's), (37, 26469), (44, 26451), (49, 26427), (51, 26418), (57, 26394), (62, 26388), (66, 26370), (67, 26364),

Gene: LBerry\_35 Start: 25648, Stop: 25382, Start Num: 17

Candidate Starts for LBerry\_35:

(Start: 17 @25648 has 83 MA's), (40, 25525), (43, 25519), (44, 25516), (52, 25480), (66, 25426),

Gene: LadyBird\_37 Start: 27424, Stop: 27630, Start Num: 25

Candidate Starts for LadyBird\_37:

(16, 27376), (Start: 23 @27421 has 5 MA's), (Start: 25 @27424 has 1 MA's), (44, 27508), (51, 27541), (57, 27565), (64, 27577), (67, 27595), (71, 27622),

Gene: LarryKay\_35 Start: 25725, Stop: 25459, Start Num: 17

Candidate Starts for LarryKay\_35:

(Start: 17 @25725 has 83 MA's), (40, 25602), (43, 25596),

Gene: Lilith\_35 Start: 25641, Stop: 25375, Start Num: 17

Candidate Starts for Lilith\_35:

(Start: 17 @25641 has 83 MA's), (40, 25518), (43, 25512), (44, 25509), (52, 25473), (66, 25419),

Gene: LoneWolf\_37 Start: 27789, Stop: 27595, Start Num: 29

Candidate Starts for LoneWolf\_37:

(Start: 29 @27789 has 30 MA's), (43, 27720), (44, 27717), (49, 27693), (51, 27684), (54, 27675), (57, 27660), (66, 27636), (67, 27630),

Gene: Louie6\_35 Start: 25724, Stop: 25458, Start Num: 17

Candidate Starts for Louie6\_35:

(Start: 17 @25724 has 83 MA's), (40, 25601), (43, 25595),

Gene: Lowa\_35 Start: 25640, Stop: 25374, Start Num: 17

Candidate Starts for Lowa\_35:

(Start: 17 @25640 has 83 MA's), (40, 25517), (43, 25511), (44, 25508), (52, 25472), (66, 25418),

Gene: LugYA\_37 Start: 25648, Stop: 25382, Start Num: 17

Candidate Starts for LugYA\_37:

(Start: 17 @25648 has 83 MA's), (40, 25525), (43, 25519), (44, 25516), (52, 25480), (66, 25426),

Gene: MK4\_32 Start: 24916, Stop: 24674, Start Num: 22

Candidate Starts for MK4\_32:

(Start: 22 @24916 has 7 MA's), (Start: 23 @24910 has 5 MA's), (40, 24817), (46, 24802),

Gene: MadMarie\_35 Start: 25650, Stop: 25384, Start Num: 17

Candidate Starts for MadMarie\_35:

(Start: 17 @25650 has 83 MA's), (40, 25527), (43, 25521), (44, 25518), (66, 25428),

Gene: Magsby\_35 Start: 27730, Stop: 27389, Start Num: 12

Candidate Starts for Magsby\_35:

(Start: 12 @27730 has 52 MA's), (35, 27586), (50, 27520), (51, 27517), (58, 27487), (60, 27472), (64, 27460), (66, 27448), (70, 27418), (72, 27406),

Gene: Mainiac\_35 Start: 25641, Stop: 25375, Start Num: 17

Candidate Starts for Mainiac\_35:

(Start: 17 @25641 has 83 MA's), (40, 25518), (43, 25512), (44, 25509), (66, 25419),

Gene: MalagasyRose\_40 Start: 30812, Stop: 30543, Start Num: 20

Candidate Starts for MalagasyRose\_40:

(5, 30917), (8, 30908), (15, 30851), (Start: 20 @30812 has 2 MA's), (30, 30776), (36, 30722), (48, 30677), (54, 30656), (64, 30620),

Gene: Malinsilva\_37 Start: 25640, Stop: 25374, Start Num: 17

Candidate Starts for Malinsilva\_37:

(Start: 17 @25640 has 83 MA's), (40, 25517), (43, 25511), (44, 25508), (52, 25472), (66, 25418),

Gene: Maminiaina\_36 Start: 27783, Stop: 27583, Start Num: 29

Candidate Starts for Maminiaina\_36:

(Start: 27 @27792 has 4 MA's), (Start: 29 @27783 has 30 MA's), (43, 27708), (44, 27705), (46, 27699), (49, 27681), (57, 27648), (67, 27618),

Gene: Manu\_35 Start: 25501, Stop: 25229, Start Num: 17

Candidate Starts for Manu\_35:

