



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 308469 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308469 has 82 members, 17 are drafts.

Phages represented in each track:

- Track 1 : ThursdayNight\_45
- Track 2 : DrManhattan\_41
- Track 3 : JuneStar\_43
- Track 4 : Tuck\_45
- Track 5 : IttyBittyPiggy\_42
- Track 6 : Cyan\_42, AGrandiflora\_43
- Track 7 : Janeemi\_44
- Track 8 : Kaylissa\_43, Tbone\_41
- Track 9 : Adumb2043\_39
- Track 10 : Ascela\_42, Iter\_42
- Track 11 : Adolin\_41
- Track 12 : JohnDoe\_42, ObiToo\_47
- Track 13 : VResidence\_42
- Track 14 : Joemato\_42
- Track 15 : Lizalica\_40, Tallboi\_41
- Track 16 : Phives\_44
- Track 17 : Simpson\_44
- Track 18 : PandaPo\_42, Tian\_40
- Track 19 : Cassia\_41, Pixelle\_42, Pumpkins\_41
- Track 20 : Community\_44
- Track 21 : Amyev\_41, MissSwiss\_42
- Track 22 : TforTroy\_43
- Track 23 : AEgle\_38
- Track 24 : YesChef\_42, Flutur\_41, Powerpuff\_44, Tutumahutu\_43
- Track 25 : Berrie\_43
- Track 26 : Crewmate\_47
- Track 27 : Warda\_42
- Track 28 : Reedo\_41
- Track 29 : Turab\_39, Amploria\_40
- Track 30 : Nitro\_41
- Track 31 : IUFootball\_43, Liebe\_43, Maureen\_43
- Track 32 : JasmineDragon\_46, ShakeltOph\_46, MiniMommy\_47
- Track 33 : FiveHead\_50, JohnThicc\_49
- Track 34 : LadyAstra\_49, Origami\_48
- Track 35 : Emotion\_47
- Track 36 : BotCity\_45
- Track 37 : Birdsong\_43

- Track 38 : Getalong\_47
- Track 39 : Phabuloso\_43
- Track 40 : Periwinkle\_50
- Track 41 : CheeseTouch\_45
- Track 42 : Crater\_43, Phistory\_46, Lutum\_46, Frickyeah\_46, ShawBrad\_46, Holliday\_45, Kenna\_45
- Track 43 : Kuwabara\_38
- Track 44 : Jankie\_39
- Track 45 : GrimEater\_38
- Track 46 : MissDaisy\_77
- Track 47 : Miryou\_35, Guillsminger\_35, Gengar\_35, Paola\_35, SoSeph\_35, Feyre\_35, OkiRoe\_35, Heftyboy\_35, Leston\_35
- Track 48 : Thyatira\_35
- Track 49 : Waterfoul\_35

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

The start number called the most often in the published annotations is 16, it was called in 36 of the 65 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adolin\_41, Adumb2043\_39, Amyev\_41, Ascela\_42, Berrie\_43, Cassia\_41, DrManhattan\_41, Flutur\_41, GrimEater\_38, IUFootball\_43, Iter\_42, Janeemi\_44, Jankie\_39, JasmineDragon\_46, Joemato\_42, JohnDoe\_42, JuneStar\_43, Kaylissa\_43, Liebe\_43, Lizalica\_40, Maureen\_43, MiniMommy\_47, MissSwiss\_42, Nitro\_41, ObiToo\_47, Phives\_44, Pixelle\_42, Powerpuff\_44, Pumpkins\_41, Reedo\_41, ShakeltOph\_46, Tallboi\_41, Tbone\_41, TforTroy\_43, Tutumahutu\_43, VResidence\_42, Warda\_42, YesChef\_42,

