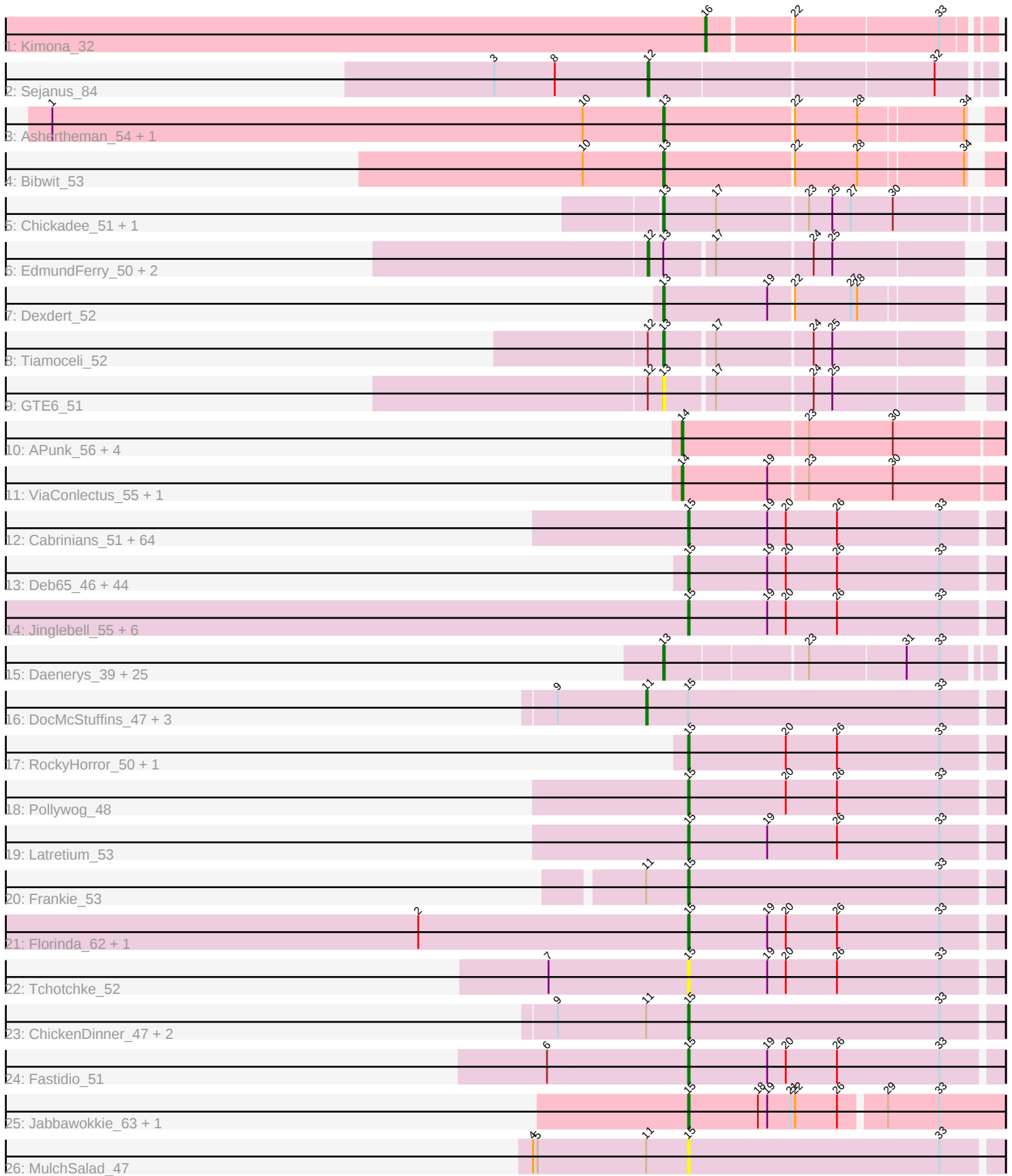


# Pham 280124



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 280124 Report

This analysis was run 02/07/26 on database version 634.

Pham number 280124 has 182 members, 14 are drafts.

Phages represented in each track:

- Track 1 : Kimona\_32
- Track 2 : Sejanus\_84
- Track 3 : Ashertheman\_54, Gaea\_53
- Track 4 : Bibwit\_53
- Track 5 : Chickadee\_51, Kwekel\_51
- Track 6 : EdmundFerry\_50, RoadKill\_49, Twonlo\_49
- Track 7 : Dexdert\_52
- Track 8 : Tiamoceli\_52
- Track 9 : GTE6\_51
- Track 10 : APunk\_56, Sampson\_55, Scioto\_56, Natkenzie\_55, Abblin\_55
- Track 11 : ViaConlectus\_55, Tardus\_57
- Track 12 : Cabrinians\_51, TDanisky\_54, Madiba\_46, Jarcob\_50, Seagreen\_51, Eradicator\_43, Dante\_49, Llij\_47, Girr\_50, LilMoolah\_49, Yorick\_49, Lizziana\_56, Leozinho\_51, Kimberlium\_53, Karhdo\_49, Drago\_49, Marker\_50, QuickMath\_52, Martik\_50, Emmaloid\_51, Starceovich\_50, Koella\_44, PopTart\_45, ShowerHandel\_52, Chevrolet\_56, Nitzel\_45, Che8\_52, Maravista\_52, DotProduct\_46, Priscilla\_50, Ibhubesi\_49, MadMen\_44, Tweety\_49, Ruby\_48, Royals2015\_52, ArcusAngelus\_53, Sabbb\_56, Mahavrat\_48, Peridot\_53, Totinger\_50, NormanBulbieJr\_50, Bubbles123\_47, ShiLan\_49, Nivrat\_47, JalFarm20\_59, GigiOuiOui\_47, MisterCuddles\_50, Aubs\_49, Slim\_51, FreddyB\_50, UncleRicky\_50, Doug\_52, Tootsieroll\_53, Eish\_50, Crumble\_45, MulchExplorer\_57, Sparkdehlily\_54, Grimmer\_61, DirtMcgirt\_50, Burwell21\_48, LittleShirley\_50, Phatniss\_49, Avani\_58, Plumbus\_52, SassyB\_45
- Track 13 : Deb65\_46, OlympiaSaint\_50, BlueCrab\_47, Dorothy\_47, Gandolph\_51, Empress\_49, Doomphist\_49, Poenanya\_49, Harley\_52, BuzzLyseyear\_55, Hamulus\_51, Spoonbill\_48, Blexus\_48, Scottish\_49, Leperchaun\_43, OwlsT2W\_49, Kersh\_53, Veteran\_47, Daenerys\_45, JoeyJr\_46, Stap\_49, GUmbie\_47, PMC\_44, PHappiness\_46, Mantra\_47, Radiance\_50, Boomer\_52, Krakatau\_48, Job42\_50, RitaG\_46, DaddyRickover\_50, KingMidas\_50, PhlipPhlop\_49, Oksu\_54, IbOuu\_52, Spikelee\_56, Polka14\_47, Nimbo\_45, Ramsey\_51, Pacc40\_45, SiSi\_49, BodEinwohner17\_50, RedBird\_47, Cornie\_43, Rockne\_48
- Track 14 : Jinglebell\_55, Ochi17\_53, Llama\_55, Modragons\_54, AlpineSix\_55, Seabastian\_55, OfUltron\_55
- Track 15 : Daenerys\_39, Inventum\_39, Leozinho\_42, Dante\_40, Pollywog\_41, Spoonbill\_40, Job42\_43, Ogopogo\_43, Veteran\_40, Blexus\_40, Sassafras\_41, OwlsT2W\_40, Chuckly\_41, Royals2015\_42, JoeyJr\_40, GUmbie\_40, Empress\_41, Tchotchke\_42, Tootsieroll\_44, IbOuu\_43, Radiance\_41, Polka14\_41,

- OlympiaSaint\_40, Scottish\_41, Sandalphon\_44, Eish\_41
- Track 16 : DocMcStuffins\_47, Aloeri\_48, Misha28\_46, TootsiePop\_46
  - Track 17 : RockyHorror\_50, Zerg\_49
  - Track 18 : Pollywog\_48
  - Track 19 : Latretium\_53
  - Track 20 : Frankie\_53
  - Track 21 : Florinda\_62, Quico\_59
  - Track 22 : Tchotchke\_52
  - Track 23 : ChickenDinner\_47, Awesomesauce\_48, Piper2020\_48
  - Track 24 : Fastidio\_51
  - Track 25 : Jabbawokkie\_63, Zapner\_62
  - Track 26 : MulchSalad\_47