(Start: 17 @25501 has 83 MA's), (66, 25273),

Gene: MarQuardt\_35 Start: 25649, Stop: 25383, Start Num: 17

Candidate Starts for MarQuardt\_35:

(Start: 17 @25649 has 83 MA's), (40, 25526), (43, 25520), (44, 25517), (52, 25481), (66, 25427),

Gene: Marie\_35 Start: 25647, Stop: 25381, Start Num: 17

Candidate Starts for Marie\_35:

(Start: 17 @25647 has 83 MA's), (40, 25524), (43, 25518), (44, 25515), (52, 25479), (66, 25425),

Gene: Marius\_35 Start: 25501, Stop: 25229, Start Num: 17

Candidate Starts for Marius\_35:

(Start: 17 @25501 has 83 MA's), (66, 25273),

Gene: Melville\_37 Start: 27714, Stop: 27373, Start Num: 12

Candidate Starts for Melville\_37:

(Start: 12 @27714 has 52 MA's), (35, 27570), (50, 27504), (51, 27501), (58, 27471), (60, 27456), (64, 27444), (66, 27432), (70, 27402), (72, 27390),

Gene: Methuselah\_34 Start: 25719, Stop: 25453, Start Num: 17

Candidate Starts for Methuselah\_34:

(Start: 17 @25719 has 83 MA's), (40, 25596), (43, 25590),

Gene: MichelleMyBell\_33 Start: 26721, Stop: 26380, Start Num: 12

Candidate Starts for MichelleMyBell\_33:

(Start: 12 @26721 has 52 MA's), (35, 26577), (50, 26511), (51, 26508), (58, 26478), (60, 26463), (64, 26451), (66, 26439), (70, 26409), (72, 26397),

Gene: Microwolf\_35 Start: 25649, Stop: 25383, Start Num: 17

Candidate Starts for Microwolf\_35:

(Start: 17 @25649 has 83 MA's), (40, 25526), (43, 25520), (44, 25517), (52, 25481), (66, 25427),

Gene: Minispark\_35 Start: 27322, Stop: 27095, Start Num: 19

Candidate Starts for Minispark\_35:

(14, 27361), (19, 27322), (Start: 29 @27289 has 30 MA's), (43, 27220), (44, 27217), (46, 27211), (49, 27193), (51, 27184), (54, 27175), (56, 27166), (65, 27139), (67, 27130),

Gene: Misomonster\_37 Start: 25722, Stop: 25456, Start Num: 17

Candidate Starts for Misomonster\_37:

(Start: 17 @25722 has 83 MA's), (40, 25599), (43, 25593),

Gene: MoneyMay\_35 Start: 25647, Stop: 25381, Start Num: 17

Candidate Starts for MoneyMay\_35:

(Start: 17 @25647 has 83 MA's), (40, 25524), (43, 25518), (44, 25515), (52, 25479), (66, 25425),

Gene: Montavir\_34 Start: 25648, Stop: 25382, Start Num: 17

Candidate Starts for Montavir\_34:

(Start: 17 @25648 has 83 MA's), (40, 25525), (43, 25519), (44, 25516), (66, 25426),

Gene: MuchMore\_37 Start: 25640, Stop: 25374, Start Num: 17

Candidate Starts for MuchMore\_37:

(Start: 17 @25640 has 83 MA's), (40, 25517), (43, 25511), (44, 25508), (52, 25472), (66, 25418),

Gene: MyraDee\_32 Start: 25082, Stop: 24768, Start Num: 10

Candidate Starts for MyraDee\_32:

(Start: 10 @25082 has 1 MA's), (13, 25076), (34, 24956), (43, 24914), (44, 24911), (66, 24806),

Gene: Myxus\_38 Start: 28200, Stop: 28000, Start Num: 29

Candidate Starts for Myxus\_38:

(9, 28299), (14, 28272), (Start: 29 @28200 has 30 MA's), (43, 28125), (44, 28122), (49, 28098), (51, 28089), (54, 28080), (67, 28035),

Gene: Naca\_30 Start: 24473, Stop: 24174, Start Num: 12

Candidate Starts for Naca\_30:

(Start: 12 @24473 has 52 MA's), (28, 24386), (42, 24323), (47, 24302), (57, 24263), (59, 24260), (60, 24254), (64, 24242), (66, 24230), (68, 24221),

Gene: NearlyHeadless\_29 Start: 23533, Stop: 23303, Start Num: 24

Candidate Starts for NearlyHeadless\_29:

(4, 23683), (7, 23644), (Start: 24 @23533 has 11 MA's), (37, 23455), (44, 23437), (46, 23431), (57, 23380),