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

- AEgle\_38, AGrandiflora\_43, Amploria\_40, Community\_44, Crewmate\_47, Cyan\_42, Emotion\_47, FiveHead\_50, IttyBittyPiggy\_42, JohnThicc\_49, LadyAstra\_49, Origami\_48, PandaPo\_42, Simpson\_44, ThursdayNight\_45, Tian\_40, Tuck\_45, Turab\_39,

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

- Birdsong\_43, BotCity\_45, CheeseTouch\_45, Crater\_43, Feyre\_35, Frickyeah\_46, Gengar\_35, Getalong\_47, Guillsminger\_35, Heftyboy\_35, Holliday\_45, Kenna\_45, Kuwabara\_38, Leston\_35, Lutum\_46, Miryou\_35, MissDaisy\_77, OkiRoe\_35, Paola\_35, Periwinkle\_50, Phabuloso\_43, Phistory\_46, ShawBrad\_46, SoSeph\_35, Thyatira\_35, Waterfoul\_35,

**Summary by start number:**

Start 16:

- Found in 56 of 82 ( 68.3% ) of genes in pham
- Manual Annotations of this start: 36 of 65
- Called 67.9% of time when present
- Phage (with cluster) where this start called: Adolin\_41 (AZ1), Adumb2043\_39 (AZ1), Amyev\_41 (AZ1), Ascela\_42 (AZ1), Berrie\_43 (AZ1), Cassia\_41 (AZ1),

DrManhattan\_41 (AZ1), Flutur\_41 (AZ), GrimEater\_38 (FP), IUFootball\_43 (AZ2), Iter\_42 (AZ1), Janeemi\_44 (AZ1), Jankie\_39 (FP), JasmineDragon\_46 (AZ4), Joemato\_42 (AZ1), JohnDoe\_42 (AZ1), JuneStar\_43 (AZ1), Kaylissa\_43 (AZ1), Liebe\_43 (AZ2), Lizalica\_40 (AZ1), Maureen\_43 (AZ2), MiniMommy\_47 (AZ4), MissSwiss\_42 (AZ1), Nitro\_41 (AZ1), ObiToo\_47 (AZ1), Phives\_44 (AZ1), Pixelle\_42 (AZ1), Powerpuff\_44 (AZ1), Pumpkins\_41 (AZ1), Reedo\_41 (AZ1), ShakeltOph\_46 (AZ4), Tallboi\_41 (AZ1), Tbone\_41 (AZ1), TforTroy\_43 (AZ1), Tutumahutu\_43 (AZ1), VResidence\_42 (AZ1), Warda\_42 (AZ1), YesChef\_42 (AZ1),

Start 17:

- Found in 3 of 82 ( 3.7% ) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Emotion\_47 (AZ4),

Start 21:

- Found in 81 of 82 ( 98.8% ) of genes in pham
- Manual Annotations of this start: 27 of 65
- Called 46.9% of time when present
- Phage (with cluster) where this start called: AGrandiflora\_43 (AZ1), Amploria\_40 (AZ1), Birdsong\_43 (DN), BotCity\_45 (DN), CheeseTouch\_45 (DN1), Community\_44 (AZ1), Crater\_43 (DN3), Crewmate\_47 (AZ1), Cyan\_42 (AZ1), Feyre\_35 (K5), FiveHead\_50 (AZ4), Frickyeah\_46 (DN1), Gengar\_35 (K5), Getalong\_47 (DN1), Guillsminger\_35 (K5), Heftyboy\_35 (K5), Holliday\_45 (DN1), IttyBittyPiggy\_42 (AZ1), JohnThicc\_49 (AZ4), Kenna\_45 (DN1), Kuwabara\_38 (DN4), LadyAstra\_49 (AZ4), Leston\_35 (K5), Lutum\_46 (DN1), Miryou\_35 (K5), MissDaisy\_77 (K4), OkiRoe\_35 (K5), Origami\_48 (AZ4), Paola\_35 (K5), Phabuloso\_43 (DN1), Phistory\_46 (DN1), ShawBrad\_46 (DN1), Simpson\_44 (AZ1), SoSeph\_35 (K5), Thyatira\_35 (K5), Tuck\_45 (AZ1), Turab\_39 (AZ1), Waterfoul\_35 (K5),