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

The start number called the most often in the published annotations is 15, it was called in 124 of the 168 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AlpineSix\_55, ArcusAngelus\_53, Aubs\_49, Avani\_58, Awesomesauce\_48, Blexus\_48, BlueCrab\_47, BodEinwohner17\_50, Boomer\_52, Bubbles123\_47, Burwell21\_48, BuzzLyseyear\_55, Cabrinians\_51, Che8\_52, Chevrolet\_56, ChickenDinner\_47, Cornie\_43, Crumble\_45, DaddyRickover\_50, Daenerys\_45, Dante\_49, Deb65\_46, DirtMcGirt\_50, Doomphist\_49, Dorothy\_47, DotProduct\_46, Doug\_52, Drago\_49, Eish\_50, Emmaloid\_51, Empress\_49, Eradicator\_43, Fastidio\_51, Florinda\_62, Frankie\_53, FreddyB\_50, GUmbie\_47, Gandolph\_51, GigiOuiOui\_47, Girr\_50, Grimmer\_61, Hamulus\_51, Harley\_52, IbOuu\_52, Ibhubesi\_49, Jabbawokkie\_63, JalFarm20\_59, Jarcob\_50, Jinglebell\_55, Job42\_50, JoeyJr\_46, Karhdo\_49, Kersh\_53, Kimberlium\_53, KingMidas\_50, Koella\_44, Krakatau\_48, Latretium\_53, Leozinho\_51, Leperchaun\_43, LilMoolah\_49, LittleShirley\_50, Lizziana\_56, Llama\_55, Llij\_47, MadMen\_44, Madiba\_46, Mahavrat\_48, Mantra\_47, Maravista\_52, Marker\_50, Martik\_50, MisterCuddles\_50, Modragons\_54, MulchExplorer\_57, MulchSalad\_47, Nimbo\_45, Nitzel\_45, Nivrat\_47, NormanBulbieJr\_50, Ochi17\_53, OfUltron\_55, Oksu\_54, OlympiaSaint\_50, OwlST2W\_49, PHappiness\_46, PMC\_44, Pacc40\_45, Peridot\_53, Phatniss\_49, PhilipPhlop\_49, Piper2020\_48, Plumbus\_52, Poenanya\_49, Polka14\_47, Pollywog\_48, PopTart\_45, Priscilla\_50, QuickMath\_52, Quico\_59, Radiance\_50, Ramsey\_51, RedBird\_47, RitaG\_46, Rockne\_48, RockyHorror\_50, Royals2015\_52, Ruby\_48, Sabbb\_56, SassyB\_45, Scottish\_49, Seabastian\_55, Seagreen\_51, ShiLan\_49, ShowerHandel\_52, SiSi\_49, Slim\_51, Sparkdehlily\_54, Spikelee\_56, Spoonbill\_48, Stap\_49, Starceвич\_50, TDanisky\_54, Tchotchke\_52, Tootsieroll\_53, Totinger\_50, Tweety\_49, UncleRicky\_50, Veteran\_47, Yorick\_49, Zapner\_62, Zerg\_49,

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

- Aloeri\_48, DocMcStuffins\_47, Misha28\_46, TootsiePop\_46,

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

- APunk\_56, Abblin\_55, Ashertheman\_54, Bibwit\_53, Blexus\_40, Chickadee\_51, Chuckly\_41, Daenerys\_39, Dante\_40, Dexdert\_52, EdmundFerry\_50, Eish\_41,

Empress\_41, GTE6\_51, GUmbie\_40, Gaea\_53, IbOuu\_43, Inventum\_39, Job42\_43, JoeyJr\_40, Kimona\_32, Kwekel\_51, Leozinho\_42, Natkenzie\_55, Ogopogo\_43, OlympiaSaint\_40, OwlsT2W\_40, Polka14\_41, Pollywog\_41, Radiance\_41, RoadKill\_49, Royals2015\_42, Sampson\_55, Sandalphon\_44, Sassafras\_41, Scioto\_56, Scottish\_41, Sejanus\_84, Spoonbill\_40, Tardus\_57, Tchotchke\_42, Tiamoceli\_52, Tootsieroll\_44, Twonlo\_49, Veteran\_40, ViaConlectus\_55,

### Summary by start number:

#### Start 11:

- Found in 9 of 182 ( 4.9% ) of genes in pham
- Manual Annotations of this start: 4 of 168
- Called 44.4% of time when present
- Phage (with cluster) where this start called: Aloeri\_48 (F1), DocMcStuffins\_47 (F1), Misha28\_46 (F1), TootsiePop\_46 (F1),

#### Start 12:

- Found in 6 of 182 ( 3.3% ) of genes in pham
- Manual Annotations of this start: 4 of 168
- Called 66.7% of time when present
- Phage (with cluster) where this start called: EdmundFerry\_50 (DE3), RoadKill\_49 (DE3), Sejanus\_84 (AD), Twonlo\_49 (DE3),

#### Start 13:

- Found in 37 of 182 ( 20.3% ) of genes in pham
- Manual Annotations of this start: 31 of 168
- Called 91.9% of time when present
- Phage (with cluster) where this start called: Ashertheman\_54 (DE1), Bibwit\_53 (DE1), Blexus\_40 (F1), Chickadee\_51 (DE3), Chuckly\_41 (F1), Daenerys\_39 (F1), Dante\_40 (F1), Dexdert\_52 (DE3), Eish\_41 (F1), Empress\_41 (F1), GTE6\_51 (DE3), GUmbie\_40 (F1), Gaea\_53 (DE1), IbOuu\_43 (F1), Inventum\_39 (F1), Job42\_43 (F1), JoeyJr\_40 (F1), Kwekel\_51 (DE3), Leozinho\_42 (F1), Ogopogo\_43 (F1), OlympiaSaint\_40 (F1), OwlsT2W\_40 (F1), Polka14\_41 (F1), Pollywog\_41 (F1), Radiance\_41 (F1), Royals2015\_42 (F1), Sandalphon\_44 (F1), Sassafras\_41 (F1), Scottish\_41 (F1), Spoonbill\_40 (F1), Tchotchke\_42 (F1), Tiamoceli\_52 (DE3), Tootsieroll\_44 (F1), Veteran\_40 (F1),

#### Start 14:

- Found in 7 of 182 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 4 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: APunk\_56 (DE4), Abblin\_55 (DE4), Natkenzie\_55 (DE4), Sampson\_55 (DE4), Scioto\_56 (DE4), Tardus\_57 (DE4), ViaConlectus\_55 (DE4),

#### Start 15:

- Found in 136 of 182 ( 74.7% ) of genes in pham
- Manual Annotations of this start: 124 of 168
- Called 97.1% of time when present
- Phage (with cluster) where this start called: AlpineSix\_55 (F1), ArcusAngelus\_53 (F1), Aubs\_49 (F1), Avani\_58 (F2), Awesomesauce\_48 (F1), Blexus\_48 (F1), BlueCrab\_47 (F1), BodEinwohner17\_50 (F1), Boomer\_52 (F1), Bubbles123\_47 (F1), Burwell21\_48 (F1), BuzzLyseyear\_55 (F1), Cabrinians\_51 (F1), Che8\_52 (F1),