Gene: Nenae\_36 Start: 28021, Stop: 27683, Start Num: 12

Candidate Starts for Nenae\_36:

(Start: 12 @28021 has 52 MA's), (49, 27820), (53, 27805), (63, 27757), (66, 27742), (72, 27700),

Gene: Odin\_35 Start: 26375, Stop: 26184, Start Num: 26

Candidate Starts for Odin\_35:

(Start: 26 @26375 has 2 MA's), (44, 26306), (49, 26282), (51, 26273), (57, 26249), (64, 26237), (66, 26225), (67, 26219),

Gene: OlanP\_34 Start: 25682, Stop: 25410, Start Num: 17

Candidate Starts for OlanP\_34:

(Start: 17 @25682 has 83 MA's), (37, 25565), (66, 25454),

Gene: Ollie\_35 Start: 25518, Stop: 25252, Start Num: 17

Candidate Starts for Ollie\_35:

(Start: 17 @25518 has 83 MA's), (40, 25395), (43, 25389), (44, 25386), (52, 25350), (66, 25296),

Gene: Onglai\_36 Start: 26541, Stop: 26341, Start Num: 29

Candidate Starts for Onglai\_36:

(9, 26640), (14, 26613), (Start: 29 @26541 has 30 MA's), (43, 26466), (44, 26463), (49, 26439), (51, 26430), (54, 26421), (67, 26376),

Gene: P28Green\_35 Start: 25650, Stop: 25384, Start Num: 17

Candidate Starts for P28Green\_35:

(Start: 17 @25650 has 83 MA's), (40, 25527), (43, 25521), (44, 25518), (52, 25482), (66, 25428),

Gene: PGHhamlin\_37 Start: 25640, Stop: 25374, Start Num: 17

Candidate Starts for PGHhamlin\_37:

(Start: 17 @25640 has 83 MA's), (40, 25517), (43, 25511), (44, 25508), (52, 25472), (66, 25418),

Gene: PackMan\_37 Start: 28200, Stop: 28000, Start Num: 29

Candidate Starts for PackMan\_37:

(9, 28299), (14, 28272), (Start: 29 @28200 has 30 MA's), (43, 28125), (44, 28122), (49, 28098), (51, 28089), (54, 28080), (67, 28035),

Gene: Panchino\_31 Start: 28129, Stop: 27788, Start Num: 12

Candidate Starts for Panchino\_31:

(Start: 12 @28129 has 52 MA's), (35, 27985), (50, 27919), (51, 27916), (58, 27886), (60, 27871), (64, 27859), (66, 27847), (70, 27817), (72, 27805),

Gene: Parmesanjohn\_35 Start: 27733, Stop: 27392, Start Num: 12

Candidate Starts for Parmesanjohn\_35:

(Start: 12 @27733 has 52 MA's), (35, 27589), (50, 27523), (51, 27520), (58, 27490), (60, 27475), (64, 27463), (66, 27451), (70, 27421), (72, 27409),

Gene: Pawn\_34 Start: 25502, Stop: 25230, Start Num: 17

Candidate Starts for Pawn\_34:

(Start: 17 @25502 has 83 MA's), (66, 25274),

Gene: Pembroke\_35 Start: 25649, Stop: 25383, Start Num: 17

Candidate Starts for Pembroke\_35:

(Start: 17 @25649 has 83 MA's), (40, 25526), (43, 25520), (44, 25517), (52, 25481), (66, 25427),

Gene: Penny1\_35 Start: 25648, Stop: 25382, Start Num: 17

Candidate Starts for Penny1\_35:

(Start: 17 @25648 has 83 MA's), (40, 25525), (43, 25519), (44, 25516), (52, 25480), (66, 25426),

Gene: PetterN\_31 Start: 23833, Stop: 23600, Start Num: 27

Candidate Starts for PetterN\_31:

(Start: 27 @23833 has 4 MA's), (45, 23734), (64, 23656), (66, 23644),

Gene: Ph8s\_37 Start: 26625, Stop: 26404, Start Num: 20

Candidate Starts for Ph8s\_37:

(Start: 20 @26625 has 2 MA's), (37, 26544), (51, 26493), (52, 26490), (66, 26445),

Gene: Phaeder\_38 Start: 28200, Stop: 28000, Start Num: 29

Candidate Starts for Phaeder\_38:

(9, 28299), (14, 28272), (Start: 29 @28200 has 30 MA's), (43, 28125), (44, 28122), (49, 28098), (51, 28089), (54, 28080), (67, 28035),