Start 22:

- Found in 21 of 82 ( 25.6% ) of genes in pham
- No Manual Annotations of this start.
- Called 19.0% of time when present
- Phage (with cluster) where this start called: AEgle\_38 (AZ1), PandaPo\_42 (AZ1), ThursdayNight\_45 (AZ), Tian\_40 (AZ1),

Start 24:

- Found in 1 of 82 ( 1.2% ) of genes in pham
- Manual Annotations of this start: 1 of 65
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Periwinkle\_50 (DN1),

### Summary by clusters:

There are 11 clusters represented in this pham: DN, FP, DN3, DN4, DN1, K5, K4, AZ1, AZ2, AZ, AZ4,

Info for manual annotations of cluster AZ1:

- Start number 16 was manually annotated 29 times for cluster AZ1.
- Start number 21 was manually annotated 4 times for cluster AZ1.

Info for manual annotations of cluster AZ2:

- Start number 16 was manually annotated 2 times for cluster AZ2.

Info for manual annotations of cluster AZ4:

- Start number 16 was manually annotated 3 times for cluster AZ4.
- Start number 17 was manually annotated 1 time for cluster AZ4.

Info for manual annotations of cluster DN:

- Start number 21 was manually annotated 2 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 21 was manually annotated 7 times for cluster DN1.
- Start number 24 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 21 was manually annotated 1 time for cluster DN3.

Info for manual annotations of cluster DN4:

- Start number 21 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster FP:

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

Info for manual annotations of cluster K4:

- Start number 21 was manually annotated 1 time for cluster K4.

Info for manual annotations of cluster K5:

- Start number 21 was manually annotated 11 times for cluster K5.

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

Gene: AEgle\_38 Start: 30681, Stop: 30833, Start Num: 22

Candidate Starts for AEgle\_38:

(Start: 16 @30651 has 36 MA's), (Start: 21 @30666 has 27 MA's), (22, 30681),

Gene: AGrandiflora\_43 Start: 31946, Stop: 32116, Start Num: 21

Candidate Starts for AGrandiflora\_43:

(Start: 16 @31931 has 36 MA's), (Start: 21 @31946 has 27 MA's), (36, 32060),

Gene: Adolin\_41 Start: 29698, Stop: 29877, Start Num: 16

Candidate Starts for Adolin\_41:

(Start: 16 @29698 has 36 MA's), (Start: 21 @29704 has 27 MA's), (22, 29719), (36, 29818),

Gene: Adumb2043\_39 Start: 30670, Stop: 30852, Start Num: 16

Candidate Starts for Adumb2043\_39:

(Start: 16 @30670 has 36 MA's), (Start: 21 @30685 has 27 MA's), (22, 30700),

Gene: Amploria\_40 Start: 30868, Stop: 31035, Start Num: 21

Candidate Starts for Amploria\_40:

(Start: 16 @30853 has 36 MA's), (Start: 21 @30868 has 27 MA's), (22, 30883),

Gene: Amyev\_41 Start: 32225, Stop: 32410, Start Num: 16  
Candidate Starts for Amyev\_41:  
(Start: 16 @32225 has 36 MA's), (Start: 21 @32240 has 27 MA's), (22, 32255),

Gene: Ascela\_42 Start: 31469, Stop: 31672, Start Num: 16  
Candidate Starts for Ascela\_42:  
(Start: 16 @31469 has 36 MA's), (Start: 21 @31487 has 27 MA's),

Gene: Berrie\_43 Start: 32374, Stop: 32559, Start Num: 16  
Candidate Starts for Berrie\_43:  
(Start: 16 @32374 has 36 MA's), (Start: 21 @32389 has 27 MA's),

