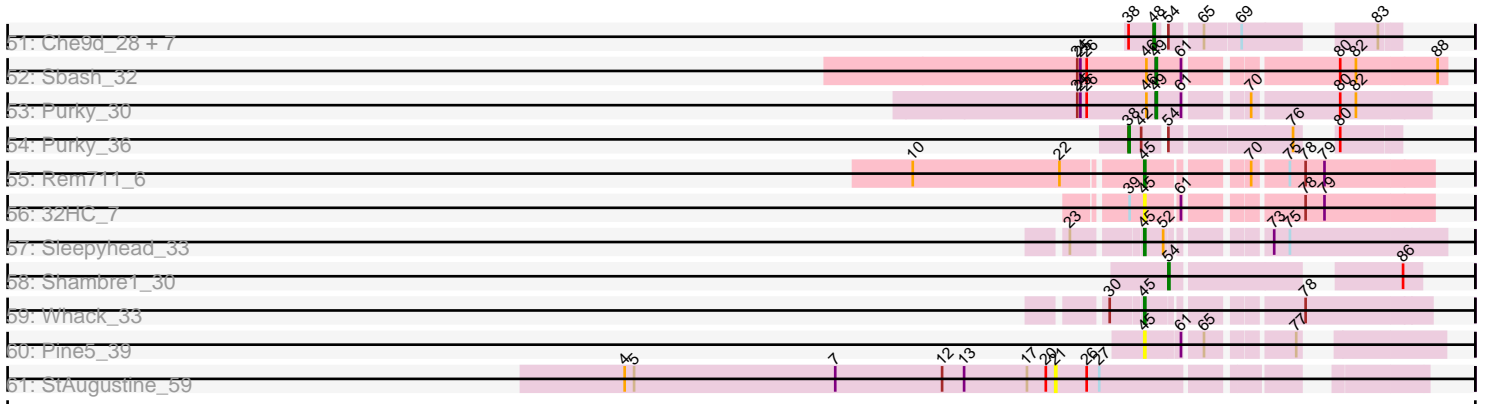


Pham 163350



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 163350 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163350 has 208 members, 23 are drafts.

Phages represented in each track:

- Track 1 : Galaxy\_26
- Track 2 : Abidatro\_27
- Track 3 : Vulpecula\_25
- Track 4 : TaylorSipht\_26
- Track 5 : Basilisk\_26
- Track 6 : Brynnie\_25
- Track 7 : Jamun\_25
- Track 8 : Daob\_27, Amelia\_27, Melons\_27, Cote\_27, Orcanus\_26, Coral\_26, Lunar\_27, Polka\_26
- Track 9 : Kuleana\_27
- Track 10 : Andrew\_28
- Track 11 : Dice\_46, Ricotta\_45
- Track 12 : Carthage\_43
- Track 13 : Indlovu\_42
- Track 14 : LilMcDreamy\_41
- Track 15 : Zenteno07\_48, Hashim76\_47
- Track 16 : BirdsNest\_46
- Track 17 : Calamitous\_44, Coffee\_44, Lars\_44, ItsyBitsy1\_44, Faze9\_43, LizLemon\_44, Lephleur\_44, FrenchFry\_44, Tinciduntolum\_45, Bananafish\_44, West99\_44, Hedgerow\_44, TA17A\_44, Blocker23\_44, Kheth\_44, Tres\_44, Holeinone\_44, Kaleb\_44, Phantasmagoria\_44, Rhinoforte\_44, Godines\_44, Brownie5\_44, Boyle\_44, Eaglehorse\_44, Sabella\_43, Allegro\_44, Laurie\_43, Opia\_44, Ares\_44, Glass\_44, MasterPo\_44
- Track 18 : Qyrzula\_41, Arbiter\_43, Rosebush\_43
- Track 19 : Nozo\_43, Halfpint\_42, Yahalom\_43, MmasiCarm\_43, Phayeta\_44, Chandler\_43, Audrey\_43, Briakila\_44, Daisy\_43, Abinghost\_43, Gadget\_44, Devonte\_43, Deenasa\_43, Casbah\_42, Rita1961\_43, Kamiyu\_43, SlippinJimmy\_43, Neos5\_43, Obutu\_43, Ben11\_42, Phaedrus\_41, OrangeOswald\_43, Athena\_44, Jackstina\_40, Gervas\_43, Philly\_42, HarveySr\_43, RomaT\_43, Phlyer\_43, Yinz\_43, Compostia\_44, ChaChing\_43, Corofin\_43, Akoma\_43, LestyG\_43, Marley1013\_43, GlenHope\_44, SynergyX\_43, RagingRooster\_43, Baloo\_43, Morty007\_43, Tydolla\_43, Heathcliff\_43, Kronus\_42
- Track 20 : Stinger\_39
- Track 21 : Vincenzo\_41, AlanGrant\_42
- Track 22 : Reprobate\_44, Mysterious\_45, Phelemich\_43
- Track 23 : Nangang\_43, DigitDog\_43
- Track 24 : StinkyVeggy\_45

- Track 25 : Acadian\_44, Suigeneris\_44, Donny\_44, EastView9101\_44, SirJeffery\_44
- Track 26 : Hosp\_035
- Track 27 : KayaCho\_37
- Track 28 : Jolie1\_037
- Track 29 : 40BC\_037, 39HC\_037
- Track 30 : Saguaro\_45
- Track 31 : Thonko\_43
- Track 32 : Funsized\_46
- Track 33 : Knocker\_45
- Track 34 : Catfish\_31
- Track 35 : BeeGee\_38, RavenCo17\_36
- Track 36 : LonelyBoi\_35
- Track 37 : Herod\_34, Eviarto\_34, BatStarr\_34, Nymphadora\_34, TimTam\_34, Bosnia\_34
- Track 38 : Hugley\_32
- Track 39 : Manasvini\_35, Eudoria\_35, Antonio\_35, Zameen\_35, Kita\_36, Trumpet\_35, Tayonia\_35, Neobush\_35, Maridalia\_34, Suscepit\_35, Polly\_32
- Track 40 : Whiteclaw\_30, Clap\_30, Savage\_30, Sahara\_29, Mocha12\_30, Haley23\_30, GemG\_30, Sproutie\_30, Cynthia\_30, TuertoX\_30, Ebert\_31, Gizermo\_30
- Track 41 : Vasanti\_31
- Track 42 : RayTheFireFly\_38
- Track 43 : Getalong\_40, Horus\_39, Phabuloso\_36, Lutum\_39, Budski\_39, BearBQ\_38, ODay\_42, CheeseTouch\_37, Asapag\_39, Leroy\_39, Ecliptus\_40, Holliday\_38, Whitney\_42, Kenna\_38, Periwinkle\_42
- Track 44 : Phistory\_39, BENtherdunthat\_38, Frickyeah\_39, Apricot\_38
- Track 45 : Squiddly\_40, Spooky\_39
- Track 46 : Crater\_36
- Track 47 : LittleMunchkin\_40
- Track 48 : Evaa\_38
- Track 49 : ShroomBoi\_22, Avani\_28
- Track 50 : Madiba\_23, ThetaBob\_24
- Track 51 : Che9d\_28, Ogopogo\_25, Bipolar\_22, Demsculpinboyz\_28, Kersh\_23, Kenuha5\_22, Pollywog\_25, Yoshi\_28
- Track 52 : Sbash\_32
- Track 53 : Purky\_30
- Track 54 : Purky\_36
- Track 55 : Rem711\_6
- Track 56 : 32HC\_7
- Track 57 : Sleepyhead\_33
- Track 58 : Shambre1\_30
- Track 59 : Whack\_33
- Track 60 : Pine5\_39
- Track 61 : StAugustine\_59

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

The start number called the most often in the published annotations is 45, it was called in 50 of the 185 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 32HC\_7, Antonio\_35, Asapag\_39, BatStarr\_34, BearBQ\_38, BeeGee\_38, Bosnia\_34, Budski\_39, CheeseTouch\_37, Clap\_30, Cynthia\_30, Ebert\_31, Ecliptus\_40, Eudoria\_35, Eviarto\_34, GemG\_30, Getalong\_40, Gizermo\_30, Haley23\_30, Herod\_34, Holliday\_38, Horus\_39, Kenna\_38, Kita\_36, Leroy\_39, Lutum\_39, Manasvini\_35, Maridalia\_34, Mocha12\_30, Neobush\_35, Nymphadora\_34, ODay\_42, Periwinkle\_42, Phabuloso\_36, Pine5\_39, Polly\_32, RavenCo17\_36, Rem711\_6, Sahara\_29, Savage\_30, Sleepyhead\_33, Sproutie\_30, Suscepit\_35, Tayonia\_35, TimTam\_34, Trumpet\_35, TuertoX\_30, Vasanti\_31, Whack\_33, Whiteclaw\_30, Whitney\_42, Zameen\_35,

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

- Apricot\_38, BENtherdunthat\_38, Crater\_36, Frickyeah\_39, Hugley\_32, Phistory\_39, RayTheFireFly\_38,

