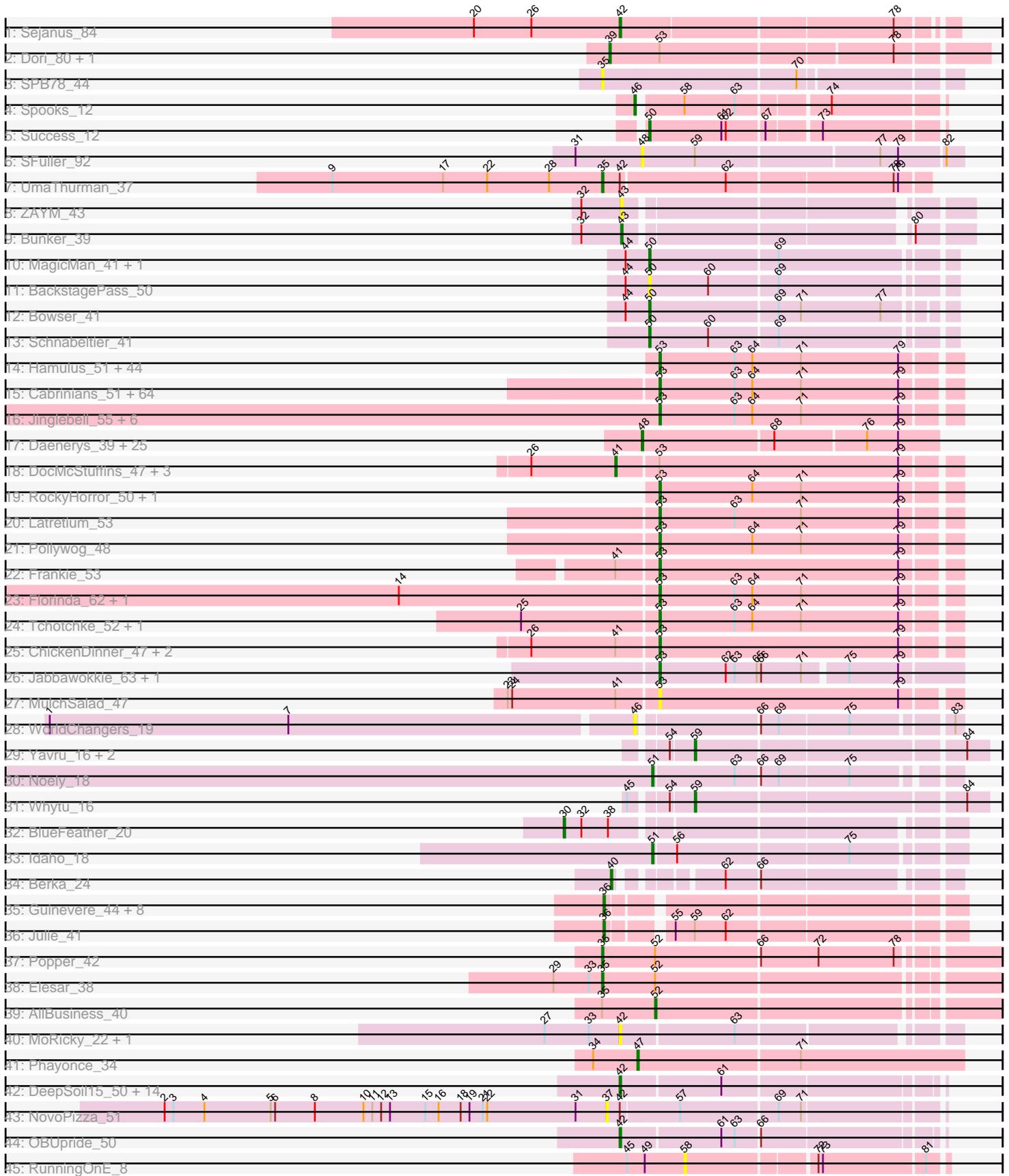


# Pham 283477



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 283477 Report

This analysis was run 02/23/26 on database version 636.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 283477 has 220 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Sejanus\_84
- Track 2 : Dori\_80, Mao1\_82
- Track 3 : SPB78\_44
- Track 4 : Spooks\_12
- Track 5 : Success\_12
- Track 6 : SFuller\_92
- Track 7 : UmaThurman\_37
- Track 8 : ZAYM\_43
- Track 9 : Bunker\_39
- Track 10 : MagicMan\_41, Eyes\_39
- Track 11 : BackstagePass\_50
- Track 12 : Bowser\_41
- Track 13 : Schnabeltier\_41
- Track 14 : Hamulus\_51, Deb65\_46, OlympiaSaint\_50, BlueCrab\_47, Dorothy\_47, Gandolph\_51, Empress\_49, Doomphist\_49, Job42\_50, Poenanya\_49, Harley\_52, Cornie\_43, Blexus\_48, Leperchaun\_43, OwlsT2W\_49, Kersh\_53, Veteran\_47, Daenerys\_45, Stap\_49, GUmbie\_47, Spoonbill\_48, PMC\_44, PHappiness\_46, Mantra\_47, Radiance\_50, Boomer\_52, Krakatau\_48, JoeyJr\_46, DaddyRickover\_50, RitaG\_46, PhlipPhlop\_49, Oksu\_54, Scottish\_49, IbOuu\_52, Spikelee\_56, Polka14\_47, Nimbo\_45, Pacc40\_45, Ramsey\_51, SiSi\_49, BodEinwohner17\_50, RedBird\_47, KingMidas\_50, BuzzLyseyear\_55, Rockne\_48
- Track 15 : Cabrinians\_51, TDanisky\_54, Yorick\_49, Jarcob\_50, Seagreen\_51, Eradicator\_43, Dante\_49, Avani\_58, Llij\_47, Girr\_50, LilMoolah\_49, Lizziana\_56, Leozinho\_51, Kimberlium\_53, Karhdo\_49, Che8\_52, Drago\_49, Marker\_50, QuickMath\_52, Emmaloid\_51, Starceovich\_50, Koella\_44, PopTart\_45, ShowerHandel\_52, Chevrolet\_56, Nitzel\_45, Aubs\_49, Maravista\_52, DotProduct\_46, Martik\_50, Ibhubesi\_49, MadMen\_44, Tweety\_49, Ruby\_48, Royals2015\_52, Sabb\_56, Mahavrat\_48, Peridot\_53, Totinger\_50, NormanBulbieJr\_50, Bubbles123\_47, ArcusAngelus\_53, ShiLan\_49, Nivrat\_47, JalFarm20\_59, GigiOuiOui\_47, MisterCuddles\_50, Slim\_51, FreddyB\_50, UncleRicky\_50, Madiba\_46, Tootsieroll\_53, Priscilla\_50, Eish\_50, Crumble\_45, MulchExplorer\_57, Doug\_52, Sparkdehlily\_54, Grimmer\_61, DirtMcgirt\_50, Burwell21\_48, LittleShirley\_50, Phatniss\_49, Plumbus\_52, SassyB\_45

- Track 16 : Jinglebell\_55, Ochi17\_53, AlpineSix\_55, OfUltron\_55, Llama\_55, Modragons\_54, Seabastian\_55
- Track 17 : Daenerys\_39, Inventum\_39, Leozinho\_42, Dante\_40, Pollywog\_41, Spoonbill\_40, Chuckly\_41, Job42\_43, OgoPogo\_43, Blexus\_40, Scottish\_41, Sassafras\_41, OwlsT2W\_40, Veteran\_40, JoeyJr\_40, GUmbie\_40, Empress\_41, Royals2015\_42, Tchotchke\_42, Tootsieroll\_44, IbOuu\_43, Radiance\_41, OlympiaSaint\_40, Sandalphon\_44, Eish\_41, Polka14\_41
- Track 18 : DocMcStuffins\_47, Aloeri\_48, Misha28\_46, TootsiePop\_46
- Track 19 : RockyHorror\_50, Zerg\_49
- Track 20 : Latretium\_53
- Track 21 : Pollywog\_48
- Track 22 : Frankie\_53
- Track 23 : Florinda\_62, Quico\_59
- Track 24 : Tchotchke\_52, Fastidio\_51
- Track 25 : ChickenDinner\_47, Awesomesauce\_48, Piper2020\_48
- Track 26 : Jabbawokkie\_63, Zapner\_62
- Track 27 : MulchSalad\_47
- Track 28 : WorldChangers\_19
- Track 29 : Yavru\_16, Piku\_16, Utopia\_16
- Track 30 : Noely\_18
- Track 31 : Whytu\_16
- Track 32 : BlueFeather\_20
- Track 33 : Idaho\_18
- Track 34 : Berka\_24
- Track 35 : Guinevere\_44, Zarbodnamra\_42, Ichiang\_41, Obliviate\_39, Zaheer\_44, QuinnAvery\_44, Petra\_40, Halloweekend\_39, Schism\_46
- Track 36 : Julie\_41
- Track 37 : Popper\_42
- Track 38 : Elesar\_38
- Track 39 : AllBusiness\_40
- Track 40 : MoRicky\_22, Smilerella\_21
- Track 41 : Phayonce\_34
- Track 42 : DeepSoil15\_50, Webster2\_50, Luke\_50, LilHazelNut\_50, Evanesce\_49, Hadrien\_50, Gancho\_49, Ubuntu\_50, BloominB\_50, Forge\_48, Ein37\_50, Amymech\_50, Amochick\_50, Daegal\_52, Kinbote\_50
- Track 43 : NovoPizza\_51
- Track 44 : OBUpride\_50
- Track 45 : RunningOnE\_8