Gene: Birdsong\_43 Start: 31367, Stop: 31540, Start Num: 21  
Candidate Starts for Birdsong\_43:  
(3, 31103), (4, 31148), (9, 31247), (10, 31268), (13, 31316), (14, 31340), (20, 31364), (Start: 21 @31367 has 27 MA's), (27, 31430), (33, 31466), (34, 31472), (35, 31475), (37, 31499),

Gene: BotCity\_45 Start: 31158, Stop: 31331, Start Num: 21  
Candidate Starts for BotCity\_45:  
(18, 31152), (Start: 21 @31158 has 27 MA's), (27, 31221), (33, 31257), (34, 31263), (35, 31266),

Gene: Cassia\_41 Start: 31213, Stop: 31389, Start Num: 16  
Candidate Starts for Cassia\_41:  
(Start: 16 @31213 has 36 MA's), (Start: 21 @31228 has 27 MA's), (36, 31342),

Gene: CheeseTouch\_45 Start: 28896, Stop: 29069, Start Num: 21  
Candidate Starts for CheeseTouch\_45:  
(6, 28746), (7, 28749), (Start: 17 @28881 has 1 MA's), (20, 28893), (Start: 21 @28896 has 27 MA's), (27, 28959), (33, 28995), (37, 29028),

Gene: Community\_44 Start: 33211, Stop: 33372, Start Num: 21  
Candidate Starts for Community\_44:  
(1, 32278), (2, 32350), (Start: 16 @33196 has 36 MA's), (Start: 21 @33211 has 27 MA's),

Gene: Crater\_43 Start: 30258, Stop: 30431, Start Num: 21  
Candidate Starts for Crater\_43:  
(Start: 21 @30258 has 27 MA's), (27, 30321), (31, 30345), (32, 30348), (37, 30390),

Gene: Crewmate\_47 Start: 31902, Stop: 32063, Start Num: 21  
Candidate Starts for Crewmate\_47:  
(1, 30969), (2, 31041), (Start: 16 @31887 has 36 MA's), (Start: 21 @31902 has 27 MA's), (36, 32016),

Gene: Cyan\_42 Start: 31554, Stop: 31724, Start Num: 21  
Candidate Starts for Cyan\_42:  
(Start: 16 @31539 has 36 MA's), (Start: 21 @31554 has 27 MA's), (36, 31668),

Gene: DrManhattan\_41 Start: 29689, Stop: 29880, Start Num: 16  
Candidate Starts for DrManhattan\_41:  
(Start: 16 @29689 has 36 MA's), (Start: 21 @29704 has 27 MA's), (36, 29818),

Gene: Emotion\_47 Start: 33180, Stop: 33395, Start Num: 17  
Candidate Starts for Emotion\_47:  
(Start: 16 @33177 has 36 MA's), (Start: 17 @33180 has 1 MA's), (Start: 21 @33195 has 27 MA's),

Gene: Feyre\_35 Start: 30060, Stop: 30221, Start Num: 21  
Candidate Starts for Feyre\_35:  
(Start: 21 @30060 has 27 MA's), (22, 30075), (28, 30120), (29, 30123), (40, 30201),

Gene: FiveHead\_50 Start: 32457, Stop: 32633, Start Num: 21  
Candidate Starts for FiveHead\_50:  
(Start: 16 @32439 has 36 MA's), (Start: 21 @32457 has 27 MA's),

Gene: Flutur\_41 Start: 31796, Stop: 31981, Start Num: 16  
Candidate Starts for Flutur\_41:  
(Start: 16 @31796 has 36 MA's), (Start: 21 @31811 has 27 MA's), (36, 31925),

Gene: Frickyeah\_46 Start: 30210, Stop: 30383, Start Num: 21  
Candidate Starts for Frickyeah\_46:  
(Start: 21 @30210 has 27 MA's), (27, 30273), (31, 30297), (32, 30300), (37, 30342),