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

- 39HC\_037, 40BC\_037, Abidatro\_27, Abingghost\_43, Acadian\_44, Akoma\_43, AlanGrant\_42, Allegro\_44, Amelia\_27, Andrew\_28, Arbiter\_43, Ares\_44, Athena\_44, Audrey\_43, Avani\_28, Baloo\_43, Bananafish\_44, Basilisk\_26, Ben11\_42, Bipolar\_22, BirdsNest\_46, Blocker23\_44, Boyle\_44, Briakila\_44, Brownie5\_44, Brynnie\_25, Calamitous\_44, Carthage\_43, Casbah\_42, Catfish\_31, ChaChing\_43, Chandler\_43, Che9d\_28, Coffee\_44, Compostia\_44, Coral\_26, Corofin\_43, Cote\_27, Daisy\_43, Daob\_27, Deenasa\_43, Demsculpinboyz\_28, Devonte\_43, Dice\_46, DigitDog\_43, Donny\_44, Eaglehorse\_44, EastView9101\_44, Evaa\_38, Faze9\_43, FrenchFry\_44, Funsized\_46, Gadget\_44, Galaxy\_26, Gervas\_43, Glass\_44, GlenHope\_44, Godines\_44, Halfpint\_42, HarveySr\_43, Hashim76\_47, Heathcliff\_43, Hedgerow\_44, Holeinone\_44, Hosp\_035, Indlovu\_42, ItsyBitsy1\_44, Jackstina\_40, Jamun\_25, Jolie1\_037, Kaleb\_44, Kamiyu\_43, KayaCho\_37, Kenuha5\_22, Kersh\_23, Kheth\_44, Knocker\_45, Kronus\_42, Kuleana\_27, Lars\_44, Laurie\_43, Lephleur\_44, LestyG\_43, LilMcDreamy\_41, LittleMunchkin\_40, LizLemon\_44, LonelyBoi\_35, Lunar\_27, Madiba\_23, Marley1013\_43, MasterPo\_44, Melons\_27, MmasiCarm\_43, Morty007\_43, Mysterious\_45, Nangang\_43, Neos5\_43, Nozo\_43, Obutu\_43, Ogopogo\_25, Opia\_44, OrangeOswald\_43, Orcanus\_26, Phaedrus\_41, Phantasmagoria\_44, Phayeta\_44, Phelemich\_43, Philly\_42, Phlyer\_43, Polka\_26, Pollywog\_25, Purky\_30, Purky\_36, Qyrzula\_41, RagingRooster\_43, Reprobate\_44, Rhinoforte\_44, Ricotta\_45, Rita1961\_43, RomaT\_43, Rosebush\_43, Sabella\_43, Saguaro\_45, Sbash\_32, Shambre1\_30, ShroomBoi\_22, SirJeffery\_44, SlippinJimmy\_43, Spooky\_39, Squiddly\_40, StAugustine\_59, Stinger\_39, StinkyVeggy\_45, Suigeneris\_44, SynergyX\_43, TA17A\_44, TaylorSipt\_26, ThetaBob\_24, Thonko\_43, Tinciduntolum\_45, Tres\_44, Tydolla\_43, Vincenzo\_41, Vulpecula\_25, West99\_44, Yahalom\_43, Yinz\_43, Yoshi\_28, Zenteno07\_48,

### Summary by start number:

Start 21:

- Found in 1 of 208 ( 0.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: StAugustine\_59 (singleton),

Start 33:

- Found in 44 of 208 ( 21.2% ) of genes in pham
- Manual Annotations of this start: 41 of 185

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abinghost\_43 (B3), Akoma\_43 (B3), Athena\_44 (B3), Audrey\_43 (B3), Baloo\_43 (B3), Ben11\_42 (B3), Briakila\_44 (B3), Casbah\_42 (B3), ChaChing\_43 (B3), Chandler\_43 (B3), Compostia\_44 (B3), Corofin\_43 (B3), Daisy\_43 (B3), Deenasa\_43 (B3), Devonte\_43 (B3), Gadget\_44 (B3), Gervas\_43 (B3), GlenHope\_44 (B3), Halfpint\_42 (B3), HarveySr\_43 (B3), Heathcliff\_43 (B3), Jackstina\_40 (B3), Kamiyu\_43 (B3), Kronus\_42 (B3), LestyG\_43 (B3), Marley1013\_43 (B3), MmasiCarm\_43 (B3), Morty007\_43 (B3), Neos5\_43 (B3), Nozo\_43 (B3), Obutu\_43 (B3), OrangeOswald\_43 (B3), Phaedrus\_41 (B3), Phayeta\_44 (B3), Philly\_42 (B3), Phlyer\_43 (B3), RagingRooster\_43 (B3), Rita1961\_43 (B3), RomaT\_43 (B3), SlippinJimmy\_43 (B3), SynergyX\_43 (B3), Tydolla\_43 (B3), Yahalom\_43 (B3), Yinz\_43 (B3),

#### Start 35:

- Found in 1 of 208 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 185
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleMunchkin\_40 (DR),

#### Start 36:

- Found in 3 of 208 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 185
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Carthage\_43 (B1),

#### Start 37:

- Found in 3 of 208 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 185
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BirdsNest\_46 (B13), Hashim76\_47 (B13), Zenteno07\_48 (B13),

#### Start 38:

- Found in 14 of 208 ( 6.7% ) of genes in pham
- Manual Annotations of this start: 1 of 185
- Called 7.1% of time when present
- Phage (with cluster) where this start called: Purky\_36 (P6),

#### Start 40:

- Found in 1 of 208 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 185
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Thonko\_43 (B8),

#### Start 41:

- Found in 4 of 208 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 4 of 185
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AlanGrant\_42 (B4), Evaa\_38 (DR), Stinger\_39 (B4), Vincenzo\_41 (B4),

#### Start 44:

- Found in 34 of 208 ( 16.3% ) of genes in pham

- Manual Annotations of this start: 29 of 185
- Called 91.2% of time when present
- Phage (with cluster) where this start called: Allegro\_44 (B2), Ares\_44 (B2), Bananafish\_44 (B2), Blocker23\_44 (B2), Boyle\_44 (B2), Brownie5\_44 (B2), Calamitous\_44 (B2), Coffee\_44 (B2), Eaglehorse\_44 (B2), Faze9\_43 (B2), FrenchFry\_44 (B2), Glass\_44 (B2), Godines\_44 (B2), Hedgerow\_44 (B2), Holeinone\_44 (B2), ItsyBitsy1\_44 (B2), Kaleb\_44 (B2), Kheth\_44 (B2), Lars\_44 (B2), Laurie\_43 (B2), Lephleur\_44 (B2), LizLemon\_44 (B2), MasterPo\_44 (B2), Opia\_44 (B2), Phantasmagoria\_44 (B2), Rhinoforte\_44 (B2), Sabella\_43 (B2), TA17A\_44 (B2), Tinciduntolum\_45 (B2), Tres\_44 (B2), West99\_44 (B2),

#### Start 45:

- Found in 59 of 208 ( 28.4% ) of genes in pham
- Manual Annotations of this start: 50 of 185
- Called 88.1% of time when present
- Phage (with cluster) where this start called: 32HC\_7 (Z), Antonio\_35 (CZ1), Asapag\_39 (DN1), BatStarr\_34 (CZ1), BearBQ\_38 (DN), BeeGee\_38 (CY), Bosnia\_34 (CZ1), Budski\_39 (DN), CheeseTouch\_37 (DN1), Clap\_30 (CZ2), Cynthia\_30 (CZ2), Ebert\_31 (CZ2), Ecliptus\_40 (DN), Eudoria\_35 (CZ1), Eviarto\_34 (CZ1), GemG\_30 (CZ2), Getalong\_40 (DN1), Gizermo\_30 (CZ2), Haley23\_30 (CZ2), Herod\_34 (CZ1), Holliday\_38 (DN1), Horus\_39 (DN1), Kenna\_38 (DN1), Kita\_36 (CZ1), Leroy\_39 (DN1), Lutum\_39 (DN1), Manasvini\_35 (CZ1), Maridalia\_34 (CZ1), Mocha12\_30 (CZ2), Neobush\_35 (CZ1), Nymphadora\_34 (CZ1), ODay\_42 (DN), Periwinkle\_42 (DN1), Phabuloso\_36 (DN1), Pine5\_39 (singleton), Polly\_32 (CZ1), RavenCo17\_36 (CZ8), Rem711\_6 (Z), Sahara\_29 (CZ2), Savage\_30 (CZ2), Sleepyhead\_33 (singleton), Sproutie\_30 (CZ2), Suscepit\_35 (CZ1), Tayonia\_35 (CZ1), TimTam\_34 (CZ1), Trumpet\_35 (CZ1), TuertoX\_30 (CZ2), Vasanti\_31 (CZ2), Whack\_33 (singleton), Whiteclaw\_30 (CZ2), Whitney\_42 (DN1), Zameen\_35 (CZ1),

#### Start 47:

- Found in 21 of 208 ( 10.1% ) of genes in pham
- Manual Annotations of this start: 11 of 185
- Called 100.0% of time when present
- Phage (with cluster) where this start called: 39HC\_037 (B6), 40BC\_037 (B6), Acadian\_44 (B5), DigitDog\_43 (B5), Donny\_44 (B5), EastView9101\_44 (B5), Funsized\_46 (B9), Hosp\_035 (B6), Indlovu\_42 (B11), Jolie1\_037 (B6), KayaCho\_37 (B6), Knocker\_45 (B9), LilMcDreamy\_41 (B12), Mysterious\_45 (B5), Nangang\_43 (B5), Phelemich\_43 (B5), Reprobate\_44 (B5), Saguaro\_45 (B7), SirJeffery\_44 (B5), StinkyVeggy\_45 (B5), Suigeneris\_44 (B5),

#### Start 48:

- Found in 12 of 208 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 10 of 185
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Avani\_28 (F2), Bipolar\_22 (F1), Che9d\_28 (F2), Demsculpinboyz\_28 (F2), Kenuha5\_22 (F1), Kersh\_23 (F1), Ogopogo\_25 (F1), Pollywog\_25 (F1), ShroomBoi\_22 (F1), Yoshi\_28 (F2),

#### Start 49:

- Found in 2 of 208 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 185
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Purky\_30 (P6), Sbash\_32 (I2),

Start 50:

- Found in 3 of 208 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 185
- Called 33.3% of time when present
- Phage (with cluster) where this start called: LonelyBoi\_35 (CY),

Start 51:

- Found in 4 of 208 ( 1.9% ) of genes in pham
- Manual Annotations of this start: 3 of 185
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Brynnie\_25 (AS1), Jamun\_25 (AS1), Vulpecula\_25 (AS1),

Start 53:

- Found in 23 of 208 ( 11.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 8.7% of time when present
- Phage (with cluster) where this start called: Dice\_46 (B1), Ricotta\_45 (B1),

Start 54:

- Found in 15 of 208 ( 7.2% ) of genes in pham
- Manual Annotations of this start: 4 of 185
- Called 26.7% of time when present
- Phage (with cluster) where this start called: Catfish\_31 (CU5), Madiba\_23 (F1), Shambre1\_30 (singleton), ThetaBob\_24 (F4),