Gene: PhancyPhin\_36 Start: 28015, Stop: 27677, Start Num: 12

Candidate Starts for PhancyPhin\_36:

(Start: 12 @28015 has 52 MA's), (49, 27814), (53, 27799), (63, 27751), (66, 27736), (72, 27694),

Gene: Phantastic\_32 Start: 24954, Stop: 24712, Start Num: 22

Candidate Starts for Phantastic\_32:

(Start: 22 @24954 has 7 MA's), (Start: 23 @24948 has 5 MA's), (40, 24855), (44, 24846), (46, 24840), (57, 24789), (64, 24768), (66, 24756),

Gene: Pharaoh\_34 Start: 28121, Stop: 27927, Start Num: 29

Candidate Starts for Pharaoh\_34:

(Start: 27 @28130 has 4 MA's), (Start: 29 @28121 has 30 MA's), (38, 28064), (49, 28025), (51, 28016), (54, 28007), (57, 27992), (67, 27962), (68, 27959), (71, 27935),

Gene: Phillis\_29 Start: 23579, Stop: 23349, Start Num: 24  
Candidate Starts for Phillis\_29:  
(4, 23729), (7, 23690), (Start: 24 @23579 has 11 MA's), (37, 23501), (44, 23483), (46, 23477), (57, 23426),

Gene: Philonius\_33 Start: 26395, Stop: 26054, Start Num: 12  
Candidate Starts for Philonius\_33:  
(Start: 12 @26395 has 52 MA's), (35, 26251), (50, 26185), (51, 26182), (60, 26137), (64, 26125), (66, 26113), (68, 26104), (70, 26083), (72, 26071),

Gene: PhishRPhriends\_33 Start: 24685, Stop: 24413, Start Num: 17  
Candidate Starts for PhishRPhriends\_33:  
(Start: 17 @24685 has 83 MA's), (52, 24511), (66, 24457),

Gene: Phloss\_33 Start: 27140, Stop: 26799, Start Num: 12  
Candidate Starts for Phloss\_33:  
(Start: 12 @27140 has 52 MA's), (35, 26996), (50, 26930), (51, 26927), (58, 26897), (60, 26882), (64, 26870), (66, 26858), (70, 26828), (72, 26816),

Gene: Phoebe\_35 Start: 25640, Stop: 25380, Start Num: 17  
Candidate Starts for Phoebe\_35:  
(Start: 17 @25640 has 83 MA's), (40, 25523), (43, 25517), (44, 25514), (52, 25478), (66, 25424),

Gene: Phonnegut\_38 Start: 28255, Stop: 28055, Start Num: 29  
Candidate Starts for Phonnegut\_38:  
(9, 28354), (14, 28327), (Start: 29 @28255 has 30 MA's), (43, 28180), (44, 28177), (49, 28153), (51, 28144), (54, 28135), (67, 28090),

Gene: Phoxy\_35 Start: 25720, Stop: 25454, Start Num: 17  
Candidate Starts for Phoxy\_35:  
(Start: 17 @25720 has 83 MA's), (40, 25597), (43, 25591),

Gene: Phrann\_36 Start: 28799, Stop: 28461, Start Num: 12  
Candidate Starts for Phrann\_36:  
(Start: 12 @28799 has 52 MA's), (49, 28598), (53, 28583), (63, 28535), (66, 28520), (72, 28478),

Gene: Phranny\_35 Start: 25493, Stop: 25221, Start Num: 17  
Candidate Starts for Phranny\_35:  
(Start: 17 @25493 has 83 MA's), (52, 25319), (66, 25265),

Gene: Pioneer\_38 Start: 28255, Stop: 28055, Start Num: 29  
Candidate Starts for Pioneer\_38:  
(9, 28354), (14, 28327), (Start: 29 @28255 has 30 MA's), (43, 28180), (44, 28177), (49, 28153), (51, 28144), (54, 28135), (67, 28090),

Gene: Pipsqueaks\_35 Start: 27710, Stop: 27369, Start Num: 12  
Candidate Starts for Pipsqueaks\_35:  
(Start: 12 @27710 has 52 MA's), (35, 27566), (50, 27500), (51, 27497), (58, 27467), (60, 27452), (64, 27440), (66, 27428), (70, 27398), (72, 27386),

Gene: PotatoSplit\_36 Start: 25648, Stop: 25382, Start Num: 17  
Candidate Starts for PotatoSplit\_36:  
(Start: 17 @25648 has 83 MA's), (40, 25525), (43, 25519), (44, 25516), (52, 25480), (66, 25426),

Gene: Priya\_38 Start: 28267, Stop: 28067, Start Num: 29

Candidate Starts for Priya\_38:

(9, 28366), (14, 28339), (Start: 29 @28267 has 30 MA's), (43, 28192), (44, 28189), (49, 28165), (51, 28156), (54, 28147), (67, 28102),

Gene: Purgamenstris\_36 Start: 28019, Stop: 27681, Start Num: 12

Candidate Starts for Purgamenstris\_36:

(Start: 12 @28019 has 52 MA's), (49, 27818), (53, 27803), (63, 27755), (66, 27740), (72, 27698),

Gene: PurpleHaze\_34 Start: 25500, Stop: 25228, Start Num: 17

Candidate Starts for PurpleHaze\_34:

(Start: 17 @25500 has 83 MA's), (66, 25272),

Gene: Qobbit\_38 Start: 28229, Stop: 28029, Start Num: 29

Candidate Starts for Qobbit\_38:

(9, 28328), (14, 28301), (Start: 29 @28229 has 30 MA's), (43, 28154), (44, 28151), (49, 28127), (51, 28118), (54, 28109), (67, 28064),

Gene: Rahalelujah\_36 Start: 27292, Stop: 27095, Start Num: 29

Candidate Starts for Rahalelujah\_36:

(14, 27364), (19, 27325), (Start: 29 @27292 has 30 MA's), (43, 27220), (44, 27217), (46, 27211), (49, 27193), (51, 27184), (57, 27160), (65, 27139), (67, 27130),

Gene: Raymond7\_30 Start: 27839, Stop: 27504, Start Num: 12

Candidate Starts for Raymond7\_30:

(2, 27935), (Start: 12 @27839 has 52 MA's), (31, 27737), (33, 27722), (35, 27695), (63, 27578), (66, 27563), (70, 27533), (72, 27521),

Gene: Reba\_35 Start: 25166, Stop: 24894, Start Num: 17

Candidate Starts for Reba\_35:

(Start: 17 @25166 has 83 MA's), (52, 24992), (66, 24938),

Gene: Redi\_36 Start: 28018, Stop: 27680, Start Num: 12

Candidate Starts for Redi\_36:

(Start: 12 @28018 has 52 MA's), (49, 27817), (53, 27802), (63, 27754), (66, 27739), (72, 27697),

Gene: Roary\_29 Start: 23479, Stop: 23249, Start Num: 24

Candidate Starts for Roary\_29:

(4, 23629), (Start: 24 @23479 has 11 MA's), (37, 23401), (44, 23383), (46, 23377), (57, 23326),

Gene: Rockstar\_32 Start: 24924, Stop: 24682, Start Num: 22

Candidate Starts for Rockstar\_32:

(Start: 22 @24924 has 7 MA's), (Start: 23 @24918 has 5 MA's), (40, 24825), (46, 24810),

Gene: Rubeelu\_36 Start: 28446, Stop: 28135, Start Num: 12

Candidate Starts for Rubeelu\_36:

(Start: 12 @28446 has 52 MA's), (39, 28296), (47, 28266), (52, 28248), (57, 28227), (59, 28224), (61, 28215), (63, 28209), (66, 28194), (70, 28164), (72, 28152),

Gene: Rummer\_35 Start: 25720, Stop: 25454, Start Num: 17

Candidate Starts for Rummer\_35:

(Start: 17 @25720 has 83 MA's), (40, 25597), (43, 25591),

Gene: RyeScarlet\_39 Start: 28224, Stop: 28024, Start Num: 29

Candidate Starts for RyeScarlet\_39:

(9, 28323), (14, 28296), (Start: 29 @28224 has 30 MA's), (43, 28149), (44, 28146), (49, 28122), (51, 28113), (54, 28104), (67, 28059),

Gene: Sabia\_35 Start: 25641, Stop: 25375, Start Num: 17

Candidate Starts for Sabia\_35:

(Start: 17 @25641 has 83 MA's), (40, 25518), (43, 25512), (44, 25509), (66, 25419),

Gene: Sabinator\_35 Start: 25646, Stop: 25380, Start Num: 17

Candidate Starts for Sabinator\_35:

(Start: 17 @25646 has 83 MA's), (40, 25523), (43, 25517), (44, 25514), (52, 25478), (66, 25424),

Gene: Sachima\_35 Start: 28205, Stop: 27999, Start Num: 27

Candidate Starts for Sachima\_35:

(Start: 27 @28205 has 4 MA's), (Start: 29 @28196 has 30 MA's), (44, 28121), (46, 28115), (49, 28097), (51, 28088), (54, 28079), (67, 28034),