Gene: Gengar\_35 Start: 30170, Stop: 30331, Start Num: 21  
Candidate Starts for Gengar\_35:  
(Start: 21 @30170 has 27 MA's), (22, 30185), (28, 30230), (29, 30233), (40, 30311),

Gene: Getalong\_47 Start: 32994, Stop: 33167, Start Num: 21  
Candidate Starts for Getalong\_47:  
(Start: 21 @32994 has 27 MA's), (27, 33057), (33, 33093), (34, 33099), (35, 33102), (37, 33126),

Gene: GrimEater\_38 Start: 29891, Stop: 30073, Start Num: 16  
Candidate Starts for GrimEater\_38:  
(15, 29888), (Start: 16 @29891 has 36 MA's), (Start: 21 @29906 has 27 MA's), (33, 29996),

Gene: Guillsminger\_35 Start: 30141, Stop: 30302, Start Num: 21  
Candidate Starts for Guillsminger\_35:  
(Start: 21 @30141 has 27 MA's), (22, 30156), (28, 30201), (29, 30204), (40, 30282),

Gene: Heftyboy\_35 Start: 30287, Stop: 30448, Start Num: 21  
Candidate Starts for Heftyboy\_35:  
(Start: 21 @30287 has 27 MA's), (22, 30302), (28, 30347), (29, 30350), (40, 30428),

Gene: Holliday\_45 Start: 30785, Stop: 30958, Start Num: 21  
Candidate Starts for Holliday\_45:  
(Start: 21 @30785 has 27 MA's), (27, 30848), (31, 30872), (32, 30875), (37, 30917),

Gene: IUFootball\_43 Start: 33220, Stop: 33411, Start Num: 16  
Candidate Starts for IUFootball\_43:  
(Start: 16 @33220 has 36 MA's), (Start: 21 @33235 has 27 MA's),

Gene: Iter\_42 Start: 31465, Stop: 31668, Start Num: 16  
Candidate Starts for Iter\_42:  
(Start: 16 @31465 has 36 MA's), (Start: 21 @31483 has 27 MA's),

Gene: IttyBittyPiggy\_42 Start: 31021, Stop: 31182, Start Num: 21  
Candidate Starts for IttyBittyPiggy\_42:  
(Start: 16 @31006 has 36 MA's), (Start: 21 @31021 has 27 MA's), (36, 31135),

Gene: Janeemi\_44 Start: 33187, Stop: 33369, Start Num: 16  
Candidate Starts for Janeemi\_44:  
(Start: 16 @33187 has 36 MA's), (Start: 21 @33202 has 27 MA's),

Gene: Jankie\_39 Start: 30068, Stop: 30250, Start Num: 16  
Candidate Starts for Jankie\_39:  
(15, 30065), (Start: 16 @30068 has 36 MA's), (Start: 21 @30083 has 27 MA's), (33, 30173),

Gene: JasmineDragon\_46 Start: 32416, Stop: 32613, Start Num: 16  
Candidate Starts for JasmineDragon\_46:  
(2, 31570), (Start: 16 @32416 has 36 MA's), (Start: 21 @32434 has 27 MA's),

Gene: Joemato\_42 Start: 31566, Stop: 31751, Start Num: 16  
Candidate Starts for Joemato\_42:  
(Start: 16 @31566 has 36 MA's), (Start: 21 @31581 has 27 MA's), (36, 31695), (39, 31728),

Gene: JohnDoe\_42 Start: 31562, Stop: 31747, Start Num: 16  
Candidate Starts for JohnDoe\_42:  
(Start: 16 @31562 has 36 MA's), (Start: 21 @31577 has 27 MA's), (36, 31691),

Gene: JohnThicc\_49 Start: 32457, Stop: 32633, Start Num: 21  
Candidate Starts for JohnThicc\_49:  
(Start: 16 @32439 has 36 MA's), (Start: 21 @32457 has 27 MA's),