Start 55:

- Found in 34 of 208 ( 16.3% ) of genes in pham
- Manual Annotations of this start: 3 of 185
- Called 8.8% of time when present
- Phage (with cluster) where this start called: Arbiter\_43 (B2), Qyrzula\_41 (B2), Rosebush\_43 (B2),

Start 56:

- Found in 2 of 208 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 185
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abidatro\_27 (AS1), Galaxy\_26 (AS1),

Start 57:

- Found in 2 of 208 ( 1.0% ) of genes in pham
- Manual Annotations of this start: 2 of 185
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spooky\_39 (DN2), Squiddly\_40 (DN2),

Start 59:

- Found in 12 of 208 ( 5.8% ) of genes in pham
- Manual Annotations of this start: 12 of 185
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amelia\_27 (AS2), Andrew\_28 (AS3), Basilisk\_26 (AS1), Coral\_26 (AS2), Cote\_27 (AS2), Daob\_27 (AS2), Kuleana\_27 (AS2), Lunar\_27 (AS2), Melons\_27 (AS2), Orcanus\_26 (AS1), Polka\_26 (AS2),



TaylorSipht\_26 (AS1),

Start 64:

- Found in 3 of 208 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 185
- Called 33.3% of time when present
- Phage (with cluster) where this start called: RayTheFireFly\_38 (DB),

Start 65:

- Found in 78 of 208 ( 37.5% ) of genes in pham
- Manual Annotations of this start: 4 of 185
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Apricot\_38 (DN3), BENtherdunthat\_38 (DN1), Crater\_36 (DN3), Frickyeah\_39 (DN1), Hugley\_32 (CZ1), Phistory\_39 (DN1),

### **Summary by clusters:**

There are 33 clusters represented in this pham: DN, singleton, CZ2, CZ1, DB, CZ8, B12, B13, B11, DR, CU5, I2, DN1, DN3, DN2, AS3, AS2, AS1, P6, CY, Z, F1, F2, F4, B4, B5, B6, B7, B1, B2, B3, B8, B9,

Info for manual annotations of cluster AS1:

- Start number 51 was manually annotated 3 times for cluster AS1.
- Start number 56 was manually annotated 2 times for cluster AS1.
- Start number 59 was manually annotated 3 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 59 was manually annotated 8 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 59 was manually annotated 1 time for cluster AS3.

Info for manual annotations of cluster B1:

- Start number 36 was manually annotated 1 time for cluster B1.

Info for manual annotations of cluster B11:

- Start number 47 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 47 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 37 was manually annotated 2 times for cluster B13.

Info for manual annotations of cluster B2:

- Start number 44 was manually annotated 29 times for cluster B2.
- Start number 55 was manually annotated 3 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 33 was manually annotated 41 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 41 was manually annotated 3 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 47 was manually annotated 5 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 47 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B7:

- Start number 47 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:

- Start number 40 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 47 was manually annotated 2 times for cluster B9.

Info for manual annotations of cluster CU5:

- Start number 54 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster CY:

- Start number 45 was manually annotated 1 time for cluster CY.
- Start number 50 was manually annotated 1 time for cluster CY.

Info for manual annotations of cluster CZ1:

- Start number 45 was manually annotated 17 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 45 was manually annotated 13 times for cluster CZ2.

Info for manual annotations of cluster CZ8:

- Start number 45 was manually annotated 1 time for cluster CZ8.

Info for manual annotations of cluster DB:

- Start number 64 was manually annotated 1 time for cluster DB.

Info for manual annotations of cluster DN:

- Start number 45 was manually annotated 4 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 45 was manually annotated 11 times for cluster DN1.
- Start number 65 was manually annotated 2 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 57 was manually annotated 2 times for cluster DN2.

Info for manual annotations of cluster DN3:

- Start number 65 was manually annotated 2 times for cluster DN3.

Info for manual annotations of cluster DR:

- Start number 35 was manually annotated 1 time for cluster DR.
- Start number 41 was manually annotated 1 time for cluster DR.

Info for manual annotations of cluster F1:

- Start number 48 was manually annotated 6 times for cluster F1.
- Start number 54 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:

- Start number 48 was manually annotated 4 times for cluster F2.

Info for manual annotations of cluster F4:

- Start number 54 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster I2:

- Start number 49 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster P6:

- Start number 38 was manually annotated 1 time for cluster P6.
- Start number 49 was manually annotated 1 time for cluster P6.

Info for manual annotations of cluster Z:

- Start number 45 was manually annotated 1 time for cluster Z.

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

Gene: 32HC\_7 Start: 3414, Stop: 3172, Start Num: 45

Candidate Starts for 32HC\_7:

(39, 3423), (Start: 45 @3414 has 50 MA's), (61, 3384), (78, 3291), (79, 3273),

Gene: 39HC\_037 Start: 36987, Stop: 36790, Start Num: 47

Candidate Starts for 39HC\_037:

(Start: 47 @36987 has 11 MA's), (52, 36975), (Start: 65 @36948 has 4 MA's), (67, 36930), (73, 36897),

Gene: 40BC\_037 Start: 36987, Stop: 36790, Start Num: 47

Candidate Starts for 40BC\_037:

(Start: 47 @36987 has 11 MA's), (52, 36975), (Start: 65 @36948 has 4 MA's), (67, 36930), (73, 36897),

Gene: Abidatro\_27 Start: 19710, Stop: 19528, Start Num: 56

Candidate Starts for Abidatro\_27:

(Start: 38 @19749 has 1 MA's), (Start: 56 @19710 has 2 MA's),

Gene: Abinghost\_43 Start: 39027, Stop: 38791, Start Num: 33

Candidate Starts for Abinghost\_43:

(Start: 33 @39027 has 41 MA's), (58, 38970), (71, 38904), (73, 38898),

Gene: Acadian\_44 Start: 39648, Stop: 39439, Start Num: 47

Candidate Starts for Acadian\_44:

(15, 39762), (16, 39756), (Start: 47 @39648 has 11 MA's), (53, 39633), (61, 39621), (67, 39588),

Gene: Akoma\_43 Start: 39031, Stop: 38795, Start Num: 33

Candidate Starts for Akoma\_43:

(Start: 33 @39031 has 41 MA's), (58, 38974), (71, 38908), (73, 38902),

Gene: AlanGrant\_42 Start: 39951, Stop: 39745, Start Num: 41

Candidate Starts for AlanGrant\_42:

(Start: 41 @39951 has 4 MA's), (53, 39930), (58, 39924), (Start: 65 @39903 has 4 MA's), (67, 39885), (69, 39876), (70, 39867), (75, 39837), (76, 39834), (77, 39831),

Gene: Allegro\_44 Start: 39432, Stop: 39226, Start Num: 44

Candidate Starts for Allegro\_44:

(Start: 44 @39432 has 29 MA's), (Start: 55 @39405 has 3 MA's), (58, 39402), (70, 39348), (76, 39315),

Gene: Amelia\_27 Start: 19057, Stop: 18836, Start Num: 59

Candidate Starts for Amelia\_27:

(Start: 59 @19057 has 12 MA's),

Gene: Andrew\_28 Start: 19161, Stop: 18955, Start Num: 59

Candidate Starts for Andrew\_28:

(Start: 59 @19161 has 12 MA's),

Gene: Antonio\_35 Start: 29354, Stop: 29118, Start Num: 45

Candidate Starts for Antonio\_35:

(Start: 45 @29354 has 50 MA's), (Start: 65 @29312 has 4 MA's), (68, 29291), (75, 29249), (80, 29201), (87, 29129),

Gene: Apricot\_38 Start: 28904, Stop: 28710, Start Num: 65

Candidate Starts for Apricot\_38:

(Start: 45 @28946 has 50 MA's), (Start: 65 @28904 has 4 MA's), (68, 28883), (75, 28841), (80, 28793),

Gene: Arbiter\_43 Start: 39491, Stop: 39312, Start Num: 55

Candidate Starts for Arbiter\_43:

(Start: 44 @39518 has 29 MA's), (Start: 55 @39491 has 3 MA's), (58, 39488), (70, 39434), (76, 39401),

Gene: Ares\_44 Start: 39502, Stop: 39296, Start Num: 44

Candidate Starts for Ares\_44:

(Start: 44 @39502 has 29 MA's), (Start: 55 @39475 has 3 MA's), (58, 39472), (70, 39418), (76, 39385),

Gene: Asapag\_39 Start: 30538, Stop: 30302, Start Num: 45

Candidate Starts for Asapag\_39:

(Start: 45 @30538 has 50 MA's), (Start: 65 @30496 has 4 MA's), (68, 30475), (75, 30433), (80, 30385),

Gene: Athena\_44 Start: 39778, Stop: 39542, Start Num: 33

Candidate Starts for Athena\_44:

(Start: 33 @39778 has 41 MA's), (58, 39721), (71, 39655), (73, 39649),

Gene: Audrey\_43 Start: 39027, Stop: 38791, Start Num: 33

Candidate Starts for Audrey\_43:

(Start: 33 @39027 has 41 MA's), (58, 38970), (71, 38904), (73, 38898),

Gene: Avani\_28 Start: 24082, Stop: 23903, Start Num: 48

Candidate Starts for Avani\_28:

(Start: 38 @24106 has 1 MA's), (Start: 48 @24082 has 10 MA's), (Start: 54 @24076 has 4 MA's), (61, 24064), (Start: 65 @24049 has 4 MA's), (69, 24016), (83, 23920),

Gene: BENtherdunthat\_38 Start: 28707, Stop: 28513, Start Num: 65

Candidate Starts for BENtherdunthat\_38:

(Start: 45 @28749 has 50 MA's), (Start: 65 @28707 has 4 MA's), (68, 28686), (75, 28644), (80, 28596),

Gene: Baloo\_43 Start: 39030, Stop: 38794, Start Num: 33

Candidate Starts for Baloo\_43:

(Start: 33 @39030 has 41 MA's), (58, 38973), (71, 38907), (73, 38901),

Gene: Bananafish\_44 Start: 39438, Stop: 39232, Start Num: 44

Candidate Starts for Bananafish\_44:

(Start: 44 @39438 has 29 MA's), (Start: 55 @39411 has 3 MA's), (58, 39408), (70, 39354), (76, 39321),

Gene: Basilisk\_26 Start: 20189, Stop: 19986, Start Num: 59

Candidate Starts for Basilisk\_26:

(Start: 59 @20189 has 12 MA's),

Gene: BatStarr\_34 Start: 29521, Stop: 29285, Start Num: 45

Candidate Starts for BatStarr\_34:

(Start: 45 @29521 has 50 MA's), (Start: 65 @29479 has 4 MA's), (75, 29416), (80, 29368), (81, 29356),

Gene: BearBQ\_38 Start: 30173, Stop: 29937, Start Num: 45

Candidate Starts for BearBQ\_38:

(Start: 45 @30173 has 50 MA's), (Start: 65 @30131 has 4 MA's), (68, 30110), (75, 30068), (80, 30020),

Gene: BeeGee\_38 Start: 30304, Stop: 30068, Start Num: 45

Candidate Starts for BeeGee\_38:

(Start: 45 @30304 has 50 MA's), (Start: 65 @30262 has 4 MA's), (68, 30241), (75, 30199), (80, 30151),

Gene: Ben11\_42 Start: 38849, Stop: 38613, Start Num: 33

Candidate Starts for Ben11\_42:

(Start: 33 @38849 has 41 MA's), (58, 38792), (71, 38726), (73, 38720),

Gene: Bipolar\_22 Start: 24352, Stop: 24173, Start Num: 48

Candidate Starts for Bipolar\_22:

(Start: 38 @24376 has 1 MA's), (Start: 48 @24352 has 10 MA's), (Start: 54 @24346 has 4 MA's), (Start: 65 @24319 has 4 MA's), (69, 24286), (83, 24190),

Gene: BirdsNest\_46 Start: 37877, Stop: 37662, Start Num: 37

Candidate Starts for BirdsNest\_46:

(Start: 37 @37877 has 2 MA's), (53, 37853), (Start: 65 @37826 has 4 MA's), (69, 37799), (81, 37733), (84, 37703),

Gene: Blocker23\_44 Start: 39556, Stop: 39350, Start Num: 44

Candidate Starts for Blocker23\_44:

(Start: 44 @39556 has 29 MA's), (Start: 55 @39529 has 3 MA's), (58, 39526), (70, 39472), (76, 39439),

Gene: Bosnia\_34 Start: 29521, Stop: 29285, Start Num: 45

Candidate Starts for Bosnia\_34:

(Start: 45 @29521 has 50 MA's), (Start: 65 @29479 has 4 MA's), (75, 29416), (80, 29368), (81, 29356),

Gene: Boyle\_44 Start: 39557, Stop: 39351, Start Num: 44

Candidate Starts for Boyle\_44:

(Start: 44 @39557 has 29 MA's), (Start: 55 @39530 has 3 MA's), (58, 39527), (70, 39473), (76, 39440),

Gene: Briakila\_44 Start: 39797, Stop: 39561, Start Num: 33

Candidate Starts for Briakila\_44:

(Start: 33 @39797 has 41 MA's), (58, 39740), (71, 39674), (73, 39668),

Gene: Brownie5\_44 Start: 39563, Stop: 39357, Start Num: 44

Candidate Starts for Brownie5\_44:

(Start: 44 @39563 has 29 MA's), (Start: 55 @39536 has 3 MA's), (58, 39533), (70, 39479), (76, 39446),

Gene: Brynnie\_25 Start: 19788, Stop: 19591, Start Num: 51

Candidate Starts for Brynnie\_25:

(Start: 51 @19788 has 3 MA's),

Gene: Budski\_39 Start: 30500, Stop: 30264, Start Num: 45

Candidate Starts for Budski\_39:

(Start: 45 @30500 has 50 MA's), (Start: 65 @30458 has 4 MA's), (68, 30437), (75, 30395), (80, 30347),

Gene: Calamitous\_44 Start: 39443, Stop: 39237, Start Num: 44

Candidate Starts for Calamitous\_44:

(Start: 44 @39443 has 29 MA's), (Start: 55 @39416 has 3 MA's), (58, 39413), (70, 39359), (76, 39326),

Gene: Carthage\_43 Start: 38107, Stop: 37892, Start Num: 36

Candidate Starts for Carthage\_43:

(Start: 36 @38107 has 1 MA's), (53, 38077), (67, 38032), (73, 37999),

Gene: Casbah\_42 Start: 38879, Stop: 38643, Start Num: 33

Candidate Starts for Casbah\_42:

(Start: 33 @38879 has 41 MA's), (58, 38822), (71, 38756), (73, 38750),

Gene: Catfish\_31 Start: 25984, Stop: 25784, Start Num: 54

Candidate Starts for Catfish\_31:

(9, 26254), (29, 26041), (Start: 54 @25984 has 4 MA's), (61, 25972), (73, 25897),

Gene: ChaChing\_43 Start: 39042, Stop: 38806, Start Num: 33

Candidate Starts for ChaChing\_43:

(Start: 33 @39042 has 41 MA's), (58, 38985), (71, 38919), (73, 38913),

Gene: Chandler\_43 Start: 39810, Stop: 39574, Start Num: 33

Candidate Starts for Chandler\_43:

(Start: 33 @39810 has 41 MA's), (58, 39753), (71, 39687), (73, 39681),

Gene: Che9d\_28 Start: 24090, Stop: 23911, Start Num: 48

Candidate Starts for Che9d\_28:

(Start: 38 @24114 has 1 MA's), (Start: 48 @24090 has 10 MA's), (Start: 54 @24084 has 4 MA's),  
(Start: 65 @24057 has 4 MA's), (69, 24024), (83, 23928),

Gene: CheeseTouch\_37 Start: 27100, Stop: 26864, Start Num: 45

Candidate Starts for CheeseTouch\_37:

(Start: 45 @27100 has 50 MA's), (Start: 65 @27058 has 4 MA's), (68, 27037), (75, 26995), (80,  
26947),

Gene: Clap\_30 Start: 25663, Stop: 25463, Start Num: 45

Candidate Starts for Clap\_30:

(Start: 45 @25663 has 50 MA's), (61, 25642), (Start: 65 @25627 has 4 MA's), (66, 25615), (73,  
25579),

Gene: Coffee\_44 Start: 39546, Stop: 39340, Start Num: 44

Candidate Starts for Coffee\_44:

(Start: 44 @39546 has 29 MA's), (Start: 55 @39519 has 3 MA's), (58, 39516), (70, 39462), (76,  
39429),

Gene: Compostia\_44 Start: 39458, Stop: 39222, Start Num: 33

Candidate Starts for Compostia\_44:

(Start: 33 @39458 has 41 MA's), (58, 39401), (71, 39335), (73, 39329),

Gene: Coral\_26 Start: 18896, Stop: 18675, Start Num: 59

Candidate Starts for Coral\_26:

(Start: 59 @18896 has 12 MA's),

Gene: Corofin\_43 Start: 39053, Stop: 38817, Start Num: 33

Candidate Starts for Corofin\_43:

(Start: 33 @39053 has 41 MA's), (58, 38996), (71, 38930), (73, 38924),

Gene: Cote\_27 Start: 19041, Stop: 18820, Start Num: 59

Candidate Starts for Cote\_27:

(Start: 59 @19041 has 12 MA's),

Gene: Crater\_36 Start: 28423, Stop: 28229, Start Num: 65

Candidate Starts for Crater\_36:

(Start: 45 @28465 has 50 MA's), (Start: 65 @28423 has 4 MA's), (67, 28405), (68, 28402), (75,  
28360), (80, 28312), (81, 28300), (87, 28240),

Gene: Cynthia\_30 Start: 25663, Stop: 25463, Start Num: 45

Candidate Starts for Cynthia\_30:

(Start: 45 @25663 has 50 MA's), (61, 25642), (Start: 65 @25627 has 4 MA's), (66, 25615), (73,  
25579),

Gene: Daisy\_43 Start: 39054, Stop: 38818, Start Num: 33

Candidate Starts for Daisy\_43:

(Start: 33 @39054 has 41 MA's), (58, 38997), (71, 38931), (73, 38925),

Gene: Daob\_27 Start: 19046, Stop: 18825, Start Num: 59

Candidate Starts for Daob\_27:

(Start: 59 @19046 has 12 MA's),

Gene: Deenasa\_43 Start: 39789, Stop: 39553, Start Num: 33

Candidate Starts for Deenasa\_43:

(Start: 33 @39789 has 41 MA's), (58, 39732), (71, 39666), (73, 39660),

Gene: Demsculpinboyz\_28 Start: 24075, Stop: 23896, Start Num: 48

Candidate Starts for Demsculpinboyz\_28:

(Start: 38 @24099 has 1 MA's), (Start: 48 @24075 has 10 MA's), (Start: 54 @24069 has 4 MA's),

(Start: 65 @24042 has 4 MA's), (69, 24009), (83, 23913),

Gene: Devonte\_43 Start: 39018, Stop: 38782, Start Num: 33

Candidate Starts for Devonte\_43:

(Start: 33 @39018 has 41 MA's), (58, 38961), (71, 38895), (73, 38889),

Gene: Dice\_46 Start: 38864, Stop: 38679, Start Num: 53

Candidate Starts for Dice\_46:

(Start: 36 @38894 has 1 MA's), (53, 38864), (67, 38819), (73, 38786),

Gene: DigitDog\_43 Start: 39348, Stop: 39139, Start Num: 47

Candidate Starts for DigitDog\_43:

(16, 39456), (Start: 47 @39348 has 11 MA's), (53, 39333), (61, 39321),

Gene: Donny\_44 Start: 39653, Stop: 39444, Start Num: 47

Candidate Starts for Donny\_44:

(15, 39767), (16, 39761), (Start: 47 @39653 has 11 MA's), (53, 39638), (61, 39626), (67, 39593),