Gene: Saintus\_29 Start: 23499, Stop: 23269, Start Num: 24

Candidate Starts for Saintus\_29:

(4, 23649), (7, 23610), (Start: 24 @23499 has 11 MA's), (37, 23421), (44, 23403), (46, 23397), (57, 23346),

Gene: Scherzo\_37 Start: 28212, Stop: 28012, Start Num: 29

Candidate Starts for Scherzo\_37:

(1, 28470), (14, 28284), (Start: 29 @28212 has 30 MA's), (43, 28137), (44, 28134), (49, 28110), (51, 28101), (54, 28092), (67, 28047),

Gene: Schnauzer\_35 Start: 27733, Stop: 27392, Start Num: 12

Candidate Starts for Schnauzer\_35:

(Start: 12 @27733 has 52 MA's), (35, 27589), (50, 27523), (51, 27520), (58, 27490), (60, 27475), (64, 27463), (66, 27451), (70, 27421), (72, 27409),

Gene: Scorpia\_31 Start: 23910, Stop: 23611, Start Num: 12

Candidate Starts for Scorpia\_31:

(Start: 12 @23910 has 52 MA's), (28, 23823), (42, 23760), (47, 23739), (57, 23700), (59, 23697), (60, 23691), (64, 23679), (66, 23667), (68, 23658),

Gene: SheaKeira\_37 Start: 27624, Stop: 27430, Start Num: 29

Candidate Starts for SheaKeira\_37:

(Start: 27 @27633 has 4 MA's), (Start: 29 @27624 has 30 MA's), (54, 27510), (57, 27495), (66, 27471), (67, 27465),

Gene: Sheen\_35 Start: 29301, Stop: 29071, Start Num: 23

Candidate Starts for Sheen\_35:

(Start: 23 @29301 has 5 MA's), (40, 29214), (44, 29205), (57, 29148), (64, 29127), (66, 29115),

Gene: ShrimpFriedEgg\_36 Start: 28018, Stop: 27680, Start Num: 12

Candidate Starts for ShrimpFriedEgg\_36:

(Start: 12 @28018 has 52 MA's), (49, 27817), (53, 27802), (63, 27754), (66, 27739), (72, 27697),

Gene: Shweta\_32 Start: 26913, Stop: 26572, Start Num: 12

Candidate Starts for Shweta\_32:

(Start: 12 @26913 has 52 MA's), (35, 26769), (50, 26703), (51, 26700), (58, 26670), (60, 26655), (64, 26643), (66, 26631), (70, 26601), (72, 26589),

Gene: Silvafighter\_36 Start: 27706, Stop: 27365, Start Num: 12

Candidate Starts for Silvafighter\_36:

(Start: 12 @27706 has 52 MA's), (35, 27562), (50, 27496), (51, 27493), (58, 27463), (60, 27448), (64, 27436), (66, 27424), (70, 27394), (72, 27382),

Gene: Silvy\_33 Start: 26384, Stop: 26043, Start Num: 12

Candidate Starts for Silvy\_33:

(Start: 12 @26384 has 52 MA's), (35, 26240), (50, 26174), (51, 26171), (60, 26126), (64, 26114), (66, 26102), (68, 26093), (70, 26072), (72, 26060),

Gene: SkinnyPete\_30 Start: 25444, Stop: 25103, Start Num: 12

Candidate Starts for SkinnyPete\_30:

(Start: 12 @25444 has 52 MA's), (35, 25300), (50, 25234), (51, 25231), (60, 25186), (64, 25174), (66, 25162), (68, 25153), (70, 25132), (72, 25120),

Gene: Smeadley\_29 Start: 23512, Stop: 23282, Start Num: 24

Candidate Starts for Smeadley\_29:

(4, 23662), (7, 23623), (Start: 24 @23512 has 11 MA's), (37, 23434), (44, 23416), (46, 23410), (57, 23359),

Gene: Smurph\_35 Start: 27733, Stop: 27392, Start Num: 12

Candidate Starts for Smurph\_35:

(Start: 12 @27733 has 52 MA's), (35, 27589), (50, 27523), (51, 27520), (58, 27490), (60, 27475), (64, 27463), (66, 27451), (70, 27421), (72, 27409),

Gene: Snekmaggedon\_32 Start: 26783, Stop: 26442, Start Num: 12

Candidate Starts for Snekmaggedon\_32:

(Start: 12 @26783 has 52 MA's), (35, 26639), (50, 26573), (51, 26570), (58, 26540), (60, 26525), (64, 26513), (66, 26501), (70, 26471), (72, 26459),