Gene: JuneStar\_43 Start: 33108, Stop: 33290, Start Num: 16  
Candidate Starts for JuneStar\_43:  
(Start: 16 @33108 has 36 MA's), (Start: 21 @33123 has 27 MA's), (22, 33138),

Gene: Kaylissa\_43 Start: 31952, Stop: 32137, Start Num: 16  
Candidate Starts for Kaylissa\_43:  
(Start: 16 @31952 has 36 MA's), (Start: 21 @31967 has 27 MA's), (36, 32081),

Gene: Kenna\_45 Start: 31121, Stop: 31294, Start Num: 21  
Candidate Starts for Kenna\_45:  
(Start: 21 @31121 has 27 MA's), (27, 31184), (31, 31208), (32, 31211), (37, 31253),

Gene: Kuwabara\_38 Start: 29852, Stop: 30025, Start Num: 21  
Candidate Starts for Kuwabara\_38:  
(5, 29657), (11, 29768), (12, 29795), (Start: 21 @29852 has 27 MA's), (27, 29915), (31, 29939), (32, 29942), (37, 29984),

Gene: LadyAstra\_49 Start: 32557, Stop: 32733, Start Num: 21  
Candidate Starts for LadyAstra\_49:  
(Start: 16 @32539 has 36 MA's), (Start: 21 @32557 has 27 MA's),

Gene: Leston\_35 Start: 30271, Stop: 30432, Start Num: 21  
Candidate Starts for Leston\_35:  
(Start: 21 @30271 has 27 MA's), (22, 30286), (28, 30331), (29, 30334), (40, 30412),

Gene: Liebe\_43 Start: 33220, Stop: 33411, Start Num: 16  
Candidate Starts for Liebe\_43:  
(Start: 16 @33220 has 36 MA's), (Start: 21 @33235 has 27 MA's),

Gene: Lizalica\_40 Start: 30647, Stop: 30835, Start Num: 16

Candidate Starts for Lizalica\_40:

(Start: 16 @30647 has 36 MA's), (Start: 21 @30662 has 27 MA's), (36, 30776),

Gene: Lutum\_46 Start: 31121, Stop: 31294, Start Num: 21

Candidate Starts for Lutum\_46:

(Start: 21 @31121 has 27 MA's), (27, 31184), (31, 31208), (32, 31211), (37, 31253),

Gene: Maureen\_43 Start: 33220, Stop: 33411, Start Num: 16

Candidate Starts for Maureen\_43:

(Start: 16 @33220 has 36 MA's), (Start: 21 @33235 has 27 MA's),

Gene: MiniMommy\_47 Start: 32417, Stop: 32614, Start Num: 16

Candidate Starts for MiniMommy\_47:

(2, 31571), (Start: 16 @32417 has 36 MA's), (Start: 21 @32435 has 27 MA's),

Gene: Miryou\_35 Start: 30126, Stop: 30287, Start Num: 21

Candidate Starts for Miryou\_35:

(Start: 21 @30126 has 27 MA's), (22, 30141), (28, 30186), (29, 30189), (40, 30267),

Gene: MissDaisy\_77 Start: 48998, Stop: 49168, Start Num: 21

Candidate Starts for MissDaisy\_77:

(Start: 17 @48983 has 1 MA's), (Start: 21 @48998 has 27 MA's), (28, 49058), (37, 49124), (40, 49139),

Gene: MissSwiss\_42 Start: 30190, Stop: 30375, Start Num: 16

Candidate Starts for MissSwiss\_42:

(Start: 16 @30190 has 36 MA's), (Start: 21 @30205 has 27 MA's), (22, 30220),

Gene: Nitro\_41 Start: 32074, Stop: 32274, Start Num: 16

Candidate Starts for Nitro\_41:

(15, 32071), (Start: 16 @32074 has 36 MA's), (Start: 21 @32089 has 27 MA's),

Gene: ObiToo\_47 Start: 32330, Stop: 32506, Start Num: 16

Candidate Starts for ObiToo\_47:

(Start: 16 @32330 has 36 MA's), (Start: 21 @32345 has 27 MA's), (36, 32459),

Gene: OkiRoe\_35 Start: 30143, Stop: 30304, Start Num: 21

Candidate Starts for OkiRoe\_35:

(Start: 21 @30143 has 27 MA's), (22, 30158), (28, 30203), (29, 30206), (40, 30284),

Gene: Origami\_48 Start: 32349, Stop: 32525, Start Num: 21

Candidate Starts for Origami\_48:

(Start: 16 @32331 has 36 MA's), (Start: 21 @32349 has 27 MA's),

Gene: PandaPo\_42 Start: 30226, Stop: 30381, Start Num: 22

Candidate Starts for PandaPo\_42:

(Start: 16 @30196 has 36 MA's), (Start: 21 @30211 has 27 MA's), (22, 30226),

Gene: Paola\_35 Start: 30141, Stop: 30302, Start Num: 21

Candidate Starts for Paola\_35:

(Start: 21 @30141 has 27 MA's), (22, 30156), (28, 30201), (29, 30204), (40, 30282),

Gene: Periwinkle\_50 Start: 33020, Stop: 33160, Start Num: 24

Candidate Starts for Periwinkle\_50:

(Start: 24 @33020 has 1 MA's), (27, 33050), (33, 33086), (34, 33092), (35, 33095), (37, 33119),

Gene: Phabuloso\_43 Start: 30837, Stop: 31010, Start Num: 21

Candidate Starts for Phabuloso\_43:

(8, 30708), (11, 30753), (12, 30780), (Start: 21 @30837 has 27 MA's), (27, 30900), (31, 30924), (32, 30927), (37, 30969),

Gene: Phistory\_46 Start: 31472, Stop: 31645, Start Num: 21

Candidate Starts for Phistory\_46:

(Start: 21 @31472 has 27 MA's), (27, 31535), (31, 31559), (32, 31562), (37, 31604),

Gene: Phives\_44 Start: 33024, Stop: 33200, Start Num: 16

Candidate Starts for Phives\_44:

(Start: 16 @33024 has 36 MA's), (Start: 21 @33039 has 27 MA's),

Gene: Pixelle\_42 Start: 32248, Stop: 32436, Start Num: 16

Candidate Starts for Pixelle\_42:

(Start: 16 @32248 has 36 MA's), (Start: 21 @32263 has 27 MA's), (36, 32377),

Gene: Powerpuff\_44 Start: 32654, Stop: 32839, Start Num: 16

Candidate Starts for Powerpuff\_44:

(Start: 16 @32654 has 36 MA's), (Start: 21 @32669 has 27 MA's), (36, 32783),

Gene: Pumpkins\_41 Start: 31677, Stop: 31853, Start Num: 16

Candidate Starts for Pumpkins\_41:

(Start: 16 @31677 has 36 MA's), (Start: 21 @31692 has 27 MA's), (36, 31806),

Gene: Reedo\_41 Start: 29794, Stop: 29988, Start Num: 16

Candidate Starts for Reedo\_41:

(Start: 16 @29794 has 36 MA's), (Start: 21 @29800 has 27 MA's), (36, 29914),

Gene: ShakeltOph\_46 Start: 32416, Stop: 32613, Start Num: 16

Candidate Starts for ShakeltOph\_46:

(2, 31570), (Start: 16 @32416 has 36 MA's), (Start: 21 @32434 has 27 MA's),

Gene: ShawBrad\_46 Start: 30695, Stop: 30868, Start Num: 21

Candidate Starts for ShawBrad\_46:

(Start: 21 @30695 has 27 MA's), (27, 30758), (31, 30782), (32, 30785), (37, 30827),