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

The start number called the most often in the published annotations is 53, it was called in 124 of the 200 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, Gandalph\_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:

- Aleri\_48, DocMcStuffins\_47, Dori\_80, Mao1\_82, Misha28\_46, TootsiePop\_46,

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

- AllBusiness\_40, Amochick\_50, Amymech\_50, BackstagePass\_50, Berka\_24, Blexus\_40, BloominB\_50, BlueFeather\_20, Bowser\_41, Bunker\_39, Chuckly\_41, Daegal\_52, Daenerys\_39, Dante\_40, DeepSoil15\_50, Ein37\_50, Eish\_41, Elesar\_38, Empress\_41, Evanesce\_49, Eyes\_39, Forge\_48, GUmbie\_40, Gancho\_49, Guinevere\_44, Hadrien\_50, Halloween\_39, IbOuu\_43, Ichiang\_41, Idaho\_18, Inventum\_39, Job42\_43, JoeyJr\_40, Julie\_41, Kinbote\_50, Leozinho\_42, LilHazelNut\_50, Luke\_50, MagicMan\_41, MoRicky\_22, Noely\_18, NovoPizza\_51, OBUpride\_50, Obliviate\_39, Ogopogo\_43, OlympiaSaint\_40, OwlsT2W\_40, Petra\_40, Phayonce\_34, Piku\_16, Polka14\_41, Pollywog\_41, Popper\_42, QuinnAvery\_44, Radiance\_41, Royals2015\_42, RunningOnE\_8, SFuller\_92, SPB78\_44, Sandalphon\_44, Sassafras\_41, Schism\_46, Schnabeltier\_41, Scottish\_41, Sejanus\_84, Smilerella\_21, Spooks\_12, Spoonbill\_40, Success\_12, Tchotchke\_42, Tootsieroll\_44, Ubuntu\_50, UmaThurman\_37, Utopia\_16, Veteran\_40, Webster2\_50, Whytu\_16, WorldChangers\_19, Yavru\_16, ZAYM\_43, Zaheer\_44, Zarbodnamra\_42,

### Summary by start number:

Start 30:

- Found in 1 of 220 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 200
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueFeather\_20 (FE),

Start 35:

- Found in 5 of 220 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 3 of 200
- Called 80.0% of time when present

- Phage (with cluster) where this start called: Elesar\_38 (FF), Popper\_42 (FF), SPB78\_44 (BA), UmaThurman\_37 (CV),

#### Start 36:

- Found in 10 of 220 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 10 of 200
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Guinevere\_44 (FF), Halloweekend\_39 (FF), Ichiang\_41 (FF), Julie\_41 (FF), Obliviate\_39 (CV), Petra\_40 (CV), QuinnAvery\_44 (FF), Schism\_46 (FF), Zaheer\_44 (FF), Zarbodnamra\_42 (CV),

#### Start 37:

- Found in 1 of 220 ( 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: NovoPizza\_51 (Q),

#### Start 39:

- Found in 2 of 220 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 200
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dori\_80 (AD), Mao1\_82 (AD),

#### Start 40:

- Found in 1 of 220 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 200
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Berka\_24 (FE),

#### Start 41:

- Found in 9 of 220 ( 4.1% ) of genes in pham
- Manual Annotations of this start: 4 of 200
- 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 42:

- Found in 21 of 220 ( 9.5% ) of genes in pham
- Manual Annotations of this start: 16 of 200
- Called 90.5% of time when present
- Phage (with cluster) where this start called: Amochick\_50 (Q), Amymech\_50 (Q), BloominB\_50 (Q), Daegal\_52 (Q), DeepSoil15\_50 (Q), Ein37\_50 (Q), Evanesce\_49 (Q), Forge\_48 (Q), Gancho\_49 (Q), Hadrien\_50 (Q), Kinbote\_50 (Q), LilHazelNut\_50 (Q), Luke\_50 (Q), MoRicky\_22 (GH), OBUpride\_50 (Q), Sejanus\_84 (AD), Smilerella\_21 (GH), Ubuntu\_50 (Q), Webster2\_50 (Q),

#### Start 43:

- Found in 2 of 220 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 200
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bunker\_39 (DB), ZAYM\_43 (DB),

#### Start 46:

- Found in 2 of 220 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 1 of 200
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Spooks\_12 (BT), WorldChangers\_19 (FE),

Start 47:

- Found in 1 of 220 ( 0.5% ) of genes in pham
- Manual Annotations of this start: 1 of 200
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phayonce\_34 (P5),

Start 48:

- Found in 27 of 220 ( 12.3% ) of genes in pham
- Manual Annotations of this start: 24 of 200
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blexus\_40 (F1), Chuckly\_41 (F1), Daenerys\_39 (F1), Dante\_40 (F1), Eish\_41 (F1), Empress\_41 (F1), GUmber\_40 (F1), IbOuu\_43 (F1), Inventum\_39 (F1), Job42\_43 (F1), JoeyJr\_40 (F1), Leozinho\_42 (F1), OgoPogo\_43 (F1), OlympiaSaint\_40 (F1), OwlsT2W\_40 (F1), Polka14\_41 (F1), Pollywog\_41 (F1), Radiance\_41 (F1), Royals2015\_42 (F1), SFuller\_92 (CF), Sandalphon\_44 (F1), Sassafras\_41 (F1), Scottish\_41 (F1), Spoonbill\_40 (F1), Tchochke\_42 (F1), Tootsieroll\_44 (F1), Veteran\_40 (F1),

Start 50:

- Found in 6 of 220 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 5 of 200
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BackstagePass\_50 (DB), Bowser\_41 (DB), Eyes\_39 (DB), MagicMan\_41 (DB), Schnabeltier\_41 (DB), Success\_12 (BT),

Start 51:

- Found in 2 of 220 ( 0.9% ) of genes in pham
- Manual Annotations of this start: 2 of 200
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Idaho\_18 (FE), Noely\_18 (FE),

Start 52:

- Found in 3 of 220 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 1 of 200
- Called 33.3% of time when present
- Phage (with cluster) where this start called: AllBusiness\_40 (FF),

Start 53:

- Found in 138 of 220 ( 62.7% ) of genes in pham
- Manual Annotations of this start: 124 of 200
- Called 95.7% 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), GUmbie\_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), Jarcob\_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), Tchochke\_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 58:

- Found in 2 of 220 ( 0.9% ) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: RunningOnE\_8 (UNK),

Start 59:

- Found in 6 of 220 ( 2.7% ) of genes in pham
- Manual Annotations of this start: 4 of 200
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Piku\_16 (FE), Utopia\_16 (FE), Whytu\_16 (FE), Yavru\_16 (FE),

### Summary by clusters:

There are 16 clusters represented in this pham: F1, F2, UNK, AD, P5, F7, DB, CF, BT, Q, FE, FF, BA, GH, CV, F5,

Info for manual annotations of cluster AD:

- Start number 39 was manually annotated 2 times for cluster AD.
- Start number 42 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster BT:

- Start number 46 was manually annotated 1 time for cluster BT.
- Start number 50 was manually annotated 1 time for cluster BT.

Info for manual annotations of cluster CV:

- Start number 35 was manually annotated 1 time for cluster CV.
- Start number 36 was manually annotated 3 times for cluster CV.

Info for manual annotations of cluster DB:

- Start number 43 was manually annotated 1 time for cluster DB.
- Start number 50 was manually annotated 4 times for cluster DB.

Info for manual annotations of cluster F1:

- Start number 41 was manually annotated 4 times for cluster F1.
- Start number 48 was manually annotated 24 times for cluster F1.
- Start number 53 was manually annotated 120 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 53 was manually annotated 3 times for cluster F2.

Info for manual annotations of cluster F5:

- Start number 53 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster FE:

- Start number 30 was manually annotated 1 time for cluster FE.
- Start number 40 was manually annotated 1 time for cluster FE.
- Start number 51 was manually annotated 2 times for cluster FE.
- Start number 59 was manually annotated 4 times for cluster FE.

Info for manual annotations of cluster FF:

- Start number 35 was manually annotated 2 times for cluster FF.
- Start number 36 was manually annotated 7 times for cluster FF.
- Start number 52 was manually annotated 1 time for cluster FF.