Gene: Eaglehorse\_44 Start: 39470, Stop: 39264, Start Num: 44

Candidate Starts for Eaglehorse\_44:

(Start: 44 @39470 has 29 MA's), (Start: 55 @39443 has 3 MA's), (58, 39440), (70, 39386), (76, 39353),

Gene: EastView9101\_44 Start: 39303, Stop: 39094, Start Num: 47

Candidate Starts for EastView9101\_44:

(15, 39417), (16, 39411), (Start: 47 @39303 has 11 MA's), (53, 39288), (61, 39276), (67, 39243),

Gene: Ebert\_31 Start: 25587, Stop: 25387, Start Num: 45

Candidate Starts for Ebert\_31:

(Start: 45 @25587 has 50 MA's), (61, 25566), (Start: 65 @25551 has 4 MA's), (66, 25539), (73, 25503),

Gene: Ecliptus\_40 Start: 31004, Stop: 30768, Start Num: 45

Candidate Starts for Ecliptus\_40:

(Start: 45 @31004 has 50 MA's), (Start: 65 @30962 has 4 MA's), (68, 30941), (75, 30899), (80, 30851),

Gene: Eudoria\_35 Start: 29354, Stop: 29118, Start Num: 45

Candidate Starts for Eudoria\_35:

(Start: 45 @29354 has 50 MA's), (Start: 65 @29312 has 4 MA's), (68, 29291), (75, 29249), (80, 29201), (87, 29129),



Gene: Evaa\_38 Start: 33917, Stop: 33678, Start Num: 41  
Candidate Starts for Evaa\_38:  
(28, 33941), (32, 33935), (Start: 41 @33917 has 4 MA's), (66, 33851), (83, 33746),

Gene: Eviarto\_34 Start: 29497, Stop: 29261, Start Num: 45  
Candidate Starts for Eviarto\_34:  
(Start: 45 @29497 has 50 MA's), (Start: 65 @29455 has 4 MA's), (75, 29392), (80, 29344), (81, 29332),

Gene: Faze9\_43 Start: 39566, Stop: 39360, Start Num: 44  
Candidate Starts for Faze9\_43:  
(Start: 44 @39566 has 29 MA's), (Start: 55 @39539 has 3 MA's), (58, 39536), (70, 39482), (76, 39449),

Gene: FrenchFry\_44 Start: 39560, Stop: 39354, Start Num: 44  
Candidate Starts for FrenchFry\_44:  
(Start: 44 @39560 has 29 MA's), (Start: 55 @39533 has 3 MA's), (58, 39530), (70, 39476), (76, 39443),

Gene: Frickyeah\_39 Start: 28597, Stop: 28403, Start Num: 65  
Candidate Starts for Frickyeah\_39:  
(Start: 45 @28639 has 50 MA's), (Start: 65 @28597 has 4 MA's), (68, 28576), (75, 28534), (80, 28486),

Gene: Funsized\_46 Start: 41756, Stop: 41544, Start Num: 47  
Candidate Starts for Funsized\_46:  
(8, 42029), (11, 41957), (34, 41783), (Start: 47 @41756 has 11 MA's), (Start: 50 @41747 has 1 MA's), (62, 41723), (Start: 65 @41702 has 4 MA's), (67, 41684), (70, 41666),

Gene: Gadget\_44 Start: 39041, Stop: 38805, Start Num: 33  
Candidate Starts for Gadget\_44:  
(Start: 33 @39041 has 41 MA's), (58, 38984), (71, 38918), (73, 38912),

Gene: Galaxy\_26 Start: 19656, Stop: 19465, Start Num: 56  
Candidate Starts for Galaxy\_26:  
(Start: 56 @19656 has 2 MA's),

Gene: GemG\_30 Start: 25663, Stop: 25463, Start Num: 45  
Candidate Starts for GemG\_30:  
(Start: 45 @25663 has 50 MA's), (61, 25642), (Start: 65 @25627 has 4 MA's), (66, 25615), (73, 25579),

Gene: Gervas\_43 Start: 39008, Stop: 38772, Start Num: 33  
Candidate Starts for Gervas\_43:  
(Start: 33 @39008 has 41 MA's), (58, 38951), (71, 38885), (73, 38879),

Gene: Getalong\_40 Start: 31359, Stop: 31123, Start Num: 45  
Candidate Starts for Getalong\_40:  
(Start: 45 @31359 has 50 MA's), (Start: 65 @31317 has 4 MA's), (68, 31296), (75, 31254), (80, 31206),

Gene: Gizermo\_30 Start: 25663, Stop: 25463, Start Num: 45  
Candidate Starts for Gizermo\_30:

(Start: 45 @25663 has 50 MA's), (61, 25642), (Start: 65 @25627 has 4 MA's), (66, 25615), (73, 25579),

Gene: Glass\_44 Start: 39560, Stop: 39354, Start Num: 44

Candidate Starts for Glass\_44:

(Start: 44 @39560 has 29 MA's), (Start: 55 @39533 has 3 MA's), (58, 39530), (70, 39476), (76, 39443),

Gene: GlenHope\_44 Start: 39021, Stop: 38785, Start Num: 33

Candidate Starts for GlenHope\_44:

(Start: 33 @39021 has 41 MA's), (58, 38964), (71, 38898), (73, 38892),

Gene: Godines\_44 Start: 39502, Stop: 39296, Start Num: 44

Candidate Starts for Godines\_44:

(Start: 44 @39502 has 29 MA's), (Start: 55 @39475 has 3 MA's), (58, 39472), (70, 39418), (76, 39385),

Gene: Haley23\_30 Start: 25663, Stop: 25463, Start Num: 45

Candidate Starts for Haley23\_30:

(Start: 45 @25663 has 50 MA's), (61, 25642), (Start: 65 @25627 has 4 MA's), (66, 25615), (73, 25579),

Gene: Halfpint\_42 Start: 38847, Stop: 38611, Start Num: 33

Candidate Starts for Halfpint\_42:

(Start: 33 @38847 has 41 MA's), (58, 38790), (71, 38724), (73, 38718),

Gene: HarveySr\_43 Start: 39014, Stop: 38778, Start Num: 33

Candidate Starts for HarveySr\_43:

(Start: 33 @39014 has 41 MA's), (58, 38957), (71, 38891), (73, 38885),

Gene: Hashim76\_47 Start: 38349, Stop: 38134, Start Num: 37

Candidate Starts for Hashim76\_47:

(Start: 37 @38349 has 2 MA's), (53, 38325), (69, 38271), (84, 38175),

Gene: Heathcliff\_43 Start: 38992, Stop: 38756, Start Num: 33

Candidate Starts for Heathcliff\_43:

(Start: 33 @38992 has 41 MA's), (58, 38935), (71, 38869), (73, 38863),

Gene: Hedgerow\_44 Start: 39542, Stop: 39336, Start Num: 44

Candidate Starts for Hedgerow\_44:

(Start: 44 @39542 has 29 MA's), (Start: 55 @39515 has 3 MA's), (58, 39512), (70, 39458), (76, 39425),

Gene: Herod\_34 Start: 29521, Stop: 29285, Start Num: 45

Candidate Starts for Herod\_34:

(Start: 45 @29521 has 50 MA's), (Start: 65 @29479 has 4 MA's), (75, 29416), (80, 29368), (81, 29356),

Gene: Holeinone\_44 Start: 39422, Stop: 39216, Start Num: 44

Candidate Starts for Holeinone\_44:

(Start: 44 @39422 has 29 MA's), (Start: 55 @39395 has 3 MA's), (58, 39392), (70, 39338), (76, 39305),

Gene: Holliday\_38 Start: 29214, Stop: 28978, Start Num: 45  
Candidate Starts for Holliday\_38:  
(Start: 45 @29214 has 50 MA's), (Start: 65 @29172 has 4 MA's), (68, 29151), (75, 29109), (80, 29061),

Gene: Horus\_39 Start: 30560, Stop: 30324, Start Num: 45  
Candidate Starts for Horus\_39:  
(Start: 45 @30560 has 50 MA's), (Start: 65 @30518 has 4 MA's), (68, 30497), (75, 30455), (80, 30407),

Gene: Hosp\_035 Start: 35180, Stop: 34983, Start Num: 47  
Candidate Starts for Hosp\_035:  
(Start: 47 @35180 has 11 MA's), (52, 35168), (Start: 65 @35141 has 4 MA's), (67, 35123),

Gene: Hugley\_32 Start: 29478, Stop: 29284, Start Num: 65  
Candidate Starts for Hugley\_32:  
(Start: 45 @29520 has 50 MA's), (Start: 65 @29478 has 4 MA's), (75, 29415), (80, 29367), (81, 29355),

Gene: Indlovu\_42 Start: 38503, Stop: 38300, Start Num: 47  
Candidate Starts for Indlovu\_42:  
(18, 38602), (Start: 47 @38503 has 11 MA's), (53, 38485), (Start: 65 @38458 has 4 MA's), (67, 38440), (75, 38392),

Gene: ItsyBitsy1\_44 Start: 39424, Stop: 39218, Start Num: 44  
Candidate Starts for ItsyBitsy1\_44:  
(Start: 44 @39424 has 29 MA's), (Start: 55 @39397 has 3 MA's), (58, 39394), (70, 39340), (76, 39307),

Gene: Jackstina\_40 Start: 38951, Stop: 38715, Start Num: 33  
Candidate Starts for Jackstina\_40:  
(Start: 33 @38951 has 41 MA's), (58, 38894), (71, 38828), (73, 38822),

Gene: Jamun\_25 Start: 19385, Stop: 19188, Start Num: 51  
Candidate Starts for Jamun\_25:  
(1, 20447), (2, 20237), (3, 19964), (6, 19799), (Start: 51 @19385 has 3 MA's),

Gene: Jolie1\_037 Start: 36967, Stop: 36770, Start Num: 47  
Candidate Starts for Jolie1\_037:  
(Start: 47 @36967 has 11 MA's), (52, 36955), (58, 36949), (Start: 65 @36928 has 4 MA's), (67, 36910),