Gene: Simpson\_44 Start: 31585, Stop: 31755, Start Num: 21

Candidate Starts for Simpson\_44:

(Start: 16 @31570 has 36 MA's), (Start: 21 @31585 has 27 MA's), (36, 31699), (39, 31732),

Gene: SoSeph\_35 Start: 30287, Stop: 30448, Start Num: 21

Candidate Starts for SoSeph\_35:

(Start: 21 @30287 has 27 MA's), (22, 30302), (28, 30347), (29, 30350), (40, 30428),

Gene: Tallboi\_41 Start: 32404, Stop: 32592, Start Num: 16

Candidate Starts for Tallboi\_41:

(Start: 16 @32404 has 36 MA's), (Start: 21 @32419 has 27 MA's), (36, 32533),

Gene: Tbone\_41 Start: 31365, Stop: 31553, Start Num: 16

Candidate Starts for Tbone\_41:

(Start: 16 @31365 has 36 MA's), (Start: 21 @31380 has 27 MA's), (36, 31494),

Gene: TforTroy\_43 Start: 31539, Stop: 31715, Start Num: 16

Candidate Starts for TforTroy\_43:

(Start: 16 @31539 has 36 MA's), (Start: 21 @31554 has 27 MA's), (25, 31587),

Gene: ThursdayNight\_45 Start: 32357, Stop: 32515, Start Num: 22

Candidate Starts for ThursdayNight\_45:

(Start: 16 @32324 has 36 MA's), (Start: 21 @32342 has 27 MA's), (22, 32357),

Gene: Thyatira\_35 Start: 30141, Stop: 30302, Start Num: 21

Candidate Starts for Thyatira\_35:

(Start: 21 @30141 has 27 MA's), (22, 30156), (28, 30201), (29, 30204), (40, 30282),

Gene: Tian\_40 Start: 32255, Stop: 32410, Start Num: 22

Candidate Starts for Tian\_40:

(Start: 16 @32225 has 36 MA's), (Start: 21 @32240 has 27 MA's), (22, 32255),

Gene: Tuck\_45 Start: 33591, Stop: 33752, Start Num: 21

Candidate Starts for Tuck\_45:

(Start: 16 @33576 has 36 MA's), (Start: 21 @33591 has 27 MA's),

Gene: Turab\_39 Start: 30685, Stop: 30852, Start Num: 21

Candidate Starts for Turab\_39:

(Start: 16 @30670 has 36 MA's), (Start: 21 @30685 has 27 MA's), (22, 30700),

Gene: Tutumahutu\_43 Start: 31537, Stop: 31722, Start Num: 16

Candidate Starts for Tutumahutu\_43:

(Start: 16 @31537 has 36 MA's), (Start: 21 @31552 has 27 MA's), (36, 31666),

Gene: VResidence\_42 Start: 31016, Stop: 31201, Start Num: 16

Candidate Starts for VResidence\_42:

(15, 31013), (Start: 16 @31016 has 36 MA's), (Start: 21 @31031 has 27 MA's),

Gene: Warda\_42 Start: 31541, Stop: 31729, Start Num: 16

Candidate Starts for Warda\_42:

(Start: 16 @31541 has 36 MA's), (Start: 21 @31556 has 27 MA's), (36, 31670),

Gene: Waterfoul\_35 Start: 30197, Stop: 30364, Start Num: 21

Candidate Starts for Waterfoul\_35:

(19, 30191), (Start: 21 @30197 has 27 MA's), (23, 30215), (26, 30257), (30, 30269), (37, 30329), (38, 30332), (40, 30344),

Gene: YesChef\_42 Start: 31513, Stop: 31698, Start Num: 16

Candidate Starts for YesChef\_42:

(Start: 16 @31513 has 36 MA's), (Start: 21 @31528 has 27 MA's), (36, 31642),