Info for manual annotations of cluster P5:

- Start number 47 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster Q:

- Start number 42 was manually annotated 15 times for cluster Q.

**Gene Information:**

Gene: AllBusiness\_40 Start: 31222, Stop: 31440, Start Num: 52

Candidate Starts for AllBusiness\_40:

(Start: 35 @31186 has 3 MA's), (Start: 52 @31222 has 1 MA's),

Gene: Aloeri\_48 Start: 35702, Stop: 35926, Start Num: 41

Candidate Starts for Aloeri\_48:

(26, 35645), (Start: 41 @35702 has 4 MA's), (Start: 53 @35729 has 124 MA's), (79, 35891),

Gene: AlpineSix\_55 Start: 38663, Stop: 38860, Start Num: 53  
Candidate Starts for AlpineSix\_55:  
(Start: 53 @38663 has 124 MA's), (63, 38714), (64, 38726), (71, 38759), (79, 38825),

Gene: Amochick\_50 Start: 36955, Stop: 37152, Start Num: 42  
Candidate Starts for Amochick\_50:  
(Start: 42 @36955 has 16 MA's), (61, 37018),

Gene: Amymech\_50 Start: 36949, Stop: 37146, Start Num: 42  
Candidate Starts for Amymech\_50:  
(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: ArcusAngelus\_53 Start: 37779, Stop: 37976, Start Num: 53  
Candidate Starts for ArcusAngelus\_53:  
(Start: 53 @37779 has 124 MA's), (63, 37830), (64, 37842), (71, 37875), (79, 37941),

Gene: Aubs\_49 Start: 36346, Stop: 36543, Start Num: 53  
Candidate Starts for Aubs\_49:  
(Start: 53 @36346 has 124 MA's), (63, 36397), (64, 36409), (71, 36442), (79, 36508),

Gene: Avani\_58 Start: 36654, Stop: 36851, Start Num: 53  
Candidate Starts for Avani\_58:  
(Start: 53 @36654 has 124 MA's), (63, 36705), (64, 36717), (71, 36750), (79, 36816),

Gene: Awesomesauce\_48 Start: 34991, Stop: 35188, Start Num: 53  
Candidate Starts for Awesomesauce\_48:  
(26, 34907), (Start: 41 @34964 has 4 MA's), (Start: 53 @34991 has 124 MA's), (79, 35153),

Gene: BackstagePass\_50 Start: 34306, Stop: 34112, Start Num: 50  
Candidate Starts for BackstagePass\_50:  
(44, 34321), (Start: 50 @34306 has 5 MA's), (60, 34267), (69, 34222),

Gene: Berka\_24 Start: 13339, Stop: 13533, Start Num: 40  
Candidate Starts for Berka\_24:  
(Start: 40 @13339 has 1 MA's), (62, 13393), (66, 13414),

Gene: Blexus\_48 Start: 36433, Stop: 36630, Start Num: 53  
Candidate Starts for Blexus\_48:  
(Start: 53 @36433 has 124 MA's), (63, 36484), (64, 36496), (71, 36529), (79, 36595),

Gene: Blexus\_40 Start: 31585, Stop: 31391, Start Num: 48  
Candidate Starts for Blexus\_40:  
(Start: 48 @31585 has 24 MA's), (68, 31498), (76, 31438), (79, 31417),

Gene: BloominB\_50 Start: 36949, Stop: 37146, Start Num: 42  
Candidate Starts for BloominB\_50:  
(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: BlueCrab\_47 Start: 36159, Stop: 36356, Start Num: 53  
Candidate Starts for BlueCrab\_47:  
(Start: 53 @36159 has 124 MA's), (63, 36210), (64, 36222), (71, 36255), (79, 36321),

Gene: BlueFeather\_20 Start: 14165, Stop: 14407, Start Num: 30

Candidate Starts for BlueFeather\_20:  
(Start: 30 @14165 has 1 MA's), (32, 14177), (38, 14195),

Gene: BodEinwohner17\_50 Start: 36375, Stop: 36572, Start Num: 53  
Candidate Starts for BodEinwohner17\_50:  
(Start: 53 @36375 has 124 MA's), (63, 36426), (64, 36438), (71, 36471), (79, 36537),

Gene: Boomer\_52 Start: 37608, Stop: 37805, Start Num: 53  
Candidate Starts for Boomer\_52:  
(Start: 53 @37608 has 124 MA's), (63, 37659), (64, 37671), (71, 37704), (79, 37770),

Gene: Bowser\_41 Start: 32656, Stop: 32847, Start Num: 50  
Candidate Starts for Bowser\_41:  
(44, 32641), (Start: 50 @32656 has 5 MA's), (69, 32740), (71, 32755), (77, 32809),

Gene: Bubbles123\_47 Start: 37055, Stop: 37252, Start Num: 53  
Candidate Starts for Bubbles123\_47:  
(Start: 53 @37055 has 124 MA's), (63, 37106), (64, 37118), (71, 37151), (79, 37217),

Gene: Bunker\_39 Start: 31881, Stop: 32090, Start Num: 43  
Candidate Starts for Bunker\_39:  
(32, 31854), (Start: 43 @31881 has 1 MA's), (80, 32055),

Gene: Burwell21\_48 Start: 36717, Stop: 36914, Start Num: 53  
Candidate Starts for Burwell21\_48:  
(Start: 53 @36717 has 124 MA's), (63, 36768), (64, 36780), (71, 36813), (79, 36879),

Gene: BuzzLyseyear\_55 Start: 37985, Stop: 38182, Start Num: 53  
Candidate Starts for BuzzLyseyear\_55:  
(Start: 53 @37985 has 124 MA's), (63, 38036), (64, 38048), (71, 38081), (79, 38147),

Gene: Cabrinians\_51 Start: 36795, Stop: 36992, Start Num: 53  
Candidate Starts for Cabrinians\_51:  
(Start: 53 @36795 has 124 MA's), (63, 36846), (64, 36858), (71, 36891), (79, 36957),

Gene: Che8\_52 Start: 37604, Stop: 37801, Start Num: 53  
Candidate Starts for Che8\_52:  
(Start: 53 @37604 has 124 MA's), (63, 37655), (64, 37667), (71, 37700), (79, 37766),

Gene: Chevrolet\_56 Start: 37780, Stop: 37977, Start Num: 53  
Candidate Starts for Chevrolet\_56:  
(Start: 53 @37780 has 124 MA's), (63, 37831), (64, 37843), (71, 37876), (79, 37942),

Gene: ChickenDinner\_47 Start: 35729, Stop: 35926, Start Num: 53  
Candidate Starts for ChickenDinner\_47:  
(26, 35645), (Start: 41 @35702 has 4 MA's), (Start: 53 @35729 has 124 MA's), (79, 35891),

Gene: Chuckly\_41 Start: 31551, Stop: 31357, Start Num: 48  
Candidate Starts for Chuckly\_41:  
(Start: 48 @31551 has 24 MA's), (68, 31464), (76, 31404), (79, 31383),

Gene: Cornie\_43 Start: 34495, Stop: 34692, Start Num: 53  
Candidate Starts for Cornie\_43:

(Start: 53 @34495 has 124 MA's), (63, 34546), (64, 34558), (71, 34591), (79, 34657),

Gene: Crumble\_45 Start: 32731, Stop: 32928, Start Num: 53

Candidate Starts for Crumble\_45:

(Start: 53 @32731 has 124 MA's), (63, 32782), (64, 32794), (71, 32827), (79, 32893),

Gene: DaddyRickover\_50 Start: 37291, Stop: 37488, Start Num: 53

Candidate Starts for DaddyRickover\_50:

(Start: 53 @37291 has 124 MA's), (63, 37342), (64, 37354), (71, 37387), (79, 37453),

Gene: Daegal\_52 Start: 37533, Stop: 37730, Start Num: 42

Candidate Starts for Daegal\_52:

(Start: 42 @37533 has 16 MA's), (61, 37596),

Gene: Daenerys\_39 Start: 31164, Stop: 30970, Start Num: 48

Candidate Starts for Daenerys\_39:

(Start: 48 @31164 has 24 MA's), (68, 31077), (76, 31017), (79, 30996),

Gene: Daenerys\_45 Start: 35102, Stop: 35299, Start Num: 53

Candidate Starts for Daenerys\_45:

(Start: 53 @35102 has 124 MA's), (63, 35153), (64, 35165), (71, 35198), (79, 35264),

Gene: Dante\_49 Start: 36138, Stop: 36335, Start Num: 53

Candidate Starts for Dante\_49:

(Start: 53 @36138 has 124 MA's), (63, 36189), (64, 36201), (71, 36234), (79, 36300),

Gene: Dante\_40 Start: 31281, Stop: 31087, Start Num: 48

Candidate Starts for Dante\_40:

(Start: 48 @31281 has 24 MA's), (68, 31194), (76, 31134), (79, 31113),

Gene: Deb65\_46 Start: 35071, Stop: 35268, Start Num: 53

Candidate Starts for Deb65\_46:

(Start: 53 @35071 has 124 MA's), (63, 35122), (64, 35134), (71, 35167), (79, 35233),

Gene: DeepSoil15\_50 Start: 36949, Stop: 37146, Start Num: 42

Candidate Starts for DeepSoil15\_50:

(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: DirtMcgirt\_50 Start: 35836, Stop: 36033, Start Num: 53

Candidate Starts for DirtMcgirt\_50:

(Start: 53 @35836 has 124 MA's), (63, 35887), (64, 35899), (71, 35932), (79, 35998),

Gene: DocMcStuffins\_47 Start: 35702, Stop: 35926, Start Num: 41

Candidate Starts for DocMcStuffins\_47:

(26, 35645), (Start: 41 @35702 has 4 MA's), (Start: 53 @35729 has 124 MA's), (79, 35891),

Gene: Doomphist\_49 Start: 37373, Stop: 37570, Start Num: 53

Candidate Starts for Doomphist\_49:

(Start: 53 @37373 has 124 MA's), (63, 37424), (64, 37436), (71, 37469), (79, 37535),

Gene: Dori\_80 Start: 57490, Stop: 57729, Start Num: 39

Candidate Starts for Dori\_80:

(Start: 39 @57490 has 2 MA's), (Start: 53 @57523 has 124 MA's), (78, 57673),

Gene: Dorothy\_47 Start: 36172, Stop: 36369, Start Num: 53

Candidate Starts for Dorothy\_47:

(Start: 53 @36172 has 124 MA's), (63, 36223), (64, 36235), (71, 36268), (79, 36334),

Gene: DotProduct\_46 Start: 35833, Stop: 36027, Start Num: 53

Candidate Starts for DotProduct\_46:

(Start: 53 @35833 has 124 MA's), (63, 35881), (64, 35893), (71, 35926), (79, 35992),

Gene: Doug\_52 Start: 37491, Stop: 37688, Start Num: 53

Candidate Starts for Doug\_52:

(Start: 53 @37491 has 124 MA's), (63, 37542), (64, 37554), (71, 37587), (79, 37653),

Gene: Drago\_49 Start: 35839, Stop: 36036, Start Num: 53

Candidate Starts for Drago\_49:

(Start: 53 @35839 has 124 MA's), (63, 35890), (64, 35902), (71, 35935), (79, 36001),

Gene: Ein37\_50 Start: 36949, Stop: 37146, Start Num: 42

Candidate Starts for Ein37\_50:

(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: Eish\_50 Start: 36718, Stop: 36915, Start Num: 53

Candidate Starts for Eish\_50:

(Start: 53 @36718 has 124 MA's), (63, 36769), (64, 36781), (71, 36814), (79, 36880),

Gene: Eish\_41 Start: 31869, Stop: 31675, Start Num: 48

Candidate Starts for Eish\_41:

(Start: 48 @31869 has 24 MA's), (68, 31782), (76, 31722), (79, 31701),

Gene: Elesar\_38 Start: 30965, Stop: 31219, Start Num: 35

Candidate Starts for Elesar\_38:

(29, 30932), (33, 30956), (Start: 35 @30965 has 3 MA's), (Start: 52 @31001 has 1 MA's),

Gene: Emmaloid\_51 Start: 37563, Stop: 37760, Start Num: 53

Candidate Starts for Emmaloid\_51:

(Start: 53 @37563 has 124 MA's), (63, 37614), (64, 37626), (71, 37659), (79, 37725),

Gene: Empress\_49 Start: 36516, Stop: 36713, Start Num: 53

Candidate Starts for Empress\_49:

(Start: 53 @36516 has 124 MA's), (63, 36567), (64, 36579), (71, 36612), (79, 36678),

Gene: Empress\_41 Start: 32577, Stop: 32383, Start Num: 48

Candidate Starts for Empress\_41:

(Start: 48 @32577 has 24 MA's), (68, 32490), (76, 32430), (79, 32409),

Gene: Eradicator\_43 Start: 35055, Stop: 35252, Start Num: 53

Candidate Starts for Eradicator\_43:

(Start: 53 @35055 has 124 MA's), (63, 35106), (64, 35118), (71, 35151), (79, 35217),

Gene: Evanesce\_49 Start: 36949, Stop: 37146, Start Num: 42

Candidate Starts for Evanesce\_49:

(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: Eyes\_39 Start: 32432, Stop: 32626, Start Num: 50

Candidate Starts for Eyes\_39:

(44, 32417), (Start: 50 @32432 has 5 MA's), (69, 32516),

Gene: Fastidio\_51 Start: 35796, Stop: 35993, Start Num: 53

Candidate Starts for Fastidio\_51:

(25, 35706), (Start: 53 @35796 has 124 MA's), (63, 35847), (64, 35859), (71, 35892), (79, 35958),

Gene: Florinda\_62 Start: 38976, Stop: 39173, Start Num: 53

Candidate Starts for Florinda\_62:

(14, 38802), (Start: 53 @38976 has 124 MA's), (63, 39027), (64, 39039), (71, 39072), (79, 39138),

Gene: Forge\_48 Start: 36949, Stop: 37146, Start Num: 42

Candidate Starts for Forge\_48:

(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: Frankie\_53 Start: 37777, Stop: 37974, Start Num: 53

Candidate Starts for Frankie\_53:

(Start: 41 @37750 has 4 MA's), (Start: 53 @37777 has 124 MA's), (79, 37939),

Gene: FreddyB\_50 Start: 35643, Stop: 35840, Start Num: 53

Candidate Starts for FreddyB\_50:

(Start: 53 @35643 has 124 MA's), (63, 35694), (64, 35706), (71, 35739), (79, 35805),

Gene: GUmbie\_40 Start: 31183, Stop: 30989, Start Num: 48

Candidate Starts for GUmbie\_40:

(Start: 48 @31183 has 24 MA's), (68, 31096), (76, 31036), (79, 31015),

Gene: GUmbie\_47 Start: 36062, Stop: 36259, Start Num: 53

Candidate Starts for GUmbie\_47:

(Start: 53 @36062 has 124 MA's), (63, 36113), (64, 36125), (71, 36158), (79, 36224),

Gene: Gancho\_49 Start: 36672, Stop: 36869, Start Num: 42

Candidate Starts for Gancho\_49:

(Start: 42 @36672 has 16 MA's), (61, 36735),

Gene: Gandalph\_51 Start: 36305, Stop: 36502, Start Num: 53

Candidate Starts for Gandalph\_51:

(Start: 53 @36305 has 124 MA's), (63, 36356), (64, 36368), (71, 36401), (79, 36467),

Gene: GigiOuiOui\_47 Start: 35975, Stop: 36172, Start Num: 53

Candidate Starts for GigiOuiOui\_47:

(Start: 53 @35975 has 124 MA's), (63, 36026), (64, 36038), (71, 36071), (79, 36137),

Gene: Girr\_50 Start: 37034, Stop: 37231, Start Num: 53

Candidate Starts for Girr\_50:

(Start: 53 @37034 has 124 MA's), (63, 37085), (64, 37097), (71, 37130), (79, 37196),

Gene: Grimmer\_61 Start: 38549, Stop: 38746, Start Num: 53

Candidate Starts for Grimmer\_61:

(Start: 53 @38549 has 124 MA's), (63, 38600), (64, 38612), (71, 38645), (79, 38711),

Gene: Guinevere\_44 Start: 30166, Stop: 30381, Start Num: 36

Candidate Starts for Guinevere\_44:

(Start: 36 @30166 has 10 MA's),

Gene: Hadrien\_50 Start: 36949, Stop: 37146, Start Num: 42

Candidate Starts for Hadrien\_50:

(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: Halloweekend\_39 Start: 29574, Stop: 29789, Start Num: 36

Candidate Starts for Halloweekend\_39:

(Start: 36 @29574 has 10 MA's),

Gene: Hamulus\_51 Start: 37417, Stop: 37614, Start Num: 53

Candidate Starts for Hamulus\_51:

(Start: 53 @37417 has 124 MA's), (63, 37468), (64, 37480), (71, 37513), (79, 37579),

Gene: Harley\_52 Start: 36770, Stop: 36967, Start Num: 53

Candidate Starts for Harley\_52:

(Start: 53 @36770 has 124 MA's), (63, 36821), (64, 36833), (71, 36866), (79, 36932),

Gene: lbOuu\_43 Start: 31738, Stop: 31544, Start Num: 48

Candidate Starts for lbOuu\_43:

(Start: 48 @31738 has 24 MA's), (68, 31651), (76, 31591), (79, 31570),

Gene: lbOuu\_52 Start: 37352, Stop: 37549, Start Num: 53

Candidate Starts for lbOuu\_52:

(Start: 53 @37352 has 124 MA's), (63, 37403), (64, 37415), (71, 37448), (79, 37514),

Gene: lbhubesi\_49 Start: 35857, Stop: 36054, Start Num: 53

Candidate Starts for lbhubesi\_49:

(Start: 53 @35857 has 124 MA's), (63, 35908), (64, 35920), (71, 35953), (79, 36019),

Gene: Ichiang\_41 Start: 29593, Stop: 29808, Start Num: 36

Candidate Starts for Ichiang\_41:

(Start: 36 @29593 has 10 MA's),

Gene: Idaho\_18 Start: 13771, Stop: 13965, Start Num: 51

Candidate Starts for Idaho\_18:

(Start: 51 @13771 has 2 MA's), (56, 13786), (75, 13897),

Gene: Inventum\_39 Start: 31844, Stop: 31650, Start Num: 48

Candidate Starts for Inventum\_39:

(Start: 48 @31844 has 24 MA's), (68, 31757), (76, 31697), (79, 31676),

Gene: Jabbawokkie\_63 Start: 37588, Stop: 37785, Start Num: 53

Candidate Starts for Jabbawokkie\_63:

(Start: 53 @37588 has 124 MA's), (62, 37633), (63, 37639), (65, 37654), (66, 37657), (71, 37684), (75, 37711), (79, 37744),

Gene: JalFarm20\_59 Start: 39334, Stop: 39531, Start Num: 53

Candidate Starts for JalFarm20\_59:

(Start: 53 @39334 has 124 MA's), (63, 39385), (64, 39397), (71, 39430), (79, 39496),

Gene: Jarcob\_50 Start: 36763, Stop: 36960, Start Num: 53

Candidate Starts for Jarcob\_50:  
(Start: 53 @36763 has 124 MA's), (63, 36814), (64, 36826), (71, 36859), (79, 36925),

Gene: Jinglebell\_55 Start: 38662, Stop: 38859, Start Num: 53  
Candidate Starts for Jinglebell\_55:  
(Start: 53 @38662 has 124 MA's), (63, 38713), (64, 38725), (71, 38758), (79, 38824),

Gene: Job42\_50 Start: 38024, Stop: 38221, Start Num: 53  
Candidate Starts for Job42\_50:  
(Start: 53 @38024 has 124 MA's), (63, 38075), (64, 38087), (71, 38120), (79, 38186),

Gene: Job42\_43 Start: 33160, Stop: 32966, Start Num: 48  
Candidate Starts for Job42\_43:  
(Start: 48 @33160 has 24 MA's), (68, 33073), (76, 33013), (79, 32992),

Gene: JoeyJr\_40 Start: 31332, Stop: 31138, Start Num: 48  
Candidate Starts for JoeyJr\_40:  
(Start: 48 @31332 has 24 MA's), (68, 31245), (76, 31185), (79, 31164),

Gene: JoeyJr\_46 Start: 35270, Stop: 35467, Start Num: 53  
Candidate Starts for JoeyJr\_46:  
(Start: 53 @35270 has 124 MA's), (63, 35321), (64, 35333), (71, 35366), (79, 35432),

Gene: Julie\_41 Start: 30591, Stop: 30806, Start Num: 36  
Candidate Starts for Julie\_41:  
(Start: 36 @30591 has 10 MA's), (55, 30624), (Start: 59 @30636 has 4 MA's), (62, 30657),

Gene: Karhdo\_49 Start: 36857, Stop: 37054, Start Num: 53  
Candidate Starts for Karhdo\_49:  
(Start: 53 @36857 has 124 MA's), (63, 36908), (64, 36920), (71, 36953), (79, 37019),

Gene: Kersh\_53 Start: 38807, Stop: 39004, Start Num: 53  
Candidate Starts for Kersh\_53:  
(Start: 53 @38807 has 124 MA's), (63, 38858), (64, 38870), (71, 38903), (79, 38969),

Gene: Kimberlium\_53 Start: 38669, Stop: 38866, Start Num: 53  
Candidate Starts for Kimberlium\_53:  
(Start: 53 @38669 has 124 MA's), (63, 38720), (64, 38732), (71, 38765), (79, 38831),

Gene: Kinbote\_50 Start: 36949, Stop: 37146, Start Num: 42  
Candidate Starts for Kinbote\_50:  
(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: KingMidas\_50 Start: 36932, Stop: 37129, Start Num: 53  
Candidate Starts for KingMidas\_50:  
(Start: 53 @36932 has 124 MA's), (63, 36983), (64, 36995), (71, 37028), (79, 37094),

Gene: Koella\_44 Start: 32693, Stop: 32890, Start Num: 53  
Candidate Starts for Koella\_44:  
(Start: 53 @32693 has 124 MA's), (63, 32744), (64, 32756), (71, 32789), (79, 32855),

Gene: Krakatau\_48 Start: 36504, Stop: 36701, Start Num: 53  
Candidate Starts for Krakatau\_48:

(Start: 53 @36504 has 124 MA's), (63, 36555), (64, 36567), (71, 36600), (79, 36666),

Gene: Latretium\_53 Start: 37646, Stop: 37843, Start Num: 53

Candidate Starts for Latretium\_53:

(Start: 53 @37646 has 124 MA's), (63, 37697), (71, 37742), (79, 37808),

Gene: Leozinho\_42 Start: 31585, Stop: 31391, Start Num: 48

Candidate Starts for Leozinho\_42:

(Start: 48 @31585 has 24 MA's), (68, 31498), (76, 31438), (79, 31417),

Gene: Leozinho\_51 Start: 36607, Stop: 36804, Start Num: 53

Candidate Starts for Leozinho\_51:

(Start: 53 @36607 has 124 MA's), (63, 36658), (64, 36670), (71, 36703), (79, 36769),

Gene: Leperchaun\_43 Start: 34500, Stop: 34697, Start Num: 53

Candidate Starts for Leperchaun\_43:

(Start: 53 @34500 has 124 MA's), (63, 34551), (64, 34563), (71, 34596), (79, 34662),

Gene: LilHazelnut\_50 Start: 36949, Stop: 37146, Start Num: 42

Candidate Starts for LilHazelnut\_50:

(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: LilMoolah\_49 Start: 36424, Stop: 36621, Start Num: 53

Candidate Starts for LilMoolah\_49:

(Start: 53 @36424 has 124 MA's), (63, 36475), (64, 36487), (71, 36520), (79, 36586),

Gene: LittleShirley\_50 Start: 37455, Stop: 37652, Start Num: 53

Candidate Starts for LittleShirley\_50:

(Start: 53 @37455 has 124 MA's), (63, 37506), (64, 37518), (71, 37551), (79, 37617),

Gene: Lizziana\_56 Start: 37766, Stop: 37963, Start Num: 53

Candidate Starts for Lizziana\_56:

(Start: 53 @37766 has 124 MA's), (63, 37817), (64, 37829), (71, 37862), (79, 37928),

Gene: Llama\_55 Start: 38660, Stop: 38857, Start Num: 53

Candidate Starts for Llama\_55:

(Start: 53 @38660 has 124 MA's), (63, 38711), (64, 38723), (71, 38756), (79, 38822),

Gene: Llij\_47 Start: 35993, Stop: 36190, Start Num: 53

Candidate Starts for Llij\_47:

(Start: 53 @35993 has 124 MA's), (63, 36044), (64, 36056), (71, 36089), (79, 36155),

Gene: Luke\_50 Start: 36904, Stop: 37101, Start Num: 42

Candidate Starts for Luke\_50:

(Start: 42 @36904 has 16 MA's), (61, 36967),

Gene: MadMen\_44 Start: 35477, Stop: 35674, Start Num: 53

Candidate Starts for MadMen\_44:

(Start: 53 @35477 has 124 MA's), (63, 35528), (64, 35540), (71, 35573), (79, 35639),

Gene: Madiba\_46 Start: 34766, Stop: 34963, Start Num: 53

Candidate Starts for Madiba\_46:

(Start: 53 @34766 has 124 MA's), (63, 34817), (64, 34829), (71, 34862), (79, 34928),

Gene: MagicMan\_41 Start: 32979, Stop: 33173, Start Num: 50

Candidate Starts for MagicMan\_41:

(44, 32964), (Start: 50 @32979 has 5 MA's), (69, 33063),

Gene: Mahavrat\_48 Start: 35954, Stop: 36151, Start Num: 53

Candidate Starts for Mahavrat\_48:

(Start: 53 @35954 has 124 MA's), (63, 36005), (64, 36017), (71, 36050), (79, 36116),

Gene: Mantra\_47 Start: 35945, Stop: 36142, Start Num: 53

Candidate Starts for Mantra\_47:

(Start: 53 @35945 has 124 MA's), (63, 35996), (64, 36008), (71, 36041), (79, 36107),

Gene: Mao1\_82 Start: 56379, Stop: 56618, Start Num: 39

Candidate Starts for Mao1\_82:

(Start: 39 @56379 has 2 MA's), (Start: 53 @56412 has 124 MA's), (78, 56562),

Gene: Maravista\_52 Start: 38428, Stop: 38625, Start Num: 53

Candidate Starts for Maravista\_52:

(Start: 53 @38428 has 124 MA's), (63, 38479), (64, 38491), (71, 38524), (79, 38590),

Gene: Marker\_50 Start: 36326, Stop: 36523, Start Num: 53

Candidate Starts for Marker\_50:

(Start: 53 @36326 has 124 MA's), (63, 36377), (64, 36389), (71, 36422), (79, 36488),

Gene: Martik\_50 Start: 36719, Stop: 36916, Start Num: 53

Candidate Starts for Martik\_50:

(Start: 53 @36719 has 124 MA's), (63, 36770), (64, 36782), (71, 36815), (79, 36881),

Gene: Misha28\_46 Start: 34969, Stop: 35193, Start Num: 41

Candidate Starts for Misha28\_46:

(26, 34912), (Start: 41 @34969 has 4 MA's), (Start: 53 @34996 has 124 MA's), (79, 35158),

Gene: MisterCuddles\_50 Start: 37034, Stop: 37231, Start Num: 53

Candidate Starts for MisterCuddles\_50:

(Start: 53 @37034 has 124 MA's), (63, 37085), (64, 37097), (71, 37130), (79, 37196),

Gene: MoRicky\_22 Start: 14364, Stop: 14573, Start Num: 42

Candidate Starts for MoRicky\_22:

(27, 14313), (33, 14343), (Start: 42 @14364 has 16 MA's), (63, 14439),

Gene: Modragons\_54 Start: 38506, Stop: 38703, Start Num: 53

Candidate Starts for Modragons\_54:

(Start: 53 @38506 has 124 MA's), (63, 38557), (64, 38569), (71, 38602), (79, 38668),

Gene: MulchExplorer\_57 Start: 38668, Stop: 38865, Start Num: 53

Candidate Starts for MulchExplorer\_57:

(Start: 53 @38668 has 124 MA's), (63, 38719), (64, 38731), (71, 38764), (79, 38830),

Gene: MulchSalad\_47 Start: 33570, Stop: 33767, Start Num: 53

Candidate Starts for MulchSalad\_47:

(23, 33471), (24, 33474), (Start: 41 @33543 has 4 MA's), (Start: 53 @33570 has 124 MA's), (79, 33732),

Gene: Nimbo\_45 Start: 35073, Stop: 35270, Start Num: 53  
Candidate Starts for Nimbo\_45:  
(Start: 53 @35073 has 124 MA's), (63, 35124), (64, 35136), (71, 35169), (79, 35235),

Gene: Nitzel\_45 Start: 35193, Stop: 35390, Start Num: 53  
Candidate Starts for Nitzel\_45:  
(Start: 53 @35193 has 124 MA's), (63, 35244), (64, 35256), (71, 35289), (79, 35355),

Gene: Nivrat\_47 Start: 36297, Stop: 36494, Start Num: 53  
Candidate Starts for Nivrat\_47:  
(Start: 53 @36297 has 124 MA's), (63, 36348), (64, 36360), (71, 36393), (79, 36459),

Gene: Noely\_18 Start: 12900, Stop: 13088, Start Num: 51  
Candidate Starts for Noely\_18:  
(Start: 51 @12900 has 2 MA's), (63, 12954), (66, 12969), (69, 12981), (75, 13026),

Gene: NormanBulbieJr\_50 Start: 36706, Stop: 36903, Start Num: 53  
Candidate Starts for NormanBulbieJr\_50:  
(Start: 53 @36706 has 124 MA's), (63, 36757), (64, 36769), (71, 36802), (79, 36868),

Gene: NovoPizza\_51 Start: 37432, Stop: 37641, Start Num: 37  
Candidate Starts for NovoPizza\_51:  
(2, 37132), (3, 37138), (4, 37159), (5, 37204), (6, 37207), (8, 37234), (10, 37267), (11, 37273), (12, 37279), (13, 37285), (15, 37309), (16, 37318), (18, 37333), (19, 37339), (21, 37348), (22, 37351), (31, 37411), (37, 37432), (Start: 42 @37441 has 16 MA's), (57, 37477), (69, 37540), (71, 37555),

Gene: OBUpride\_50 Start: 36945, Stop: 37142, Start Num: 42  
Candidate Starts for OBUpride\_50:  
(Start: 42 @36945 has 16 MA's), (61, 37008), (63, 37017), (66, 37032),

Gene: Obliviate\_39 Start: 31330, Stop: 31524, Start Num: 36  
Candidate Starts for Obliviate\_39:  
(Start: 36 @31330 has 10 MA's),

Gene: Ochi17\_53 Start: 38113, Stop: 38310, Start Num: 53  
Candidate Starts for Ochi17\_53:  
(Start: 53 @38113 has 124 MA's), (63, 38164), (64, 38176), (71, 38209), (79, 38275),

Gene: OfUltron\_55 Start: 38662, Stop: 38859, Start Num: 53  
Candidate Starts for OfUltron\_55:  
(Start: 53 @38662 has 124 MA's), (63, 38713), (64, 38725), (71, 38758), (79, 38824),

Gene: Ogopogo\_43 Start: 31095, Stop: 30901, Start Num: 48  
Candidate Starts for Ogopogo\_43:  
(Start: 48 @31095 has 24 MA's), (68, 31008), (76, 30948), (79, 30927),

Gene: Oksu\_54 Start: 38558, Stop: 38755, Start Num: 53  
Candidate Starts for Oksu\_54:  
(Start: 53 @38558 has 124 MA's), (63, 38609), (64, 38621), (71, 38654), (79, 38720),

Gene: OlympiaSaint\_50 Start: 36632, Stop: 36829, Start Num: 53  
Candidate Starts for OlympiaSaint\_50:

(Start: 53 @36632 has 124 MA's), (63, 36683), (64, 36695), (71, 36728), (79, 36794),

Gene: OlympiaSaint\_40 Start: 31613, Stop: 31419, Start Num: 48

Candidate Starts for OlympiaSaint\_40:

(Start: 48 @31613 has 24 MA's), (68, 31526), (76, 31466), (79, 31445),

Gene: OwlsT2W\_49 Start: 36635, Stop: 36832, Start Num: 53

Candidate Starts for OwlsT2W\_49:

(Start: 53 @36635 has 124 MA's), (63, 36686), (64, 36698), (71, 36731), (79, 36797),

Gene: OwlsT2W\_40 Start: 31588, Stop: 31394, Start Num: 48

Candidate Starts for OwlsT2W\_40:

(Start: 48 @31588 has 24 MA's), (68, 31501), (76, 31441), (79, 31420),

Gene: PHappiness\_46 Start: 35046, Stop: 35243, Start Num: 53

Candidate Starts for PHappiness\_46:

(Start: 53 @35046 has 124 MA's), (63, 35097), (64, 35109), (71, 35142), (79, 35208),

Gene: PMC\_44 Start: 35844, Stop: 36041, Start Num: 53

Candidate Starts for PMC\_44:

(Start: 53 @35844 has 124 MA's), (63, 35895), (64, 35907), (71, 35940), (79, 36006),

Gene: Pacc40\_45 Start: 35120, Stop: 35317, Start Num: 53

Candidate Starts for Pacc40\_45:

(Start: 53 @35120 has 124 MA's), (63, 35171), (64, 35183), (71, 35216), (79, 35282),

Gene: Peridot\_53 Start: 36751, Stop: 36945, Start Num: 53

Candidate Starts for Peridot\_53:

(Start: 53 @36751 has 124 MA's), (63, 36799), (64, 36811), (71, 36844), (79, 36910),

Gene: Petra\_40 Start: 31689, Stop: 31883, Start Num: 36

Candidate Starts for Petra\_40:

(Start: 36 @31689 has 10 MA's),

Gene: Phatniss\_49 Start: 37088, Stop: 37285, Start Num: 53

Candidate Starts for Phatniss\_49:

(Start: 53 @37088 has 124 MA's), (63, 37139), (64, 37151), (71, 37184), (79, 37250),

Gene: Phayonce\_34 Start: 29517, Stop: 29735, Start Num: 47

Candidate Starts for Phayonce\_34:

(34, 29487), (Start: 47 @29517 has 1 MA's), (71, 29625),

Gene: PhlipPhlop\_49 Start: 37650, Stop: 37847, Start Num: 53

Candidate Starts for PhlipPhlop\_49:

(Start: 53 @37650 has 124 MA's), (63, 37701), (64, 37713), (71, 37746), (79, 37812),

Gene: Piku\_16 Start: 12727, Stop: 12912, Start Num: 59

Candidate Starts for Piku\_16:

(54, 12712), (Start: 59 @12727 has 4 MA's), (84, 12898),

Gene: Piper2020\_48 Start: 35712, Stop: 35909, Start Num: 53

Candidate Starts for Piper2020\_48:

(26, 35628), (Start: 41 @35685 has 4 MA's), (Start: 53 @35712 has 124 MA's), (79, 35874),