Chevrolet\_56 (F1), ChickenDinner\_47 (F1), Cornie\_43 (F5), Crumble\_45 (F1), DaddyRickover\_50 (F1), Daenerys\_45 (F1), Dante\_49 (F1), Deb65\_46 (F1), DirtMcGirt\_50 (F1), Doomphist\_49 (F1), Dorothy\_47 (F1), DotProduct\_46 (F1), Doug\_52 (F1), Drago\_49 (F1), Eish\_50 (F1), Emmaloid\_51 (F1), Empress\_49 (F1), Eradicator\_43 (F1), Fastidio\_51 (F1), Florinda\_62 (F1), Frankie\_53 (F1), FreddyB\_50 (F1), GUmble\_47 (F1), Gandolph\_51 (F1), GigiOuiOui\_47 (F1), Girr\_50 (F1), Grimmer\_61 (F1), Hamulus\_51 (F1), Harley\_52 (F1), IbOuu\_52 (F1), Ibhubesi\_49 (F1), Jabbawokkie\_63 (F2), JalFarm20\_59 (F1), Jacob\_50 (F1), Jinglebell\_55 (F1), Job42\_50 (F1), JoeyJr\_46 (F1), Karhdo\_49 (F1), Kersh\_53 (F1), Kimberlium\_53 (F1), KingMidas\_50 (F1), Koella\_44 (F1), Krakatau\_48 (F1), Latretium\_53 (F1), Leozinho\_51 (F1), Leperchaun\_43 (F1), LilMoolah\_49 (F1), LittleShirley\_50 (F1), Lizziana\_56 (F1), Llama\_55 (F1), Llij\_47 (F1), MadMen\_44 (F1), Madiba\_46 (F1), Mahavrat\_48 (F1), Mantra\_47 (F1), Maravista\_52 (F1), Marker\_50 (F1), Martik\_50 (F1), MisterCuddles\_50 (F1), Modragons\_54 (F1), MulchExplorer\_57 (F1), MulchSalad\_47 (F7), Nimbo\_45 (F1), Nitzel\_45 (F1), Nivrat\_47 (F1), NormanBulbieJr\_50 (F1), Ochi17\_53 (F1), OfUltron\_55 (F1), Oksu\_54 (F1), OlympiaSaint\_50 (F1), OwlsT2W\_49 (F1), PHappiness\_46 (F1), PMC\_44 (F1), Pacc40\_45 (F1), Peridot\_53 (F1), Phatniss\_49 (F1), PhilipPhlop\_49 (F1), Piper2020\_48 (F1), Plumbus\_52 (F1), Poenanya\_49 (F1), Polka14\_47 (F1), Pollywog\_48 (F1), PopTart\_45 (F1), Priscilla\_50 (F1), QuickMath\_52 (F1), Quico\_59 (F1), Radiance\_50 (F1), Ramsey\_51 (F1), RedBird\_47 (F1), RitaG\_46 (F1), Rockne\_48 (F1), RockyHorror\_50 (F1), Royals2015\_52 (F1), Ruby\_48 (F1), Sabbb\_56 (F1), SassyB\_45 (F1), Scottish\_49 (F1), Seabastian\_55 (F1), Seagreen\_51 (F1), ShiLan\_49 (F1), ShowerHandel\_52 (F1), SiSi\_49 (F1), Slim\_51 (F1), Sparkdehlily\_54 (F1), Spikelee\_56 (F1), Spoonbill\_48 (F1), Stap\_49 (F1), Starcevich\_50 (F1), TDanisky\_54 (F1), Tchotchke\_52 (F1), Tootsieroll\_53 (F1), Totinger\_50 (F1), Tweety\_49 (F1), UncleRicky\_50 (F1), Veteran\_47 (F1), Yorick\_49 (F1), Zapner\_62 (F2), Zerg\_49 (F1),

Start 16:

- Found in 1 of 182 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kimona\_32 (A19),

### Summary by clusters:

There are 9 clusters represented in this pham: F1, F2, AD, F7, DE1, DE3, DE4, A19, F5,

Info for manual annotations of cluster A19:

- Start number 16 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster AD:

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

Info for manual annotations of cluster DE1:

- Start number 13 was manually annotated 3 times for cluster DE1.

Info for manual annotations of cluster DE3:

- Start number 12 was manually annotated 3 times for cluster DE3.
- Start number 13 was manually annotated 4 times for cluster DE3.

Info for manual annotations of cluster DE4:

- Start number 14 was manually annotated 4 times for cluster DE4.

Info for manual annotations of cluster F1:

- Start number 11 was manually annotated 4 times for cluster F1.
- Start number 13 was manually annotated 24 times for cluster F1.
- Start number 15 was manually annotated 120 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 15 was manually annotated 3 times for cluster F2.

Info for manual annotations of cluster F5:

- Start number 15 was manually annotated 1 time for cluster F5.

### **Gene Information:**

Gene: APunk\_56 Start: 45016, Stop: 45216, Start Num: 14

Candidate Starts for APunk\_56:

(Start: 14 @45016 has 4 MA's), (23, 45094), (30, 45148),

Gene: Abblin\_55 Start: 45502, Stop: 45702, Start Num: 14

Candidate Starts for Abblin\_55:

(Start: 14 @45502 has 4 MA's), (23, 45580), (30, 45634),

Gene: Aloeri\_48 Start: 35702, Stop: 35926, Start Num: 11

Candidate Starts for Aloeri\_48:

(9, 35645), (Start: 11 @35702 has 4 MA's), (Start: 15 @35729 has 124 MA's), (33, 35891),

Gene: AlpineSix\_55 Start: 38663, Stop: 38860, Start Num: 15

Candidate Starts for AlpineSix\_55:

(Start: 15 @38663 has 124 MA's), (19, 38714), (20, 38726), (26, 38759), (33, 38825),

Gene: ArcusAngelus\_53 Start: 37779, Stop: 37976, Start Num: 15

Candidate Starts for ArcusAngelus\_53:

(Start: 15 @37779 has 124 MA's), (19, 37830), (20, 37842), (26, 37875), (33, 37941),

Gene: Ashertheman\_54 Start: 44467, Stop: 44664, Start Num: 13

Candidate Starts for Ashertheman\_54:

(1, 44074), (10, 44416), (Start: 13 @44467 has 31 MA's), (22, 44548), (28, 44587), (34, 44650),

Gene: Aubs\_49 Start: 36346, Stop: 36543, Start Num: 15

Candidate Starts for Aubs\_49:

(Start: 15 @36346 has 124 MA's), (19, 36397), (20, 36409), (26, 36442), (33, 36508),

Gene: Avani\_58 Start: 36654, Stop: 36851, Start Num: 15

Candidate Starts for Avani\_58:

(Start: 15 @36654 has 124 MA's), (19, 36705), (20, 36717), (26, 36750), (33, 36816),

Gene: Awesomesauce\_48 Start: 34991, Stop: 35188, Start Num: 15

Candidate Starts for Awesomesauce\_48:

(9, 34907), (Start: 11 @34964 has 4 MA's), (Start: 15 @34991 has 124 MA's), (33, 35153),

Gene: Bibwit\_53 Start: 43981, Stop: 44178, Start Num: 13

Candidate Starts for Bibwit\_53:

(10, 43930), (Start: 13 @43981 has 31 MA's), (22, 44062), (28, 44101), (34, 44164),

Gene: Blexus\_48 Start: 36433, Stop: 36630, Start Num: 15

Candidate Starts for Blexus\_48:

(Start: 15 @36433 has 124 MA's), (19, 36484), (20, 36496), (26, 36529), (33, 36595),

Gene: Blexus\_40 Start: 31585, Stop: 31391, Start Num: 13

Candidate Starts for Blexus\_40:

(Start: 13 @31585 has 31 MA's), (23, 31498), (31, 31438), (33, 31417),

Gene: BlueCrab\_47 Start: 36159, Stop: 36356, Start Num: 15

Candidate Starts for BlueCrab\_47:

(Start: 15 @36159 has 124 MA's), (19, 36210), (20, 36222), (26, 36255), (33, 36321),

Gene: BodEinwohner17\_50 Start: 36375, Stop: 36572, Start Num: 15

Candidate Starts for BodEinwohner17\_50:

(Start: 15 @36375 has 124 MA's), (19, 36426), (20, 36438), (26, 36471), (33, 36537),

Gene: Boomer\_52 Start: 37608, Stop: 37805, Start Num: 15

Candidate Starts for Boomer\_52:

(Start: 15 @37608 has 124 MA's), (19, 37659), (20, 37671), (26, 37704), (33, 37770),

Gene: Bubbles123\_47 Start: 37055, Stop: 37252, Start Num: 15

Candidate Starts for Bubbles123\_47:

(Start: 15 @37055 has 124 MA's), (19, 37106), (20, 37118), (26, 37151), (33, 37217),

Gene: Burwell21\_48 Start: 36717, Stop: 36914, Start Num: 15

Candidate Starts for Burwell21\_48:

(Start: 15 @36717 has 124 MA's), (19, 36768), (20, 36780), (26, 36813), (33, 36879),

Gene: BuzzLyseyear\_55 Start: 37985, Stop: 38182, Start Num: 15

Candidate Starts for BuzzLyseyear\_55:

(Start: 15 @37985 has 124 MA's), (19, 38036), (20, 38048), (26, 38081), (33, 38147),

Gene: Cabrinians\_51 Start: 36795, Stop: 36992, Start Num: 15

Candidate Starts for Cabrinians\_51:

(Start: 15 @36795 has 124 MA's), (19, 36846), (20, 36858), (26, 36891), (33, 36957),

Gene: Che8\_52 Start: 37604, Stop: 37801, Start Num: 15

Candidate Starts for Che8\_52:

(Start: 15 @37604 has 124 MA's), (19, 37655), (20, 37667), (26, 37700), (33, 37766),

Gene: Chevrolet\_56 Start: 37780, Stop: 37977, Start Num: 15

Candidate Starts for Chevrolet\_56:

(Start: 15 @37780 has 124 MA's), (19, 37831), (20, 37843), (26, 37876), (33, 37942),

Gene: Chickadee\_51 Start: 41286, Stop: 41495, Start Num: 13

Candidate Starts for Chickadee\_51:

(Start: 13 @41286 has 31 MA's), (17, 41319), (23, 41376), (25, 41391), (27, 41403), (30, 41430),

Gene: ChickenDinner\_47 Start: 35729, Stop: 35926, Start Num: 15  
Candidate Starts for ChickenDinner\_47:  
(9, 35645), (Start: 11 @35702 has 4 MA's), (Start: 15 @35729 has 124 MA's), (33, 35891),

Gene: Chuckly\_41 Start: 31551, Stop: 31357, Start Num: 13  
Candidate Starts for Chuckly\_41:  
(Start: 13 @31551 has 31 MA's), (23, 31464), (31, 31404), (33, 31383),

Gene: Cornie\_43 Start: 34495, Stop: 34692, Start Num: 15  
Candidate Starts for Cornie\_43:  
(Start: 15 @34495 has 124 MA's), (19, 34546), (20, 34558), (26, 34591), (33, 34657),

Gene: Crumble\_45 Start: 32731, Stop: 32928, Start Num: 15  
Candidate Starts for Crumble\_45:  
(Start: 15 @32731 has 124 MA's), (19, 32782), (20, 32794), (26, 32827), (33, 32893),

Gene: DaddyRickover\_50 Start: 37291, Stop: 37488, Start Num: 15  
Candidate Starts for DaddyRickover\_50:  
(Start: 15 @37291 has 124 MA's), (19, 37342), (20, 37354), (26, 37387), (33, 37453),

Gene: Daenerys\_39 Start: 31164, Stop: 30970, Start Num: 13  
Candidate Starts for Daenerys\_39:  
(Start: 13 @31164 has 31 MA's), (23, 31077), (31, 31017), (33, 30996),

Gene: Daenerys\_45 Start: 35102, Stop: 35299, Start Num: 15  
Candidate Starts for Daenerys\_45:  
(Start: 15 @35102 has 124 MA's), (19, 35153), (20, 35165), (26, 35198), (33, 35264),

Gene: Dante\_49 Start: 36138, Stop: 36335, Start Num: 15  
Candidate Starts for Dante\_49:  
(Start: 15 @36138 has 124 MA's), (19, 36189), (20, 36201), (26, 36234), (33, 36300),

Gene: Dante\_40 Start: 31281, Stop: 31087, Start Num: 13  
Candidate Starts for Dante\_40:  
(Start: 13 @31281 has 31 MA's), (23, 31194), (31, 31134), (33, 31113),

Gene: Deb65\_46 Start: 35071, Stop: 35268, Start Num: 15  
Candidate Starts for Deb65\_46:  
(Start: 15 @35071 has 124 MA's), (19, 35122), (20, 35134), (26, 35167), (33, 35233),

Gene: Dexdert\_52 Start: 41572, Stop: 41766, Start Num: 13  
Candidate Starts for Dexdert\_52:  
(Start: 13 @41572 has 31 MA's), (19, 41638), (22, 41653), (27, 41689), (28, 41692),

Gene: DirtMcgirt\_50 Start: 35836, Stop: 36033, Start Num: 15  
Candidate Starts for DirtMcgirt\_50:  
(Start: 15 @35836 has 124 MA's), (19, 35887), (20, 35899), (26, 35932), (33, 35998),

Gene: DocMcStuffins\_47 Start: 35702, Stop: 35926, Start Num: 11  
Candidate Starts for DocMcStuffins\_47:  
(9, 35645), (Start: 11 @35702 has 4 MA's), (Start: 15 @35729 has 124 MA's), (33, 35891),

Gene: Doomphist\_49 Start: 37373, Stop: 37570, Start Num: 15

Candidate Starts for Doomphist\_49:

(Start: 15 @37373 has 124 MA's), (19, 37424), (20, 37436), (26, 37469), (33, 37535),

Gene: Dorothy\_47 Start: 36172, Stop: 36369, Start Num: 15

Candidate Starts for Dorothy\_47:

(Start: 15 @36172 has 124 MA's), (19, 36223), (20, 36235), (26, 36268), (33, 36334),

Gene: DotProduct\_46 Start: 35833, Stop: 36027, Start Num: 15

Candidate Starts for DotProduct\_46:

(Start: 15 @35833 has 124 MA's), (19, 35881), (20, 35893), (26, 35926), (33, 35992),

Gene: Doug\_52 Start: 37491, Stop: 37688, Start Num: 15

Candidate Starts for Doug\_52:

(Start: 15 @37491 has 124 MA's), (19, 37542), (20, 37554), (26, 37587), (33, 37653),

Gene: Drago\_49 Start: 35839, Stop: 36036, Start Num: 15

Candidate Starts for Drago\_49:

(Start: 15 @35839 has 124 MA's), (19, 35890), (20, 35902), (26, 35935), (33, 36001),

Gene: EdmundFerry\_50 Start: 41346, Stop: 41549, Start Num: 12

Candidate Starts for EdmundFerry\_50:

(Start: 12 @41346 has 4 MA's), (Start: 13 @41355 has 31 MA's), (17, 41385), (24, 41445), (25, 41457),

Gene: Eish\_50 Start: 36718, Stop: 36915, Start Num: 15

Candidate Starts for Eish\_50:

(Start: 15 @36718 has 124 MA's), (19, 36769), (20, 36781), (26, 36814), (33, 36880),

Gene: Eish\_41 Start: 31869, Stop: 31675, Start Num: 13

Candidate Starts for Eish\_41:

(Start: 13 @31869 has 31 MA's), (23, 31782), (31, 31722), (33, 31701),

Gene: Emmaloid\_51 Start: 37563, Stop: 37760, Start Num: 15

Candidate Starts for Emmaloid\_51:

(Start: 15 @37563 has 124 MA's), (19, 37614), (20, 37626), (26, 37659), (33, 37725),

Gene: Empress\_49 Start: 36516, Stop: 36713, Start Num: 15

Candidate Starts for Empress\_49:

(Start: 15 @36516 has 124 MA's), (19, 36567), (20, 36579), (26, 36612), (33, 36678),

Gene: Empress\_41 Start: 32577, Stop: 32383, Start Num: 13

Candidate Starts for Empress\_41:

(Start: 13 @32577 has 31 MA's), (23, 32490), (31, 32430), (33, 32409),

Gene: Eradicator\_43 Start: 35055, Stop: 35252, Start Num: 15

Candidate Starts for Eradicator\_43:

(Start: 15 @35055 has 124 MA's), (19, 35106), (20, 35118), (26, 35151), (33, 35217),

Gene: Fastidio\_51 Start: 35796, Stop: 35993, Start Num: 15

Candidate Starts for Fastidio\_51:

(6, 35706), (Start: 15 @35796 has 124 MA's), (19, 35847), (20, 35859), (26, 35892), (33, 35958),

Gene: Florinda\_62 Start: 38976, Stop: 39173, Start Num: 15

Candidate Starts for Florinda\_62:  
(2, 38802), (Start: 15 @38976 has 124 MA's), (19, 39027), (20, 39039), (26, 39072), (33, 39138),

Gene: Frankie\_53 Start: 37777, Stop: 37974, Start Num: 15  
Candidate Starts for Frankie\_53:  
(Start: 11 @37750 has 4 MA's), (Start: 15 @37777 has 124 MA's), (33, 37939),