Gene: Kaleb\_44 Start: 39557, Stop: 39351, Start Num: 44  
Candidate Starts for Kaleb\_44:  
(Start: 44 @39557 has 29 MA's), (Start: 55 @39530 has 3 MA's), (58, 39527), (70, 39473), (76, 39440),

Gene: Kamiyu\_43 Start: 39000, Stop: 38764, Start Num: 33  
Candidate Starts for Kamiyu\_43:  
(Start: 33 @39000 has 41 MA's), (58, 38943), (71, 38877), (73, 38871),

Gene: KayaCho\_37 Start: 36966, Stop: 36766, Start Num: 47  
Candidate Starts for KayaCho\_37:

(Start: 47 @36966 has 11 MA's), (53, 36951), (Start: 65 @36924 has 4 MA's), (67, 36906),

Gene: Kenna\_38 Start: 29550, Stop: 29314, Start Num: 45

Candidate Starts for Kenna\_38:

(Start: 45 @29550 has 50 MA's), (Start: 65 @29508 has 4 MA's), (68, 29487), (75, 29445), (80, 29397),

Gene: Kenuha5\_22 Start: 24468, Stop: 24289, Start Num: 48

Candidate Starts for Kenuha5\_22:

(Start: 38 @24492 has 1 MA's), (Start: 48 @24468 has 10 MA's), (Start: 54 @24462 has 4 MA's), (Start: 65 @24435 has 4 MA's), (69, 24402), (83, 24306),

Gene: Kersh\_23 Start: 24511, Stop: 24332, Start Num: 48

Candidate Starts for Kersh\_23:

(Start: 38 @24535 has 1 MA's), (Start: 48 @24511 has 10 MA's), (Start: 54 @24505 has 4 MA's), (Start: 65 @24478 has 4 MA's), (69, 24445), (83, 24349),

Gene: Kheth\_44 Start: 39445, Stop: 39239, Start Num: 44

Candidate Starts for Kheth\_44:

(Start: 44 @39445 has 29 MA's), (Start: 55 @39418 has 3 MA's), (58, 39415), (70, 39361), (76, 39328),

Gene: Kita\_36 Start: 29363, Stop: 29127, Start Num: 45

Candidate Starts for Kita\_36:

(Start: 45 @29363 has 50 MA's), (Start: 65 @29321 has 4 MA's), (68, 29300), (75, 29258), (80, 29210), (87, 29138),

Gene: Knocker\_45 Start: 40870, Stop: 40658, Start Num: 47

Candidate Starts for Knocker\_45:

(19, 40978), (Start: 47 @40870 has 11 MA's), (Start: 50 @40861 has 1 MA's), (62, 40837), (63, 40831), (Start: 65 @40816 has 4 MA's), (67, 40798),

Gene: Kronus\_42 Start: 39610, Stop: 39374, Start Num: 33

Candidate Starts for Kronus\_42:

(Start: 33 @39610 has 41 MA's), (58, 39553), (71, 39487), (73, 39481),

Gene: Kuleana\_27 Start: 19065, Stop: 18880, Start Num: 59

Candidate Starts for Kuleana\_27:

(Start: 51 @19077 has 3 MA's), (Start: 59 @19065 has 12 MA's),

Gene: Lars\_44 Start: 39547, Stop: 39341, Start Num: 44

Candidate Starts for Lars\_44:

(Start: 44 @39547 has 29 MA's), (Start: 55 @39520 has 3 MA's), (58, 39517), (70, 39463), (76, 39430),

Gene: Laurie\_43 Start: 38946, Stop: 38740, Start Num: 44

Candidate Starts for Laurie\_43:

(Start: 44 @38946 has 29 MA's), (Start: 55 @38919 has 3 MA's), (58, 38916), (70, 38862), (76, 38829),

Gene: Lephleur\_44 Start: 39440, Stop: 39234, Start Num: 44

Candidate Starts for Lephleur\_44:

(Start: 44 @39440 has 29 MA's), (Start: 55 @39413 has 3 MA's), (58, 39410), (70, 39356), (76, 39323),

Gene: Leroy\_39 Start: 30561, Stop: 30325, Start Num: 45

Candidate Starts for Leroy\_39:

(Start: 45 @30561 has 50 MA's), (Start: 65 @30519 has 4 MA's), (68, 30498), (75, 30456), (80, 30408),

Gene: LestyG\_43 Start: 39031, Stop: 38795, Start Num: 33

Candidate Starts for LestyG\_43:

(Start: 33 @39031 has 41 MA's), (58, 38974), (71, 38908), (73, 38902),

Gene: LilMcDreamy\_41 Start: 38754, Stop: 38542, Start Num: 47

Candidate Starts for LilMcDreamy\_41:

(16, 38862), (Start: 47 @38754 has 11 MA's), (53, 38736), (67, 38691), (77, 38637),

Gene: LittleMunchkin\_40 Start: 36172, Stop: 35945, Start Num: 35

Candidate Starts for LittleMunchkin\_40:

(Start: 35 @36172 has 1 MA's), (72, 36055), (77, 36031),

Gene: LizLemon\_44 Start: 39556, Stop: 39350, Start Num: 44

Candidate Starts for LizLemon\_44:

(Start: 44 @39556 has 29 MA's), (Start: 55 @39529 has 3 MA's), (58, 39526), (70, 39472), (76, 39439),

Gene: LonelyBoi\_35 Start: 30866, Stop: 30690, Start Num: 50

Candidate Starts for LonelyBoi\_35:

(Start: 50 @30866 has 1 MA's), (61, 30851), (66, 30824),

Gene: Lunar\_27 Start: 19041, Stop: 18820, Start Num: 59

Candidate Starts for Lunar\_27:

(Start: 59 @19041 has 12 MA's),

Gene: Lutum\_39 Start: 29550, Stop: 29314, Start Num: 45

Candidate Starts for Lutum\_39:

(Start: 45 @29550 has 50 MA's), (Start: 65 @29508 has 4 MA's), (68, 29487), (75, 29445), (80, 29397),

Gene: Madiba\_23 Start: 24209, Stop: 24036, Start Num: 54

Candidate Starts for Madiba\_23:

(Start: 38 @24239 has 1 MA's), (Start: 48 @24215 has 10 MA's), (Start: 54 @24209 has 4 MA's), (Start: 65 @24182 has 4 MA's), (69, 24149), (83, 24053),

Gene: Manasvini\_35 Start: 29355, Stop: 29119, Start Num: 45

Candidate Starts for Manasvini\_35:

(Start: 45 @29355 has 50 MA's), (Start: 65 @29313 has 4 MA's), (68, 29292), (75, 29250), (80, 29202), (87, 29130),

Gene: Maridalia\_34 Start: 29354, Stop: 29118, Start Num: 45

Candidate Starts for Maridalia\_34:

(Start: 45 @29354 has 50 MA's), (Start: 65 @29312 has 4 MA's), (68, 29291), (75, 29249), (80, 29201), (87, 29129),

Gene: Marley1013\_43 Start: 39809, Stop: 39573, Start Num: 33  
Candidate Starts for Marley1013\_43:  
(Start: 33 @39809 has 41 MA's), (58, 39752), (71, 39686), (73, 39680),

Gene: MasterPo\_44 Start: 39443, Stop: 39237, Start Num: 44  
Candidate Starts for MasterPo\_44:  
(Start: 44 @39443 has 29 MA's), (Start: 55 @39416 has 3 MA's), (58, 39413), (70, 39359), (76, 39326),

Gene: Melons\_27 Start: 19041, Stop: 18820, Start Num: 59  
Candidate Starts for Melons\_27:  
(Start: 59 @19041 has 12 MA's),

Gene: MmasiCarm\_43 Start: 39013, Stop: 38777, Start Num: 33  
Candidate Starts for MmasiCarm\_43:  
(Start: 33 @39013 has 41 MA's), (58, 38956), (71, 38890), (73, 38884),

Gene: Mocha12\_30 Start: 25663, Stop: 25463, Start Num: 45  
Candidate Starts for Mocha12\_30:  
(Start: 45 @25663 has 50 MA's), (61, 25642), (Start: 65 @25627 has 4 MA's), (66, 25615), (73, 25579),

Gene: Morty007\_43 Start: 39809, Stop: 39573, Start Num: 33  
Candidate Starts for Morty007\_43:  
(Start: 33 @39809 has 41 MA's), (58, 39752), (71, 39686), (73, 39680),

Gene: Mysterious\_45 Start: 39920, Stop: 39711, Start Num: 47  
Candidate Starts for Mysterious\_45:  
(16, 40028), (Start: 47 @39920 has 11 MA's), (53, 39905), (67, 39860),

Gene: Nangang\_43 Start: 39713, Stop: 39504, Start Num: 47  
Candidate Starts for Nangang\_43:  
(16, 39821), (Start: 47 @39713 has 11 MA's), (53, 39698), (61, 39686),

Gene: Neobush\_35 Start: 29354, Stop: 29118, Start Num: 45  
Candidate Starts for Neobush\_35:  
(Start: 45 @29354 has 50 MA's), (Start: 65 @29312 has 4 MA's), (68, 29291), (75, 29249), (80, 29201), (87, 29129),

Gene: Neos5\_43 Start: 39824, Stop: 39588, Start Num: 33  
Candidate Starts for Neos5\_43:  
(Start: 33 @39824 has 41 MA's), (58, 39767), (71, 39701), (73, 39695),

Gene: Nozo\_43 Start: 39789, Stop: 39553, Start Num: 33  
Candidate Starts for Nozo\_43:  
(Start: 33 @39789 has 41 MA's), (58, 39732), (71, 39666), (73, 39660),

Gene: Nymphadora\_34 Start: 29521, Stop: 29285, Start Num: 45  
Candidate Starts for Nymphadora\_34:  
(Start: 45 @29521 has 50 MA's), (Start: 65 @29479 has 4 MA's), (75, 29416), (80, 29368), (81, 29356),

Gene: ODay\_42 Start: 31024, Stop: 30788, Start Num: 45

Candidate Starts for ODay\_42:

(Start: 45 @31024 has 50 MA's), (Start: 65 @30982 has 4 MA's), (68, 30961), (75, 30919), (80, 30871),