Gene: Plumbus\_52 Start: 36835, Stop: 37032, Start Num: 53

Candidate Starts for Plumbus\_52:

(Start: 53 @36835 has 124 MA's), (63, 36886), (64, 36898), (71, 36931), (79, 36997),

Gene: Poenanya\_49 Start: 37373, Stop: 37570, Start Num: 53

Candidate Starts for Poenanya\_49:

(Start: 53 @37373 has 124 MA's), (63, 37424), (64, 37436), (71, 37469), (79, 37535),

Gene: Polka14\_47 Start: 35723, Stop: 35920, Start Num: 53

Candidate Starts for Polka14\_47:

(Start: 53 @35723 has 124 MA's), (63, 35774), (64, 35786), (71, 35819), (79, 35885),

Gene: Polka14\_41 Start: 31785, Stop: 31591, Start Num: 48

Candidate Starts for Polka14\_41:

(Start: 48 @31785 has 24 MA's), (68, 31698), (76, 31638), (79, 31617),

Gene: Pollywog\_41 Start: 31707, Stop: 31513, Start Num: 48

Candidate Starts for Pollywog\_41:

(Start: 48 @31707 has 24 MA's), (68, 31620), (76, 31560), (79, 31539),

Gene: Pollywog\_48 Start: 36551, Stop: 36748, Start Num: 53

Candidate Starts for Pollywog\_48:

(Start: 53 @36551 has 124 MA's), (64, 36614), (71, 36647), (79, 36713),

Gene: PopTart\_45 Start: 35859, Stop: 36056, Start Num: 53

Candidate Starts for PopTart\_45:

(Start: 53 @35859 has 124 MA's), (63, 35910), (64, 35922), (71, 35955), (79, 36021),

Gene: Popper\_42 Start: 30120, Stop: 30374, Start Num: 35

Candidate Starts for Popper\_42:

(Start: 35 @30120 has 3 MA's), (Start: 52 @30156 has 1 MA's), (66, 30225), (72, 30264), (78, 30315),

Gene: Priscilla\_50 Start: 36805, Stop: 37002, Start Num: 53

Candidate Starts for Priscilla\_50:

(Start: 53 @36805 has 124 MA's), (63, 36856), (64, 36868), (71, 36901), (79, 36967),

Gene: QuickMath\_52 Start: 38892, Stop: 39089, Start Num: 53

Candidate Starts for QuickMath\_52:

(Start: 53 @38892 has 124 MA's), (63, 38943), (64, 38955), (71, 38988), (79, 39054),

Gene: Quico\_59 Start: 38796, Stop: 38993, Start Num: 53

Candidate Starts for Quico\_59:

(14, 38622), (Start: 53 @38796 has 124 MA's), (63, 38847), (64, 38859), (71, 38892), (79, 38958),

Gene: QuinnAvery\_44 Start: 31024, Stop: 31239, Start Num: 36

Candidate Starts for QuinnAvery\_44:

(Start: 36 @31024 has 10 MA's),

Gene: Radiance\_50 Start: 36960, Stop: 37157, Start Num: 53

Candidate Starts for Radiance\_50:

(Start: 53 @36960 has 124 MA's), (63, 37011), (64, 37023), (71, 37056), (79, 37122),

Gene: Radiance\_41 Start: 31335, Stop: 31141, Start Num: 48  
Candidate Starts for Radiance\_41:  
(Start: 48 @31335 has 24 MA's), (68, 31248), (76, 31188), (79, 31167),

Gene: Ramsey\_51 Start: 37587, Stop: 37784, Start Num: 53  
Candidate Starts for Ramsey\_51:  
(Start: 53 @37587 has 124 MA's), (63, 37638), (64, 37650), (71, 37683), (79, 37749),

Gene: RedBird\_47 Start: 36184, Stop: 36381, Start Num: 53  
Candidate Starts for RedBird\_47:  
(Start: 53 @36184 has 124 MA's), (63, 36235), (64, 36247), (71, 36280), (79, 36346),

Gene: RitaG\_46 Start: 35391, Stop: 35588, Start Num: 53  
Candidate Starts for RitaG\_46:  
(Start: 53 @35391 has 124 MA's), (63, 35442), (64, 35454), (71, 35487), (79, 35553),

Gene: Rockne\_48 Start: 35844, Stop: 36041, Start Num: 53  
Candidate Starts for Rockne\_48:  
(Start: 53 @35844 has 124 MA's), (63, 35895), (64, 35907), (71, 35940), (79, 36006),

Gene: RockyHorror\_50 Start: 36248, Stop: 36445, Start Num: 53  
Candidate Starts for RockyHorror\_50:  
(Start: 53 @36248 has 124 MA's), (64, 36311), (71, 36344), (79, 36410),

Gene: Royals2015\_42 Start: 31621, Stop: 31427, Start Num: 48  
Candidate Starts for Royals2015\_42:  
(Start: 48 @31621 has 24 MA's), (68, 31534), (76, 31474), (79, 31453),

Gene: Royals2015\_52 Start: 36653, Stop: 36850, Start Num: 53  
Candidate Starts for Royals2015\_52:  
(Start: 53 @36653 has 124 MA's), (63, 36704), (64, 36716), (71, 36749), (79, 36815),

Gene: Ruby\_48 Start: 37035, Stop: 37232, Start Num: 53  
Candidate Starts for Ruby\_48:  
(Start: 53 @37035 has 124 MA's), (63, 37086), (64, 37098), (71, 37131), (79, 37197),

Gene: RunningOnE\_8 Start: 3386, Stop: 3225, Start Num: 58  
Candidate Starts for RunningOnE\_8:  
(45, 3425), (49, 3413), (58, 3386), (72, 3305), (73, 3302), (81, 3236),

Gene: SFuller\_92 Start: 52330, Stop: 52539, Start Num: 48  
Candidate Starts for SFuller\_92:  
(31, 52285), (Start: 48 @52330 has 24 MA's), (Start: 59 @52366 has 4 MA's), (77, 52486), (79, 52498),  
(82, 52528),

Gene: SPB78\_44 Start: 32113, Stop: 32337, Start Num: 35  
Candidate Starts for SPB78\_44:  
(Start: 35 @32113 has 3 MA's), (70, 32239),

Gene: Sabbb\_56 Start: 38083, Stop: 38280, Start Num: 53  
Candidate Starts for Sabbb\_56:  
(Start: 53 @38083 has 124 MA's), (63, 38134), (64, 38146), (71, 38179), (79, 38245),

Gene: Sandalphon\_44 Start: 32523, Stop: 32329, Start Num: 48  
Candidate Starts for Sandalphon\_44:  
(Start: 48 @32523 has 24 MA's), (68, 32436), (76, 32376), (79, 32355),

Gene: Sassafras\_41 Start: 31844, Stop: 31650, Start Num: 48  
Candidate Starts for Sassafras\_41:  
(Start: 48 @31844 has 24 MA's), (68, 31757), (76, 31697), (79, 31676),

Gene: SassyB\_45 Start: 35859, Stop: 36056, Start Num: 53  
Candidate Starts for SassyB\_45:  
(Start: 53 @35859 has 124 MA's), (63, 35910), (64, 35922), (71, 35955), (79, 36021),

Gene: Schism\_46 Start: 30955, Stop: 31170, Start Num: 36  
Candidate Starts for Schism\_46:  
(Start: 36 @30955 has 10 MA's),

Gene: Schnabeltier\_41 Start: 32611, Stop: 32805, Start Num: 50  
Candidate Starts for Schnabeltier\_41:  
(Start: 50 @32611 has 5 MA's), (60, 32650), (69, 32695),

Gene: Scottish\_41 Start: 32465, Stop: 32271, Start Num: 48  
Candidate Starts for Scottish\_41:  
(Start: 48 @32465 has 24 MA's), (68, 32378), (76, 32318), (79, 32297),

Gene: Scottish\_49 Start: 36403, Stop: 36600, Start Num: 53  
Candidate Starts for Scottish\_49:  
(Start: 53 @36403 has 124 MA's), (63, 36454), (64, 36466), (71, 36499), (79, 36565),

Gene: Seabastian\_55 Start: 38663, Stop: 38860, Start Num: 53  
Candidate Starts for Seabastian\_55:  
(Start: 53 @38663 has 124 MA's), (63, 38714), (64, 38726), (71, 38759), (79, 38825),

Gene: Seagreen\_51 Start: 36587, Stop: 36784, Start Num: 53  
Candidate Starts for Seagreen\_51:  
(Start: 53 @36587 has 124 MA's), (63, 36638), (64, 36650), (71, 36683), (79, 36749),

Gene: Sejanus\_84 Start: 57638, Stop: 57847, Start Num: 42  
Candidate Starts for Sejanus\_84:  
(20, 57539), (26, 57578), (Start: 42 @57638 has 16 MA's), (78, 57815),