Gene: Snickers\_35 Start: 25621, Stop: 25355, Start Num: 17

Candidate Starts for Snickers\_35:

(Start: 17 @25621 has 83 MA's), (40, 25498), (43, 25492), (44, 25489), (66, 25399),

Gene: SoYo\_35 Start: 25559, Stop: 25293, Start Num: 17

Candidate Starts for SoYo\_35:

(Start: 17 @25559 has 83 MA's), (40, 25436), (43, 25430), (44, 25427), (52, 25391), (66, 25337),

Gene: SoilDragon\_34 Start: 25094, Stop: 24828, Start Num: 17

Candidate Starts for SoilDragon\_34:

(Start: 17 @25094 has 83 MA's), (40, 24971), (43, 24965), (44, 24962), (52, 24926), (66, 24872),

Gene: Soshari\_37 Start: 25719, Stop: 25453, Start Num: 17

Candidate Starts for Soshari\_37:

(Start: 17 @25719 has 83 MA's), (40, 25596), (43, 25590),

Gene: Spike509\_35 Start: 25720, Stop: 25454, Start Num: 17

Candidate Starts for Spike509\_35:

(Start: 17 @25720 has 83 MA's), (40, 25597), (43, 25591),

Gene: Spinach\_36 Start: 28018, Stop: 27680, Start Num: 12

Candidate Starts for Spinach\_36:

(Start: 12 @28018 has 52 MA's), (49, 27817), (53, 27802), (63, 27754), (66, 27739), (72, 27697),

Gene: SpongeBob\_32 Start: 26783, Stop: 26442, Start Num: 12

Candidate Starts for SpongeBob\_32:

(Start: 12 @26783 has 52 MA's), (35, 26639), (50, 26573), (51, 26570), (58, 26540), (60, 26525), (64, 26513), (66, 26501), (70, 26471), (72, 26459),

Gene: Spouty\_38 Start: 28266, Stop: 28066, Start Num: 29

Candidate Starts for Spouty\_38:

(9, 28365), (14, 28338), (Start: 29 @28266 has 30 MA's), (43, 28191), (44, 28188), (49, 28164), (51, 28155), (54, 28146), (67, 28101),

Gene: Squirty\_33 Start: 28243, Stop: 27905, Start Num: 12

Candidate Starts for Squirty\_33:

(Start: 12 @28243 has 52 MA's), (53, 28027), (63, 27979), (66, 27964), (72, 27922),

Gene: Stagni\_35 Start: 25650, Stop: 25384, Start Num: 17

Candidate Starts for Stagni\_35:

(Start: 17 @25650 has 83 MA's), (40, 25527), (43, 25521), (44, 25518), (66, 25428),

Gene: StepMih\_35 Start: 25641, Stop: 25375, Start Num: 17

Candidate Starts for StepMih\_35:

(Start: 17 @25641 has 83 MA's), (40, 25518), (43, 25512), (44, 25509), (66, 25419),

Gene: Stephig9\_29 Start: 23494, Stop: 23264, Start Num: 24

Candidate Starts for Stephig9\_29:

(4, 23644), (Start: 24 @23494 has 11 MA's), (37, 23416), (44, 23398), (46, 23392), (57, 23341),

Gene: Superchunk\_35 Start: 26208, Stop: 25990, Start Num: 21

Candidate Starts for Superchunk\_35:

(Start: 21 @26208 has 3 MA's), (44, 26112), (49, 26088), (51, 26079), (57, 26055), (66, 26031), (67, 26025),

Gene: Tapioca\_36 Start: 27699, Stop: 27358, Start Num: 12

Candidate Starts for Tapioca\_36:

(Start: 12 @27699 has 52 MA's), (35, 27555), (50, 27489), (51, 27486), (58, 27456), (60, 27441), (64, 27429), (66, 27417), (70, 27387), (72, 27375),

Gene: Taurus\_35 Start: 25647, Stop: 25381, Start Num: 17

Candidate Starts for Taurus\_35:

(Start: 17 @25647 has 83 MA's), (40, 25524), (43, 25518), (44, 25515), (52, 25479), (66, 25425),

Gene: Tiffany\_35 Start: 25533, Stop: 25267, Start Num: 17

Candidate Starts for Tiffany\_35:

(Start: 17 @25533 has 83 MA's), (40, 25410), (43, 25404), (44, 25401), (66, 25311),

Gene: Timshel\_35 Start: 29722, Stop: 29492, Start Num: 23

Candidate Starts for Timshel\_35:

(Start: 23 @29722 has 5 MA's), (40, 29635), (44, 29626), (64, 29548), (66, 29536),