Gene: FreddyB\_50 Start: 35643, Stop: 35840, Start Num: 15  
Candidate Starts for FreddyB\_50:  
(Start: 15 @35643 has 124 MA's), (19, 35694), (20, 35706), (26, 35739), (33, 35805),

Gene: GTE6\_51 Start: 41823, Stop: 42017, Start Num: 13  
Candidate Starts for GTE6\_51:  
(Start: 12 @41814 has 4 MA's), (Start: 13 @41823 has 31 MA's), (17, 41853), (24, 41913), (25, 41925),

Gene: GUmbie\_40 Start: 31183, Stop: 30989, Start Num: 13  
Candidate Starts for GUmbie\_40:  
(Start: 13 @31183 has 31 MA's), (23, 31096), (31, 31036), (33, 31015),

Gene: GUmbie\_47 Start: 36062, Stop: 36259, Start Num: 15  
Candidate Starts for GUmbie\_47:  
(Start: 15 @36062 has 124 MA's), (19, 36113), (20, 36125), (26, 36158), (33, 36224),

Gene: Gaea\_53 Start: 43767, Stop: 43964, Start Num: 13  
Candidate Starts for Gaea\_53:  
(1, 43374), (10, 43716), (Start: 13 @43767 has 31 MA's), (22, 43848), (28, 43887), (34, 43950),

Gene: Gandolph\_51 Start: 36305, Stop: 36502, Start Num: 15  
Candidate Starts for Gandolph\_51:  
(Start: 15 @36305 has 124 MA's), (19, 36356), (20, 36368), (26, 36401), (33, 36467),

Gene: GigiOuiOui\_47 Start: 35975, Stop: 36172, Start Num: 15  
Candidate Starts for GigiOuiOui\_47:  
(Start: 15 @35975 has 124 MA's), (19, 36026), (20, 36038), (26, 36071), (33, 36137),

Gene: Girr\_50 Start: 37034, Stop: 37231, Start Num: 15  
Candidate Starts for Girr\_50:  
(Start: 15 @37034 has 124 MA's), (19, 37085), (20, 37097), (26, 37130), (33, 37196),

Gene: Grimmer\_61 Start: 38549, Stop: 38746, Start Num: 15  
Candidate Starts for Grimmer\_61:  
(Start: 15 @38549 has 124 MA's), (19, 38600), (20, 38612), (26, 38645), (33, 38711),

Gene: Hamulus\_51 Start: 37417, Stop: 37614, Start Num: 15  
Candidate Starts for Hamulus\_51:  
(Start: 15 @37417 has 124 MA's), (19, 37468), (20, 37480), (26, 37513), (33, 37579),

Gene: Harley\_52 Start: 36770, Stop: 36967, Start Num: 15  
Candidate Starts for Harley\_52:  
(Start: 15 @36770 has 124 MA's), (19, 36821), (20, 36833), (26, 36866), (33, 36932),

Gene: IbOuu\_43 Start: 31738, Stop: 31544, Start Num: 13  
Candidate Starts for IbOuu\_43:

(Start: 13 @31738 has 31 MA's), (23, 31651), (31, 31591), (33, 31570),

Gene: IbOuu\_52 Start: 37352, Stop: 37549, Start Num: 15

Candidate Starts for IbOuu\_52:

(Start: 15 @37352 has 124 MA's), (19, 37403), (20, 37415), (26, 37448), (33, 37514),

Gene: Ibhubesi\_49 Start: 35857, Stop: 36054, Start Num: 15

Candidate Starts for Ibhubesi\_49:

(Start: 15 @35857 has 124 MA's), (19, 35908), (20, 35920), (26, 35953), (33, 36019),

Gene: Inventum\_39 Start: 31844, Stop: 31650, Start Num: 13

Candidate Starts for Inventum\_39:

(Start: 13 @31844 has 31 MA's), (23, 31757), (31, 31697), (33, 31676),

Gene: Jabbawokkie\_63 Start: 37588, Stop: 37785, Start Num: 15

Candidate Starts for Jabbawokkie\_63:

(Start: 15 @37588 has 124 MA's), (18, 37633), (19, 37639), (21, 37654), (22, 37657), (26, 37684), (29, 37711), (33, 37744),

Gene: JalFarm20\_59 Start: 39334, Stop: 39531, Start Num: 15

Candidate Starts for JalFarm20\_59:

(Start: 15 @39334 has 124 MA's), (19, 39385), (20, 39397), (26, 39430), (33, 39496),

Gene: Jacob\_50 Start: 36763, Stop: 36960, Start Num: 15

Candidate Starts for Jacob\_50:

(Start: 15 @36763 has 124 MA's), (19, 36814), (20, 36826), (26, 36859), (33, 36925),

Gene: Jinglebell\_55 Start: 38662, Stop: 38859, Start Num: 15

Candidate Starts for Jinglebell\_55:

(Start: 15 @38662 has 124 MA's), (19, 38713), (20, 38725), (26, 38758), (33, 38824),

Gene: Job42\_43 Start: 33160, Stop: 32966, Start Num: 13

Candidate Starts for Job42\_43:

(Start: 13 @33160 has 31 MA's), (23, 33073), (31, 33013), (33, 32992),

Gene: Job42\_50 Start: 38024, Stop: 38221, Start Num: 15

Candidate Starts for Job42\_50:

(Start: 15 @38024 has 124 MA's), (19, 38075), (20, 38087), (26, 38120), (33, 38186),

Gene: JoeyJr\_46 Start: 35270, Stop: 35467, Start Num: 15

Candidate Starts for JoeyJr\_46:

(Start: 15 @35270 has 124 MA's), (19, 35321), (20, 35333), (26, 35366), (33, 35432),

Gene: JoeyJr\_40 Start: 31332, Stop: 31138, Start Num: 13

Candidate Starts for JoeyJr\_40:

(Start: 13 @31332 has 31 MA's), (23, 31245), (31, 31185), (33, 31164),

Gene: Karhdo\_49 Start: 36857, Stop: 37054, Start Num: 15

Candidate Starts for Karhdo\_49:

(Start: 15 @36857 has 124 MA's), (19, 36908), (20, 36920), (26, 36953), (33, 37019),

Gene: Kersh\_53 Start: 38807, Stop: 39004, Start Num: 15

Candidate Starts for Kersh\_53:

(Start: 15 @38807 has 124 MA's), (19, 38858), (20, 38870), (26, 38903), (33, 38969),

Gene: Kimberlium\_53 Start: 38669, Stop: 38866, Start Num: 15

Candidate Starts for Kimberlium\_53:

(Start: 15 @38669 has 124 MA's), (19, 38720), (20, 38732), (26, 38765), (33, 38831),

Gene: Kimona\_32 Start: 25489, Stop: 25322, Start Num: 16

Candidate Starts for Kimona\_32:

(Start: 16 @25489 has 1 MA's), (22, 25438), (33, 25348),

Gene: KingMidas\_50 Start: 36932, Stop: 37129, Start Num: 15

Candidate Starts for KingMidas\_50:

(Start: 15 @36932 has 124 MA's), (19, 36983), (20, 36995), (26, 37028), (33, 37094),

Gene: Koella\_44 Start: 32693, Stop: 32890, Start Num: 15

Candidate Starts for Koella\_44:

(Start: 15 @32693 has 124 MA's), (19, 32744), (20, 32756), (26, 32789), (33, 32855),

Gene: Krakatau\_48 Start: 36504, Stop: 36701, Start Num: 15

Candidate Starts for Krakatau\_48:

(Start: 15 @36504 has 124 MA's), (19, 36555), (20, 36567), (26, 36600), (33, 36666),

Gene: Kwekel\_51 Start: 41247, Stop: 41456, Start Num: 13

Candidate Starts for Kwekel\_51:

(Start: 13 @41247 has 31 MA's), (17, 41280), (23, 41337), (25, 41352), (27, 41364), (30, 41391),

Gene: Latretium\_53 Start: 37646, Stop: 37843, Start Num: 15

Candidate Starts for Latretium\_53:

(Start: 15 @37646 has 124 MA's), (19, 37697), (26, 37742), (33, 37808),

Gene: Leozinho\_42 Start: 31585, Stop: 31391, Start Num: 13

Candidate Starts for Leozinho\_42:

(Start: 13 @31585 has 31 MA's), (23, 31498), (31, 31438), (33, 31417),

Gene: Leozinho\_51 Start: 36607, Stop: 36804, Start Num: 15

Candidate Starts for Leozinho\_51:

(Start: 15 @36607 has 124 MA's), (19, 36658), (20, 36670), (26, 36703), (33, 36769),

Gene: Leperchaun\_43 Start: 34500, Stop: 34697, Start Num: 15

Candidate Starts for Leperchaun\_43:

(Start: 15 @34500 has 124 MA's), (19, 34551), (20, 34563), (26, 34596), (33, 34662),

Gene: LilMoolah\_49 Start: 36424, Stop: 36621, Start Num: 15

Candidate Starts for LilMoolah\_49:

(Start: 15 @36424 has 124 MA's), (19, 36475), (20, 36487), (26, 36520), (33, 36586),

Gene: LittleShirley\_50 Start: 37455, Stop: 37652, Start Num: 15

Candidate Starts for LittleShirley\_50:

(Start: 15 @37455 has 124 MA's), (19, 37506), (20, 37518), (26, 37551), (33, 37617),

Gene: Lizziana\_56 Start: 37766, Stop: 37963, Start Num: 15

Candidate Starts for Lizziana\_56:

(Start: 15 @37766 has 124 MA's), (19, 37817), (20, 37829), (26, 37862), (33, 37928),

Gene: Llama\_55 Start: 38660, Stop: 38857, Start Num: 15

Candidate Starts for Llama\_55:

(Start: 15 @38660 has 124 MA's), (19, 38711), (20, 38723), (26, 38756), (33, 38822),

Gene: Llij\_47 Start: 35993, Stop: 36190, Start Num: 15

Candidate Starts for Llij\_47:

(Start: 15 @35993 has 124 MA's), (19, 36044), (20, 36056), (26, 36089), (33, 36155),

Gene: MadMen\_44 Start: 35477, Stop: 35674, Start Num: 15

Candidate Starts for MadMen\_44:

(Start: 15 @35477 has 124 MA's), (19, 35528), (20, 35540), (26, 35573), (33, 35639),

Gene: Madiba\_46 Start: 34766, Stop: 34963, Start Num: 15

Candidate Starts for Madiba\_46:

(Start: 15 @34766 has 124 MA's), (19, 34817), (20, 34829), (26, 34862), (33, 34928),

Gene: Mahavrat\_48 Start: 35954, Stop: 36151, Start Num: 15

Candidate Starts for Mahavrat\_48:

(Start: 15 @35954 has 124 MA's), (19, 36005), (20, 36017), (26, 36050), (33, 36116),

Gene: Mantra\_47 Start: 35945, Stop: 36142, Start Num: 15

Candidate Starts for Mantra\_47:

(Start: 15 @35945 has 124 MA's), (19, 35996), (20, 36008), (26, 36041), (33, 36107),

Gene: Maravista\_52 Start: 38428, Stop: 38625, Start Num: 15

Candidate Starts for Maravista\_52:

(Start: 15 @38428 has 124 MA's), (19, 38479), (20, 38491), (26, 38524), (33, 38590),

Gene: Marker\_50 Start: 36326, Stop: 36523, Start Num: 15

Candidate Starts for Marker\_50:

(Start: 15 @36326 has 124 MA's), (19, 36377), (20, 36389), (26, 36422), (33, 36488),

Gene: Martik\_50 Start: 36719, Stop: 36916, Start Num: 15

Candidate Starts for Martik\_50:

(Start: 15 @36719 has 124 MA's), (19, 36770), (20, 36782), (26, 36815), (33, 36881),

Gene: Misha28\_46 Start: 34969, Stop: 35193, Start Num: 11

Candidate Starts for Misha28\_46:

(9, 34912), (Start: 11 @34969 has 4 MA's), (Start: 15 @34996 has 124 MA's), (33, 35158),

Gene: MisterCuddles\_50 Start: 37034, Stop: 37231, Start Num: 15

Candidate Starts for MisterCuddles\_50:

(Start: 15 @37034 has 124 MA's), (19, 37085), (20, 37097), (26, 37130), (33, 37196),

Gene: Modragons\_54 Start: 38506, Stop: 38703, Start Num: 15

Candidate Starts for Modragons\_54:

(Start: 15 @38506 has 124 MA's), (19, 38557), (20, 38569), (26, 38602), (33, 38668),

Gene: MulchExplorer\_57 Start: 38668, Stop: 38865, Start Num: 15

Candidate Starts for MulchExplorer\_57:

(Start: 15 @38668 has 124 MA's), (19, 38719), (20, 38731), (26, 38764), (33, 38830),

Gene: MulchSalad\_47 Start: 33570, Stop: 33767, Start Num: 15  
Candidate Starts for MulchSalad\_47:  
(4, 33471), (5, 33474), (Start: 11 @33543 has 4 MA's), (Start: 15 @33570 has 124 MA's), (33, 33732),

Gene: Natkenzie\_55 Start: 45502, Stop: 45702, Start Num: 14  
Candidate Starts for Natkenzie\_55:  
(Start: 14 @45502 has 4 MA's), (23, 45580), (30, 45634),

Gene: Nimbo\_45 Start: 35073, Stop: 35270, Start Num: 15  
Candidate Starts for Nimbo\_45:  
(Start: 15 @35073 has 124 MA's), (19, 35124), (20, 35136), (26, 35169), (33, 35235),

Gene: Nitzel\_45 Start: 35193, Stop: 35390, Start Num: 15  
Candidate Starts for Nitzel\_45:  
(Start: 15 @35193 has 124 MA's), (19, 35244), (20, 35256), (26, 35289), (33, 35355),

Gene: Nivrat\_47 Start: 36297, Stop: 36494, Start Num: 15  
Candidate Starts for Nivrat\_47:  
(Start: 15 @36297 has 124 MA's), (19, 36348), (20, 36360), (26, 36393), (33, 36459),

Gene: NormanBulbieJr\_50 Start: 36706, Stop: 36903, Start Num: 15  
Candidate Starts for NormanBulbieJr\_50:  
(Start: 15 @36706 has 124 MA's), (19, 36757), (20, 36769), (26, 36802), (33, 36868),

Gene: Ochi17\_53 Start: 38113, Stop: 38310, Start Num: 15  
Candidate Starts for Ochi17\_53:  
(Start: 15 @38113 has 124 MA's), (19, 38164), (20, 38176), (26, 38209), (33, 38275),

Gene: OfUltron\_55 Start: 38662, Stop: 38859, Start Num: 15  
Candidate Starts for OfUltron\_55:  
(Start: 15 @38662 has 124 MA's), (19, 38713), (20, 38725), (26, 38758), (33, 38824),

Gene: Ogopogo\_43 Start: 31095, Stop: 30901, Start Num: 13  
Candidate Starts for Ogopogo\_43:  
(Start: 13 @31095 has 31 MA's), (23, 31008), (31, 30948), (33, 30927),

Gene: Oksu\_54 Start: 38558, Stop: 38755, Start Num: 15  
Candidate Starts for Oksu\_54:  
(Start: 15 @38558 has 124 MA's), (19, 38609), (20, 38621), (26, 38654), (33, 38720),

Gene: OlympiaSaint\_50 Start: 36632, Stop: 36829, Start Num: 15  
Candidate Starts for OlympiaSaint\_50:  
(Start: 15 @36632 has 124 MA's), (19, 36683), (20, 36695), (26, 36728), (33, 36794),

Gene: OlympiaSaint\_40 Start: 31613, Stop: 31419, Start Num: 13  
Candidate Starts for OlympiaSaint\_40:  
(Start: 13 @31613 has 31 MA's), (23, 31526), (31, 31466), (33, 31445),

Gene: OwlsT2W\_49 Start: 36635, Stop: 36832, Start Num: 15  
Candidate Starts for OwlsT2W\_49:  
(Start: 15 @36635 has 124 MA's), (19, 36686), (20, 36698), (26, 36731), (33, 36797),

Gene: OwlsT2W\_40 Start: 31588, Stop: 31394, Start Num: 13

Candidate Starts for OwlsT2W\_40:

(Start: 13 @31588 has 31 MA's), (23, 31501), (31, 31441), (33, 31420),

Gene: PHappiness\_46 Start: 35046, Stop: 35243, Start Num: 15

Candidate Starts for PHappiness\_46:

(Start: 15 @35046 has 124 MA's), (19, 35097), (20, 35109), (26, 35142), (33, 35208),

Gene: PMC\_44 Start: 35844, Stop: 36041, Start Num: 15

Candidate Starts for PMC\_44:

(Start: 15 @35844 has 124 MA's), (19, 35895), (20, 35907), (26, 35940), (33, 36006),

Gene: Pacc40\_45 Start: 35120, Stop: 35317, Start Num: 15

Candidate Starts for Pacc40\_45:

(Start: 15 @35120 has 124 MA's), (19, 35171), (20, 35183), (26, 35216), (33, 35282),

Gene: Peridot\_53 Start: 36751, Stop: 36945, Start Num: 15

Candidate Starts for Peridot\_53:

(Start: 15 @36751 has 124 MA's), (19, 36799), (20, 36811), (26, 36844), (33, 36910),

Gene: Phatniss\_49 Start: 37088, Stop: 37285, Start Num: 15

Candidate Starts for Phatniss\_49:

(Start: 15 @37088 has 124 MA's), (19, 37139), (20, 37151), (26, 37184), (33, 37250),

Gene: PhlipPhlop\_49 Start: 37650, Stop: 37847, Start Num: 15

Candidate Starts for PhlipPhlop\_49:

(Start: 15 @37650 has 124 MA's), (19, 37701), (20, 37713), (26, 37746), (33, 37812),

Gene: Piper2020\_48 Start: 35712, Stop: 35909, Start Num: 15

Candidate Starts for Piper2020\_48:

(9, 35628), (Start: 11 @35685 has 4 MA's), (Start: 15 @35712 has 124 MA's), (33, 35874),

Gene: Plumbus\_52 Start: 36835, Stop: 37032, Start Num: 15

Candidate Starts for Plumbus\_52:

(Start: 15 @36835 has 124 MA's), (19, 36886), (20, 36898), (26, 36931), (33, 36997),

Gene: Poenanya\_49 Start: 37373, Stop: 37570, Start Num: 15

Candidate Starts for Poenanya\_49:

(Start: 15 @37373 has 124 MA's), (19, 37424), (20, 37436), (26, 37469), (33, 37535),

Gene: Polka14\_41 Start: 31785, Stop: 31591, Start Num: 13

Candidate Starts for Polka14\_41:

(Start: 13 @31785 has 31 MA's), (23, 31698), (31, 31638), (33, 31617),

Gene: Polka14\_47 Start: 35723, Stop: 35920, Start Num: 15

Candidate Starts for Polka14\_47:

(Start: 15 @35723 has 124 MA's), (19, 35774), (20, 35786), (26, 35819), (33, 35885),

Gene: Pollywog\_41 Start: 31707, Stop: 31513, Start Num: 13

Candidate Starts for Pollywog\_41:

(Start: 13 @31707 has 31 MA's), (23, 31620), (31, 31560), (33, 31539),

Gene: Pollywog\_48 Start: 36551, Stop: 36748, Start Num: 15

Candidate Starts for Pollywog\_48:

(Start: 15 @36551 has 124 MA's), (20, 36614), (26, 36647), (33, 36713),

Gene: PopTart\_45 Start: 35859, Stop: 36056, Start Num: 15

Candidate Starts for PopTart\_45:

(Start: 15 @35859 has 124 MA's), (19, 35910), (20, 35922), (26, 35955), (33, 36021),

Gene: Priscilla\_50 Start: 36805, Stop: 37002, Start Num: 15

Candidate Starts for Priscilla\_50:

(Start: 15 @36805 has 124 MA's), (19, 36856), (20, 36868), (26, 36901), (33, 36967),

Gene: QuickMath\_52 Start: 38892, Stop: 39089, Start Num: 15

Candidate Starts for QuickMath\_52:

(Start: 15 @38892 has 124 MA's), (19, 38943), (20, 38955), (26, 38988), (33, 39054),

Gene: Quico\_59 Start: 38796, Stop: 38993, Start Num: 15

Candidate Starts for Quico\_59:

(2, 38622), (Start: 15 @38796 has 124 MA's), (19, 38847), (20, 38859), (26, 38892), (33, 38958),

Gene: Radiance\_50 Start: 36960, Stop: 37157, Start Num: 15

Candidate Starts for Radiance\_50:

(Start: 15 @36960 has 124 MA's), (19, 37011), (20, 37023), (26, 37056), (33, 37122),

Gene: Radiance\_41 Start: 31335, Stop: 31141, Start Num: 13

Candidate Starts for Radiance\_41:

(Start: 13 @31335 has 31 MA's), (23, 31248), (31, 31188), (33, 31167),

Gene: Ramsey\_51 Start: 37587, Stop: 37784, Start Num: 15

Candidate Starts for Ramsey\_51:

(Start: 15 @37587 has 124 MA's), (19, 37638), (20, 37650), (26, 37683), (33, 37749),

Gene: RedBird\_47 Start: 36184, Stop: 36381, Start Num: 15

Candidate Starts for RedBird\_47:

(Start: 15 @36184 has 124 MA's), (19, 36235), (20, 36247), (26, 36280), (33, 36346),

Gene: RitaG\_46 Start: 35391, Stop: 35588, Start Num: 15

Candidate Starts for RitaG\_46:

(Start: 15 @35391 has 124 MA's), (19, 35442), (20, 35454), (26, 35487), (33, 35553),

Gene: RoadKill\_49 Start: 40844, Stop: 41047, Start Num: 12

Candidate Starts for RoadKill\_49:

(Start: 12 @40844 has 4 MA's), (Start: 13 @40853 has 31 MA's), (17, 40883), (24, 40943), (25, 40955),

Gene: Rockne\_48 Start: 35844, Stop: 36041, Start Num: 15

Candidate Starts for Rockne\_48:

(Start: 15 @35844 has 124 MA's), (19, 35895), (20, 35907), (26, 35940), (33, 36006),

Gene: RockyHorror\_50 Start: 36248, Stop: 36445, Start Num: 15

Candidate Starts for RockyHorror\_50:

(Start: 15 @36248 has 124 MA's), (20, 36311), (26, 36344), (33, 36410),

Gene: Royals2015\_42 Start: 31621, Stop: 31427, Start Num: 13

Candidate Starts for Royals2015\_42:

(Start: 13 @31621 has 31 MA's), (23, 31534), (31, 31474), (33, 31453),

Gene: Royals2015\_52 Start: 36653, Stop: 36850, Start Num: 15

Candidate Starts for Royals2015\_52:

(Start: 15 @36653 has 124 MA's), (19, 36704), (20, 36716), (26, 36749), (33, 36815),

Gene: Ruby\_48 Start: 37035, Stop: 37232, Start Num: 15

Candidate Starts for Ruby\_48:

(Start: 15 @37035 has 124 MA's), (19, 37086), (20, 37098), (26, 37131), (33, 37197),

Gene: Sabbb\_56 Start: 38083, Stop: 38280, Start Num: 15

Candidate Starts for Sabbb\_56:

(Start: 15 @38083 has 124 MA's), (19, 38134), (20, 38146), (26, 38179), (33, 38245),

Gene: Sampson\_55 Start: 45447, Stop: 45647, Start Num: 14

Candidate Starts for Sampson\_55:

(Start: 14 @45447 has 4 MA's), (23, 45525), (30, 45579),

Gene: Sandalphon\_44 Start: 32523, Stop: 32329, Start Num: 13

Candidate Starts for Sandalphon\_44:

(Start: 13 @32523 has 31 MA's), (23, 32436), (31, 32376), (33, 32355),

Gene: Sassafras\_41 Start: 31844, Stop: 31650, Start Num: 13

Candidate Starts for Sassafras\_41:

(Start: 13 @31844 has 31 MA's), (23, 31757), (31, 31697), (33, 31676),

Gene: SassyB\_45 Start: 35859, Stop: 36056, Start Num: 15

Candidate Starts for SassyB\_45:

(Start: 15 @35859 has 124 MA's), (19, 35910), (20, 35922), (26, 35955), (33, 36021),

Gene: Scioto\_56 Start: 45503, Stop: 45703, Start Num: 14

Candidate Starts for Scioto\_56:

(Start: 14 @45503 has 4 MA's), (23, 45581), (30, 45635),

Gene: Scottish\_49 Start: 36403, Stop: 36600, Start Num: 15

Candidate Starts for Scottish\_49:

(Start: 15 @36403 has 124 MA's), (19, 36454), (20, 36466), (26, 36499), (33, 36565),

Gene: Scottish\_41 Start: 32465, Stop: 32271, Start Num: 13

Candidate Starts for Scottish\_41:

(Start: 13 @32465 has 31 MA's), (23, 32378), (31, 32318), (33, 32297),

Gene: Seabastian\_55 Start: 38663, Stop: 38860, Start Num: 15

Candidate Starts for Seabastian\_55:

(Start: 15 @38663 has 124 MA's), (19, 38714), (20, 38726), (26, 38759), (33, 38825),

Gene: Seagreen\_51 Start: 36587, Stop: 36784, Start Num: 15

Candidate Starts for Seagreen\_51:

(Start: 15 @36587 has 124 MA's), (19, 36638), (20, 36650), (26, 36683), (33, 36749),

Gene: Sejanus\_84 Start: 57638, Stop: 57847, Start Num: 12

Candidate Starts for Sejanus\_84:

(3, 57539), (8, 57578), (Start: 12 @57638 has 4 MA's), (32, 57815),

Gene: ShiLan\_49 Start: 36752, Stop: 36949, Start Num: 15

Candidate Starts for ShiLan\_49:

(Start: 15 @36752 has 124 MA's), (19, 36803), (20, 36815), (26, 36848), (33, 36914),

Gene: ShowerHandel\_52 Start: 36719, Stop: 36916, Start Num: 15

Candidate Starts for ShowerHandel\_52:

(Start: 15 @36719 has 124 MA's), (19, 36770), (20, 36782), (26, 36815), (33, 36881),

Gene: SiSi\_49 Start: 36409, Stop: 36606, Start Num: 15

Candidate Starts for SiSi\_49:

(Start: 15 @36409 has 124 MA's), (19, 36460), (20, 36472), (26, 36505), (33, 36571),

Gene: Slim\_51 Start: 37554, Stop: 37751, Start Num: 15

Candidate Starts for Slim\_51:

(Start: 15 @37554 has 124 MA's), (19, 37605), (20, 37617), (26, 37650), (33, 37716),

Gene: Sparkdehlily\_54 Start: 37405, Stop: 37602, Start Num: 15

Candidate Starts for Sparkdehlily\_54:

(Start: 15 @37405 has 124 MA's), (19, 37456), (20, 37468), (26, 37501), (33, 37567),

Gene: Spikelee\_56 Start: 38143, Stop: 38340, Start Num: 15

Candidate Starts for Spikelee\_56:

(Start: 15 @38143 has 124 MA's), (19, 38194), (20, 38206), (26, 38239), (33, 38305),

Gene: Spoonbill\_40 Start: 31424, Stop: 31230, Start Num: 13

Candidate Starts for Spoonbill\_40:

(Start: 13 @31424 has 31 MA's), (23, 31337), (31, 31277), (33, 31256),

Gene: Spoonbill\_48 Start: 35345, Stop: 35542, Start Num: 15

Candidate Starts for Spoonbill\_48:

(Start: 15 @35345 has 124 MA's), (19, 35396), (20, 35408), (26, 35441), (33, 35507),

Gene: Stap\_49 Start: 36146, Stop: 36343, Start Num: 15

Candidate Starts for Stap\_49:

(Start: 15 @36146 has 124 MA's), (19, 36197), (20, 36209), (26, 36242), (33, 36308),

Gene: Starcevich\_50 Start: 37039, Stop: 37236, Start Num: 15

Candidate Starts for Starcevich\_50:

(Start: 15 @37039 has 124 MA's), (19, 37090), (20, 37102), (26, 37135), (33, 37201),

Gene: TDanisky\_54 Start: 37405, Stop: 37602, Start Num: 15

Candidate Starts for TDanisky\_54:

(Start: 15 @37405 has 124 MA's), (19, 37456), (20, 37468), (26, 37501), (33, 37567),

Gene: Tardus\_57 Start: 45204, Stop: 45404, Start Num: 14

Candidate Starts for Tardus\_57:

(Start: 14 @45204 has 4 MA's), (19, 45258), (23, 45282), (30, 45336),

Gene: Tchotchke\_52 Start: 36304, Stop: 36501, Start Num: 15

Candidate Starts for Tchotchke\_52:

(7, 36214), (Start: 15 @36304 has 124 MA's), (19, 36355), (20, 36367), (26, 36400), (33, 36466),

Gene: Tchotchke\_42 Start: 31300, Stop: 31106, Start Num: 13

Candidate Starts for Tchotchke\_42:

(Start: 13 @31300 has 31 MA's), (23, 31213), (31, 31153), (33, 31132),

Gene: Tiamoceli\_52 Start: 42144, Stop: 42338, Start Num: 13

Candidate Starts for Tiamoceli\_52:

(Start: 12 @42135 has 4 MA's), (Start: 13 @42144 has 31 MA's), (17, 42174), (24, 42234), (25, 42246),

Gene: TootsiePop\_46 Start: 34969, Stop: 35193, Start Num: 11

Candidate Starts for TootsiePop\_46:

(9, 34912), (Start: 11 @34969 has 4 MA's), (Start: 15 @34996 has 124 MA's), (33, 35158),

Gene: Tootsieroll\_44 Start: 31573, Stop: 31379, Start Num: 13

Candidate Starts for Tootsieroll\_44:

(Start: 13 @31573 has 31 MA's), (23, 31486), (31, 31426), (33, 31405),

Gene: Tootsieroll\_53 Start: 36596, Stop: 36793, Start Num: 15

Candidate Starts for Tootsieroll\_53:

(Start: 15 @36596 has 124 MA's), (19, 36647), (20, 36659), (26, 36692), (33, 36758),

Gene: Totinger\_50 Start: 36181, Stop: 36378, Start Num: 15

Candidate Starts for Totinger\_50:

(Start: 15 @36181 has 124 MA's), (19, 36232), (20, 36244), (26, 36277), (33, 36343),

Gene: Tweety\_49 Start: 36917, Stop: 37114, Start Num: 15

Candidate Starts for Tweety\_49:

(Start: 15 @36917 has 124 MA's), (19, 36968), (20, 36980), (26, 37013), (33, 37079),

Gene: Twonlo\_49 Start: 40765, Stop: 40968, Start Num: 12

Candidate Starts for Twonlo\_49:

(Start: 12 @40765 has 4 MA's), (Start: 13 @40774 has 31 MA's), (17, 40804), (24, 40864), (25, 40876),

Gene: UncleRicky\_50 Start: 37336, Stop: 37533, Start Num: 15

Candidate Starts for UncleRicky\_50:

(Start: 15 @37336 has 124 MA's), (19, 37387), (20, 37399), (26, 37432), (33, 37498),

Gene: Veteran\_40 Start: 31183, Stop: 30989, Start Num: 13

Candidate Starts for Veteran\_40:

(Start: 13 @31183 has 31 MA's), (23, 31096), (31, 31036), (33, 31015),

Gene: Veteran\_47 Start: 36053, Stop: 36250, Start Num: 15

Candidate Starts for Veteran\_47:

(Start: 15 @36053 has 124 MA's), (19, 36104), (20, 36116), (26, 36149), (33, 36215),

Gene: ViaConlectus\_55 Start: 44156, Stop: 44356, Start Num: 14

Candidate Starts for ViaConlectus\_55:

(Start: 14 @44156 has 4 MA's), (19, 44210), (23, 44234), (30, 44288),

Gene: Yorick\_49 Start: 37093, Stop: 37290, Start Num: 15

Candidate Starts for Yorick\_49:

(Start: 15 @37093 has 124 MA's), (19, 37144), (20, 37156), (26, 37189), (33, 37255),

Gene: Zapner\_62 Start: 37589, Stop: 37786, Start Num: 15

Candidate Starts for Zapner\_62:

(Start: 15 @37589 has 124 MA's), (18, 37634), (19, 37640), (21, 37655), (22, 37658), (26, 37685), (29, 37712), (33, 37745),

Gene: Zerg\_49 Start: 36357, Stop: 36554, Start Num: 15

Candidate Starts for Zerg\_49:

(Start: 15 @36357 has 124 MA's), (20, 36420), (26, 36453), (33, 36519),