Gene: Obutu\_43 Start: 39013, Stop: 38777, Start Num: 33

Candidate Starts for Obutu\_43:

(Start: 33 @39013 has 41 MA's), (58, 38956), (71, 38890), (73, 38884),

Gene: Ogopogo\_25 Start: 24675, Stop: 24496, Start Num: 48

Candidate Starts for Ogopogo\_25:

(Start: 38 @24699 has 1 MA's), (Start: 48 @24675 has 10 MA's), (Start: 54 @24669 has 4 MA's), (Start: 65 @24642 has 4 MA's), (69, 24609), (83, 24513),

Gene: Opia\_44 Start: 39429, Stop: 39223, Start Num: 44

Candidate Starts for Opia\_44:

(Start: 44 @39429 has 29 MA's), (Start: 55 @39402 has 3 MA's), (58, 39399), (70, 39345), (76, 39312),

Gene: OrangeOswald\_43 Start: 39030, Stop: 38794, Start Num: 33

Candidate Starts for OrangeOswald\_43:

(Start: 33 @39030 has 41 MA's), (58, 38973), (71, 38907), (73, 38901),

Gene: Orcanus\_26 Start: 19951, Stop: 19748, Start Num: 59

Candidate Starts for Orcanus\_26:

(Start: 59 @19951 has 12 MA's),

Gene: Periwinkle\_42 Start: 31005, Stop: 30769, Start Num: 45

Candidate Starts for Periwinkle\_42:

(Start: 45 @31005 has 50 MA's), (Start: 65 @30963 has 4 MA's), (68, 30942), (75, 30900), (80, 30852),

Gene: Phabuloso\_36 Start: 29262, Stop: 29026, Start Num: 45

Candidate Starts for Phabuloso\_36:

(Start: 45 @29262 has 50 MA's), (Start: 65 @29220 has 4 MA's), (68, 29199), (75, 29157), (80, 29109),

Gene: Phaedrus\_41 Start: 38950, Stop: 38714, Start Num: 33

Candidate Starts for Phaedrus\_41:

(Start: 33 @38950 has 41 MA's), (58, 38893), (71, 38827), (73, 38821),

Gene: Phantasmagoria\_44 Start: 39441, Stop: 39235, Start Num: 44

Candidate Starts for Phantasmagoria\_44:

(Start: 44 @39441 has 29 MA's), (Start: 55 @39414 has 3 MA's), (58, 39411), (70, 39357), (76, 39324),

Gene: Phayeta\_44 Start: 38895, Stop: 38659, Start Num: 33

Candidate Starts for Phayeta\_44:

(Start: 33 @38895 has 41 MA's), (58, 38838), (71, 38772), (73, 38766),

Gene: Phelemich\_43 Start: 39919, Stop: 39710, Start Num: 47

Candidate Starts for Phelemich\_43:

(16, 40027), (Start: 47 @39919 has 11 MA's), (53, 39904), (67, 39859),

Gene: Philly\_42 Start: 38881, Stop: 38645, Start Num: 33  
Candidate Starts for Philly\_42:  
(Start: 33 @38881 has 41 MA's), (58, 38824), (71, 38758), (73, 38752),

Gene: Phistory\_39 Start: 29860, Stop: 29666, Start Num: 65  
Candidate Starts for Phistory\_39:  
(Start: 45 @29902 has 50 MA's), (Start: 65 @29860 has 4 MA's), (68, 29839), (75, 29797), (80, 29749),

Gene: Phlyer\_43 Start: 39769, Stop: 39533, Start Num: 33  
Candidate Starts for Phlyer\_43:  
(Start: 33 @39769 has 41 MA's), (58, 39712), (71, 39646), (73, 39640),

Gene: Pine5\_39 Start: 32324, Stop: 32103, Start Num: 45  
Candidate Starts for Pine5\_39:  
(Start: 45 @32324 has 50 MA's), (61, 32294), (Start: 65 @32279 has 4 MA's), (77, 32210),

Gene: Polka\_26 Start: 18904, Stop: 18683, Start Num: 59  
Candidate Starts for Polka\_26:  
(Start: 59 @18904 has 12 MA's),

Gene: Polly\_32 Start: 28797, Stop: 28561, Start Num: 45  
Candidate Starts for Polly\_32:  
(Start: 45 @28797 has 50 MA's), (Start: 65 @28755 has 4 MA's), (68, 28734), (75, 28692), (80, 28644), (87, 28572),

Gene: Pollywog\_25 Start: 25545, Stop: 25366, Start Num: 48  
Candidate Starts for Pollywog\_25:  
(Start: 38 @25569 has 1 MA's), (Start: 48 @25545 has 10 MA's), (Start: 54 @25539 has 4 MA's),  
(Start: 65 @25512 has 4 MA's), (69, 25479), (83, 25383),

Gene: Purky\_30 Start: 26584, Stop: 26351, Start Num: 49  
Candidate Starts for Purky\_30:  
(24, 26659), (25, 26656), (26, 26650), (46, 26593), (Start: 49 @26584 has 2 MA's), (61, 26560), (70, 26512), (80, 26434), (82, 26419),

Gene: Purky\_36 Start: 28450, Stop: 28653, Start Num: 38  
Candidate Starts for Purky\_36:  
(Start: 38 @28450 has 1 MA's), (42, 28462), (Start: 54 @28480 has 4 MA's), (76, 28588), (80, 28600),

Gene: Qyrzula\_41 Start: 39560, Stop: 39381, Start Num: 55  
Candidate Starts for Qyrzula\_41:  
(Start: 44 @39587 has 29 MA's), (Start: 55 @39560 has 3 MA's), (58, 39557), (70, 39503), (76, 39470),

Gene: RagingRooster\_43 Start: 39031, Stop: 38795, Start Num: 33  
Candidate Starts for RagingRooster\_43:  
(Start: 33 @39031 has 41 MA's), (58, 38974), (71, 38908), (73, 38902),

Gene: RavenCo17\_36 Start: 30180, Stop: 29944, Start Num: 45  
Candidate Starts for RavenCo17\_36:  
(Start: 45 @30180 has 50 MA's), (Start: 65 @30138 has 4 MA's), (68, 30117), (75, 30075), (80, 30027),



Gene: RayTheFireFly\_38 Start: 29870, Stop: 29667, Start Num: 64  
Candidate Starts for RayTheFireFly\_38:  
(Start: 45 @29903 has 50 MA's), (Start: 64 @29870 has 1 MA's), (68, 29840), (74, 29807), (75, 29798), (80, 29750),

Gene: Rem711\_6 Start: 3521, Stop: 3279, Start Num: 45  
Candidate Starts for Rem711\_6:  
(10, 3722), (22, 3584), (Start: 45 @3521 has 50 MA's), (70, 3443), (75, 3413), (78, 3398), (79, 3380),

Gene: Reprobate\_44 Start: 39924, Stop: 39715, Start Num: 47  
Candidate Starts for Reprobate\_44:  
(16, 40032), (Start: 47 @39924 has 11 MA's), (53, 39909), (67, 39864),

Gene: Rhinoforte\_44 Start: 39550, Stop: 39344, Start Num: 44  
Candidate Starts for Rhinoforte\_44:  
(Start: 44 @39550 has 29 MA's), (Start: 55 @39523 has 3 MA's), (58, 39520), (70, 39466), (76, 39433),

Gene: Ricotta\_45 Start: 38891, Stop: 38706, Start Num: 53  
Candidate Starts for Ricotta\_45:  
(Start: 36 @38921 has 1 MA's), (53, 38891), (67, 38846), (73, 38813),

Gene: Rita1961\_43 Start: 39014, Stop: 38778, Start Num: 33  
Candidate Starts for Rita1961\_43:  
(Start: 33 @39014 has 41 MA's), (58, 38957), (71, 38891), (73, 38885),

Gene: RomaT\_43 Start: 39804, Stop: 39568, Start Num: 33  
Candidate Starts for RomaT\_43:  
(Start: 33 @39804 has 41 MA's), (58, 39747), (71, 39681), (73, 39675),

Gene: Rosebush\_43 Start: 39530, Stop: 39351, Start Num: 55  
Candidate Starts for Rosebush\_43:  
(Start: 44 @39557 has 29 MA's), (Start: 55 @39530 has 3 MA's), (58, 39527), (70, 39473), (76, 39440),

Gene: Sabella\_43 Start: 39434, Stop: 39228, Start Num: 44  
Candidate Starts for Sabella\_43:  
(Start: 44 @39434 has 29 MA's), (Start: 55 @39407 has 3 MA's), (58, 39404), (70, 39350), (76, 39317),

Gene: Saguaro\_45 Start: 40648, Stop: 40445, Start Num: 47  
Candidate Starts for Saguaro\_45:  
(15, 40756), (Start: 47 @40648 has 11 MA's), (67, 40585), (69, 40576), (75, 40537),

Gene: Sahara\_29 Start: 25333, Stop: 25133, Start Num: 45  
Candidate Starts for Sahara\_29:  
(Start: 45 @25333 has 50 MA's), (61, 25312), (Start: 65 @25297 has 4 MA's), (66, 25285), (73, 25249),

Gene: Savage\_30 Start: 25663, Stop: 25463, Start Num: 45  
Candidate Starts for Savage\_30:

(Start: 45 @25663 has 50 MA's), (61, 25642), (Start: 65 @25627 has 4 MA's), (66, 25615), (73, 25579),

Gene: Sbash\_32 Start: 28849, Stop: 28601, Start Num: 49

Candidate Starts for Sbash\_32:

(24, 28924), (25, 28921), (26, 28915), (46, 28858), (Start: 49 @28849 has 2 MA's), (61, 28825), (80, 28699), (82, 28684), (88, 28609),

Gene: Shambre1\_30 Start: 22778, Stop: 22578, Start Num: 54

Candidate Starts for Shambre1\_30:

(Start: 54 @22778 has 4 MA's), (86, 22595),

Gene: ShroomBoi\_22 Start: 24354, Stop: 24175, Start Num: 48

Candidate Starts for ShroomBoi\_22:

(Start: 38 @24378 has 1 MA's), (Start: 48 @24354 has 10 MA's), (Start: 54 @24348 has 4 MA's), (61, 24336), (Start: 65 @24321 has 4 MA's), (69, 24288), (83, 24192),

Gene: SirJeffery\_44 Start: 39650, Stop: 39441, Start Num: 47

Candidate Starts for SirJeffery\_44:

(15, 39764), (16, 39758), (Start: 47 @39650 has 11 MA's), (53, 39635), (61, 39623), (67, 39590),

Gene: Sleepyhead\_33 Start: 26741, Stop: 26493, Start Num: 45

Candidate Starts for Sleepyhead\_33:

(23, 26798), (Start: 45 @26741 has 50 MA's), (52, 26723), (73, 26651), (75, 26636),

Gene: SlippinJimmy\_43 Start: 39796, Stop: 39560, Start Num: 33

Candidate Starts for SlippinJimmy\_43:

(Start: 33 @39796 has 41 MA's), (58, 39739), (71, 39673), (73, 39667),

Gene: Spooky\_39 Start: 29741, Stop: 29508, Start Num: 57

Candidate Starts for Spooky\_39:

(31, 29801), (43, 29771), (Start: 57 @29741 has 2 MA's), (60, 29738), (Start: 64 @29723 has 1 MA's), (84, 29549), (85, 29543),

Gene: Sproutie\_30 Start: 25663, Stop: 25463, Start Num: 45

Candidate Starts for Sproutie\_30:

(Start: 45 @25663 has 50 MA's), (61, 25642), (Start: 65 @25627 has 4 MA's), (66, 25615), (73, 25579),

Gene: Squiddly\_40 Start: 31125, Stop: 30892, Start Num: 57

Candidate Starts for Squiddly\_40:

(31, 31185), (43, 31155), (Start: 57 @31125 has 2 MA's), (60, 31122), (Start: 64 @31107 has 1 MA's), (84, 30933), (85, 30927),

Gene: StAugustine\_59 Start: 47843, Stop: 47547, Start Num: 21

Candidate Starts for StAugustine\_59:

(4, 48254), (5, 48245), (7, 48053), (12, 47951), (13, 47930), (17, 47870), (20, 47852), (21, 47843), (26, 47813), (27, 47801),

Gene: Stinger\_39 Start: 37776, Stop: 37570, Start Num: 41

Candidate Starts for Stinger\_39:

(Start: 41 @37776 has 4 MA's), (53, 37755), (58, 37749), (Start: 65 @37728 has 4 MA's), (67, 37710), (70, 37692), (75, 37662), (76, 37659), (77, 37656),

Gene: StinkyVeggy\_45 Start: 39790, Stop: 39581, Start Num: 47  
Candidate Starts for StinkyVeggy\_45:  
(16, 39898), (Start: 47 @39790 has 11 MA's), (53, 39775), (61, 39763),

Gene: Suigeneris\_44 Start: 39653, Stop: 39444, Start Num: 47  
Candidate Starts for Suigeneris\_44:  
(15, 39767), (16, 39761), (Start: 47 @39653 has 11 MA's), (53, 39638), (61, 39626), (67, 39593),

Gene: Susceptit\_35 Start: 29355, Stop: 29119, Start Num: 45  
Candidate Starts for Susceptit\_35:  
(Start: 45 @29355 has 50 MA's), (Start: 65 @29313 has 4 MA's), (68, 29292), (75, 29250), (80, 29202), (87, 29130),

Gene: SynergyX\_43 Start: 39031, Stop: 38795, Start Num: 33  
Candidate Starts for SynergyX\_43:  
(Start: 33 @39031 has 41 MA's), (58, 38974), (71, 38908), (73, 38902),

Gene: TA17A\_44 Start: 39424, Stop: 39218, Start Num: 44  
Candidate Starts for TA17A\_44:  
(Start: 44 @39424 has 29 MA's), (Start: 55 @39397 has 3 MA's), (58, 39394), (70, 39340), (76, 39307),

Gene: TaylorSipht\_26 Start: 18969, Stop: 18775, Start Num: 59  
Candidate Starts for TaylorSipht\_26:  
(Start: 59 @18969 has 12 MA's),

Gene: Tayonia\_35 Start: 29354, Stop: 29118, Start Num: 45  
Candidate Starts for Tayonia\_35:  
(Start: 45 @29354 has 50 MA's), (Start: 65 @29312 has 4 MA's), (68, 29291), (75, 29249), (80, 29201), (87, 29129),

Gene: ThetaBob\_24 Start: 24665, Stop: 24492, Start Num: 54  
Candidate Starts for ThetaBob\_24:  
(Start: 38 @24695 has 1 MA's), (Start: 48 @24671 has 10 MA's), (Start: 54 @24665 has 4 MA's),  
(Start: 65 @24638 has 4 MA's), (69, 24605), (83, 24509),

Gene: Thonko\_43 Start: 36961, Stop: 36752, Start Num: 40  
Candidate Starts for Thonko\_43:  
(14, 37108), (16, 37054), (Start: 40 @36961 has 1 MA's), (61, 36931), (73, 36865),

Gene: TimTam\_34 Start: 29521, Stop: 29285, Start Num: 45  
Candidate Starts for TimTam\_34:  
(Start: 45 @29521 has 50 MA's), (Start: 65 @29479 has 4 MA's), (75, 29416), (80, 29368), (81, 29356),

Gene: Tinciduntolum\_45 Start: 39562, Stop: 39356, Start Num: 44  
Candidate Starts for Tinciduntolum\_45:  
(Start: 44 @39562 has 29 MA's), (Start: 55 @39535 has 3 MA's), (58, 39532), (70, 39478), (76, 39445),

Gene: Tres\_44 Start: 39437, Stop: 39231, Start Num: 44  
Candidate Starts for Tres\_44:

(Start: 44 @39437 has 29 MA's), (Start: 55 @39410 has 3 MA's), (58, 39407), (70, 39353), (76, 39320),

Gene: Trumpet\_35 Start: 29355, Stop: 29119, Start Num: 45

Candidate Starts for Trumpet\_35:

(Start: 45 @29355 has 50 MA's), (Start: 65 @29313 has 4 MA's), (68, 29292), (75, 29250), (80, 29202), (87, 29130),

Gene: TuertoX\_30 Start: 25663, Stop: 25463, Start Num: 45

Candidate Starts for TuertoX\_30:

(Start: 45 @25663 has 50 MA's), (61, 25642), (Start: 65 @25627 has 4 MA's), (66, 25615), (73, 25579),

Gene: Tydolla\_43 Start: 39765, Stop: 39529, Start Num: 33

Candidate Starts for Tydolla\_43:

(Start: 33 @39765 has 41 MA's), (58, 39708), (71, 39642), (73, 39636),

Gene: Vasanti\_31 Start: 26204, Stop: 25965, Start Num: 45

Candidate Starts for Vasanti\_31:

(Start: 45 @26204 has 50 MA's), (61, 26183), (Start: 65 @26168 has 4 MA's), (66, 26156), (73, 26120), (89, 25973),

Gene: Vincenzo\_41 Start: 39951, Stop: 39745, Start Num: 41

Candidate Starts for Vincenzo\_41:

(Start: 41 @39951 has 4 MA's), (53, 39930), (58, 39924), (Start: 65 @39903 has 4 MA's), (67, 39885), (69, 39876), (70, 39867), (75, 39837), (76, 39834), (77, 39831),

Gene: Vulpecula\_25 Start: 19383, Stop: 19186, Start Num: 51

Candidate Starts for Vulpecula\_25:

(Start: 51 @19383 has 3 MA's),

Gene: West99\_44 Start: 39557, Stop: 39351, Start Num: 44

Candidate Starts for West99\_44:

(Start: 44 @39557 has 29 MA's), (Start: 55 @39530 has 3 MA's), (58, 39527), (70, 39473), (76, 39440),

Gene: Whack\_33 Start: 28160, Stop: 27924, Start Num: 45

Candidate Starts for Whack\_33:

(30, 28187), (Start: 45 @28160 has 50 MA's), (78, 28040),

Gene: Whiteclaw\_30 Start: 25663, Stop: 25463, Start Num: 45

Candidate Starts for Whiteclaw\_30:

(Start: 45 @25663 has 50 MA's), (61, 25642), (Start: 65 @25627 has 4 MA's), (66, 25615), (73, 25579),

Gene: Whitney\_42 Start: 32542, Stop: 32306, Start Num: 45

Candidate Starts for Whitney\_42:

(Start: 45 @32542 has 50 MA's), (Start: 65 @32500 has 4 MA's), (68, 32479), (75, 32437), (80, 32389),

Gene: Yahalom\_43 Start: 39041, Stop: 38805, Start Num: 33

Candidate Starts for Yahalom\_43:

(Start: 33 @39041 has 41 MA's), (58, 38984), (71, 38918), (73, 38912),

Gene: Yinz\_43 Start: 39067, Stop: 38831, Start Num: 33  
Candidate Starts for Yinz\_43:  
(Start: 33 @39067 has 41 MA's), (58, 39010), (71, 38944), (73, 38938),

Gene: Yoshi\_28 Start: 24080, Stop: 23901, Start Num: 48  
Candidate Starts for Yoshi\_28:  
(Start: 38 @24104 has 1 MA's), (Start: 48 @24080 has 10 MA's), (Start: 54 @24074 has 4 MA's),  
(Start: 65 @24047 has 4 MA's), (69, 24014), (83, 23918),

Gene: Zameen\_35 Start: 29354, Stop: 29118, Start Num: 45  
Candidate Starts for Zameen\_35:  
(Start: 45 @29354 has 50 MA's), (Start: 65 @29312 has 4 MA's), (68, 29291), (75, 29249), (80,  
29201), (87, 29129),

Gene: Zenteno07\_48 Start: 38553, Stop: 38338, Start Num: 37  
Candidate Starts for Zenteno07\_48:  
(Start: 37 @38553 has 2 MA's), (53, 38529), (69, 38475), (84, 38379),