Gene: TinyPebbles\_35 Start: 25725, Stop: 25459, Start Num: 17

Candidate Starts for TinyPebbles\_35:

(Start: 17 @25725 has 83 MA's), (40, 25602), (43, 25596),

Gene: Toaka\_36 Start: 27486, Stop: 27289, Start Num: 29

Candidate Starts for Toaka\_36:

(Start: 29 @27486 has 30 MA's), (44, 27411), (46, 27405), (49, 27387), (51, 27378), (54, 27369), (57, 27354), (65, 27333), (67, 27324),

Gene: Tortoise12\_33 Start: 26416, Stop: 26075, Start Num: 12

Candidate Starts for Tortoise12\_33:

(Start: 12 @26416 has 52 MA's), (35, 26272), (50, 26206), (51, 26203), (60, 26158), (64, 26146), (66, 26134), (68, 26125), (70, 26104), (72, 26092),

Gene: Tubs\_38 Start: 28200, Stop: 28000, Start Num: 29

Candidate Starts for Tubs\_38:

(9, 28299), (14, 28272), (Start: 29 @28200 has 30 MA's), (43, 28125), (44, 28122), (49, 28098), (51, 28089), (54, 28080), (67, 28035),

Gene: Ugenie5\_34 Start: 28211, Stop: 28011, Start Num: 29

Candidate Starts for Ugenie5\_34:

(1, 28469), (14, 28283), (Start: 29 @28211 has 30 MA's), (43, 28136), (44, 28133), (49, 28109), (51, 28100), (54, 28091), (67, 28046),

Gene: UnionJack\_30 Start: 23572, Stop: 23339, Start Num: 27

Candidate Starts for UnionJack\_30:

(Start: 27 @23572 has 4 MA's), (45, 23473), (46, 23470), (48, 23452), (64, 23395), (66, 23383),

Gene: Vix\_35 Start: 25730, Stop: 25464, Start Num: 17

Candidate Starts for Vix\_35:

(Start: 17 @25730 has 83 MA's), (40, 25607), (43, 25601), (44, 25598), (52, 25562), (66, 25508),

Gene: Watson\_35 Start: 25640, Stop: 25374, Start Num: 17

Candidate Starts for Watson\_35:

(Start: 17 @25640 has 83 MA's), (40, 25517), (43, 25511), (44, 25508), (52, 25472), (66, 25418),

Gene: Wooldri\_37 Start: 25559, Stop: 25293, Start Num: 17

Candidate Starts for Wooldri\_37:

(Start: 17 @25559 has 83 MA's), (40, 25436), (43, 25430), (44, 25427), (52, 25391), (66, 25337),

Gene: WorldCup\_35 Start: 27289, Stop: 27095, Start Num: 29

Candidate Starts for WorldCup\_35:

(14, 27361), (19, 27322), (Start: 29 @27289 has 30 MA's), (43, 27220), (44, 27217), (46, 27211), (49, 27193), (51, 27184), (54, 27175), (56, 27166), (65, 27139), (67, 27130),

Gene: Xeno\_32 Start: 26170, Stop: 25829, Start Num: 12

Candidate Starts for Xeno\_32:

(Start: 12 @26170 has 52 MA's), (35, 26026), (50, 25960), (51, 25957), (58, 25927), (60, 25912), (64, 25900), (66, 25888), (70, 25858), (72, 25846),

Gene: Xerxes\_35 Start: 27730, Stop: 27389, Start Num: 12

Candidate Starts for Xerxes\_35:

(Start: 12 @27730 has 52 MA's), (35, 27586), (50, 27520), (51, 27517), (58, 27487), (60, 27472), (64, 27460), (66, 27448), (70, 27418), (72, 27406),

Gene: Yecey3\_37 Start: 27443, Stop: 27255, Start Num: 29

Candidate Starts for Yecey3\_37:

(Start: 29 @27443 has 30 MA's), (44, 27377), (49, 27353), (51, 27344), (54, 27335), (66, 27296), (67, 27290),

Gene: Zetzy\_34 Start: 25205, Stop: 24921, Start Num: 17

Candidate Starts for Zetzy\_34:

(Start: 17 @25205 has 83 MA's), (40, 25082), (64, 24977), (66, 24965),

Gene: Zimmer\_37 Start: 29288, Stop: 29094, Start Num: 29

Candidate Starts for Zimmer\_37:

(Start: 27 @29297 has 4 MA's), (Start: 29 @29288 has 30 MA's), (38, 29231), (49, 29192), (51, 29183), (57, 29159), (67, 29129), (68, 29126), (71, 29102),