Gene: ShiLan\_49 Start: 36752, Stop: 36949, Start Num: 53  
Candidate Starts for ShiLan\_49:  
(Start: 53 @36752 has 124 MA's), (63, 36803), (64, 36815), (71, 36848), (79, 36914),

Gene: ShowerHandel\_52 Start: 36719, Stop: 36916, Start Num: 53  
Candidate Starts for ShowerHandel\_52:  
(Start: 53 @36719 has 124 MA's), (63, 36770), (64, 36782), (71, 36815), (79, 36881),

Gene: SiSi\_49 Start: 36409, Stop: 36606, Start Num: 53  
Candidate Starts for SiSi\_49:  
(Start: 53 @36409 has 124 MA's), (63, 36460), (64, 36472), (71, 36505), (79, 36571),

Gene: Slim\_51 Start: 37554, Stop: 37751, Start Num: 53

Candidate Starts for Slim\_51:

(Start: 53 @37554 has 124 MA's), (63, 37605), (64, 37617), (71, 37650), (79, 37716),

Gene: Smilerella\_21 Start: 14454, Stop: 14663, Start Num: 42

Candidate Starts for Smilerella\_21:

(27, 14403), (33, 14433), (Start: 42 @14454 has 16 MA's), (63, 14529),

Gene: Sparkdehlily\_54 Start: 37405, Stop: 37602, Start Num: 53

Candidate Starts for Sparkdehlily\_54:

(Start: 53 @37405 has 124 MA's), (63, 37456), (64, 37468), (71, 37501), (79, 37567),

Gene: Spikelee\_56 Start: 38143, Stop: 38340, Start Num: 53

Candidate Starts for Spikelee\_56:

(Start: 53 @38143 has 124 MA's), (63, 38194), (64, 38206), (71, 38239), (79, 38305),

Gene: Spooks\_12 Start: 9089, Stop: 8904, Start Num: 46

Candidate Starts for Spooks\_12:

(Start: 46 @9089 has 1 MA's), (58, 9062), (63, 9029), (74, 8972),

Gene: Spoonbill\_40 Start: 31424, Stop: 31230, Start Num: 48

Candidate Starts for Spoonbill\_40:

(Start: 48 @31424 has 24 MA's), (68, 31337), (76, 31277), (79, 31256),

Gene: Spoonbill\_48 Start: 35345, Stop: 35542, Start Num: 53

Candidate Starts for Spoonbill\_48:

(Start: 53 @35345 has 124 MA's), (63, 35396), (64, 35408), (71, 35441), (79, 35507),

Gene: Stap\_49 Start: 36146, Stop: 36343, Start Num: 53

Candidate Starts for Stap\_49:

(Start: 53 @36146 has 124 MA's), (63, 36197), (64, 36209), (71, 36242), (79, 36308),

Gene: Starcevich\_50 Start: 37039, Stop: 37236, Start Num: 53

Candidate Starts for Starcevich\_50:

(Start: 53 @37039 has 124 MA's), (63, 37090), (64, 37102), (71, 37135), (79, 37201),

Gene: Success\_12 Start: 8329, Stop: 8147, Start Num: 50

Candidate Starts for Success\_12:

(Start: 50 @8329 has 5 MA's), (61, 8281), (62, 8278), (67, 8254), (73, 8221),

Gene: TDanisky\_54 Start: 37405, Stop: 37602, Start Num: 53

Candidate Starts for TDanisky\_54:

(Start: 53 @37405 has 124 MA's), (63, 37456), (64, 37468), (71, 37501), (79, 37567),

Gene: Tchotchke\_52 Start: 36304, Stop: 36501, Start Num: 53

Candidate Starts for Tchotchke\_52:

(25, 36214), (Start: 53 @36304 has 124 MA's), (63, 36355), (64, 36367), (71, 36400), (79, 36466),

Gene: Tchotchke\_42 Start: 31300, Stop: 31106, Start Num: 48

Candidate Starts for Tchotchke\_42:

(Start: 48 @31300 has 24 MA's), (68, 31213), (76, 31153), (79, 31132),

Gene: TootsiePop\_46 Start: 34969, Stop: 35193, Start Num: 41

Candidate Starts for TootsiePop\_46:

(26, 34912), (Start: 41 @34969 has 4 MA's), (Start: 53 @34996 has 124 MA's), (79, 35158),

Gene: Tootsieroll\_44 Start: 31573, Stop: 31379, Start Num: 48

Candidate Starts for Tootsieroll\_44:

(Start: 48 @31573 has 24 MA's), (68, 31486), (76, 31426), (79, 31405),

Gene: Tootsieroll\_53 Start: 36596, Stop: 36793, Start Num: 53

Candidate Starts for Tootsieroll\_53:

(Start: 53 @36596 has 124 MA's), (63, 36647), (64, 36659), (71, 36692), (79, 36758),

Gene: Totinger\_50 Start: 36181, Stop: 36378, Start Num: 53

Candidate Starts for Totinger\_50:

(Start: 53 @36181 has 124 MA's), (63, 36232), (64, 36244), (71, 36277), (79, 36343),

Gene: Tweety\_49 Start: 36917, Stop: 37114, Start Num: 53

Candidate Starts for Tweety\_49:

(Start: 53 @36917 has 124 MA's), (63, 36968), (64, 36980), (71, 37013), (79, 37079),

Gene: Ubuntu\_50 Start: 36949, Stop: 37146, Start Num: 42

Candidate Starts for Ubuntu\_50:

(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: UmaThurman\_37 Start: 31748, Stop: 31954, Start Num: 35

Candidate Starts for UmaThurman\_37:

(9, 31565), (17, 31640), (22, 31670), (28, 31712), (Start: 35 @31748 has 3 MA's), (Start: 42 @31760 has 16 MA's), (62, 31826), (78, 31934), (79, 31937),

Gene: UncleRicky\_50 Start: 37336, Stop: 37533, Start Num: 53

Candidate Starts for UncleRicky\_50:

(Start: 53 @37336 has 124 MA's), (63, 37387), (64, 37399), (71, 37432), (79, 37498),

Gene: Utopia\_16 Start: 12698, Stop: 12883, Start Num: 59

Candidate Starts for Utopia\_16:

(54, 12683), (Start: 59 @12698 has 4 MA's), (84, 12869),

Gene: Veteran\_40 Start: 31183, Stop: 30989, Start Num: 48

Candidate Starts for Veteran\_40:

(Start: 48 @31183 has 24 MA's), (68, 31096), (76, 31036), (79, 31015),

Gene: Veteran\_47 Start: 36053, Stop: 36250, Start Num: 53

Candidate Starts for Veteran\_47:

(Start: 53 @36053 has 124 MA's), (63, 36104), (64, 36116), (71, 36149), (79, 36215),

Gene: Webster2\_50 Start: 36949, Stop: 37146, Start Num: 42

Candidate Starts for Webster2\_50:

(Start: 42 @36949 has 16 MA's), (61, 37012),

Gene: Whytu\_16 Start: 12793, Stop: 12978, Start Num: 59

Candidate Starts for Whytu\_16:

(45, 12757), (54, 12778), (Start: 59 @12793 has 4 MA's), (84, 12964),

Gene: WorldChangers\_19 Start: 13105, Stop: 13302, Start Num: 46

Candidate Starts for WorldChangers\_19:

(1, 12715), (7, 12877), (Start: 46 @13105 has 1 MA's), (66, 13180), (69, 13192), (75, 13237), (83, 13297),

Gene: Yavru\_16 Start: 12688, Stop: 12873, Start Num: 59

Candidate Starts for Yavru\_16:

(54, 12673), (Start: 59 @12688 has 4 MA's), (84, 12859),

Gene: Yorick\_49 Start: 37093, Stop: 37290, Start Num: 53

Candidate Starts for Yorick\_49:

(Start: 53 @37093 has 124 MA's), (63, 37144), (64, 37156), (71, 37189), (79, 37255),

Gene: ZAYM\_43 Start: 32247, Stop: 32456, Start Num: 43

Candidate Starts for ZAYM\_43:

(32, 32220), (Start: 43 @32247 has 1 MA's),

Gene: Zaheer\_44 Start: 31390, Stop: 31605, Start Num: 36

Candidate Starts for Zaheer\_44:

(Start: 36 @31390 has 10 MA's),

Gene: Zapner\_62 Start: 37589, Stop: 37786, Start Num: 53

Candidate Starts for Zapner\_62:

(Start: 53 @37589 has 124 MA's), (62, 37634), (63, 37640), (65, 37655), (66, 37658), (71, 37685), (75, 37712), (79, 37745),

Gene: Zarbodnamra\_42 Start: 32451, Stop: 32645, Start Num: 36

Candidate Starts for Zarbodnamra\_42:

(Start: 36 @32451 has 10 MA's),

Gene: Zerg\_49 Start: 36357, Stop: 36554, Start Num: 53

Candidate Starts for Zerg\_49:

(Start: 53 @36357 has 124 MA's), (64, 36420), (71, 36453), (79, 36519),