

Pham 294665



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 294665 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294665 has 78 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Persimmon\_70, Squillium\_73, Navo\_72, WhereRU\_71, Braelyn\_73, Liandry\_73, Bartholomune\_72, Eliot67\_72, NootNoot\_70, Davielle\_71, Paradiddles\_70, FreddyDRoo\_72, PinkiePie\_72
- Track 2 : Samisti12\_74, Shuckle\_72
- Track 3 : Bmoc\_72
- Track 4 : Cursive\_72, Anedea\_72, Larnav\_74, Sushi23\_74, Riptide\_71, EGole\_75, Leo04\_75, BlueOtter\_74, HangryHippo\_74, Scheme\_75, Tribute\_72, Coogler\_74, Cross\_74, Deutsch\_74, Watermoore\_74, Peebs\_73, Lululemon\_73, Pepperwood\_74, PacManQ\_73
- Track 5 : LilSaint\_73
- Track 6 : Marsus\_72, MulchMansion\_71, Angela\_71, LilMartin\_71
- Track 7 : Daubenski\_75, Cadmus\_72
- Track 8 : Warpy\_78, Jay2Jay\_79
- Track 9 : Mildred21\_72
- Track 10 : Targaryen\_75, Evy\_75
- Track 11 : Forrest\_55, MeganTheeKilla\_52, Jada\_53
- Track 12 : Patelgo\_54, Moab\_54
- Track 13 : Limpid\_51, Annadreamy\_51
- Track 14 : DeluluLabubu\_53, Gilson\_54, Emma1919\_55, Maupel\_53
- Track 15 : Sham\_50, TunaTartare\_52
- Track 16 : Francob\_52
- Track 17 : Kenrey\_55
- Track 18 : SparkleGoddess\_54, Belfort\_55, Westy\_54, Stigma\_53, Karp\_52, Comrade\_54
- Track 19 : Phredrick\_53
- Track 20 : Blueeyedbeauty\_53
- Track 21 : SeresaTree\_53, Faust\_54
- Track 22 : Beuffert\_51
- Track 23 : Chaewon\_53
- Track 24 : Muntaha\_51, Wakanda\_50
- Track 25 : Circinus\_51, BillNye\_50

**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 73 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anedea\_72, Bartholomune\_72, BlueOtter\_74, Braelyn\_73, Cadmus\_72, Coogler\_74, Cross\_74, Cursive\_72, Daubenski\_75, Davielle\_71, EGole\_75, Eliot67\_72, Evy\_75, FreddyDRoo\_72, HangryHippo\_74, Larnav\_74, Leo04\_75, Liandry\_73, Lululemon\_73, Navo\_72, NootNoot\_70, PacManQ\_73, Paradiddles\_70, Peebs\_73, Pepperwood\_74, Persimmon\_70, PinkiePie\_72, Riptide\_71, Samisti12\_74, Scheme\_75, Shuckle\_72, Squillium\_73, Sushi23\_74, Targaryen\_75, Teutsch\_74, Tribute\_72, Watermoore\_74, WhereRU\_71,

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

- Jay2Jay\_79, LilSaint\_73, Warpy\_78,

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

- Angela\_71, Annadreamy\_51, Belfort\_55, Beuffert\_51, BillNye\_50, Blueeyedbeauty\_53, Bmoc\_72, Chaewon\_53, Circinus\_51, Comrade\_54, DeluluLabubu\_53, Emma1919\_55, Faust\_54, Forrest\_55, Francob\_52, Gilson\_54, Jada\_53, Karp\_52, Kenrey\_55, LilMartin\_71, Limpid\_51, Marsus\_72, Maupel\_53, MeganTheeKilla\_52, Mildred21\_72, Moab\_54, MulchMansion\_71, Muntaha\_51, Patelgo\_54, Phredrick\_53, SeresaTree\_53, Sham\_50, SparkleGoddess\_54, Stigma\_53, TunaTartare\_52, Wakanda\_50, Westy\_54,

### Summary by start number:

Start 11:

- Found in 31 of 78 ( 39.7% ) of genes in pham
- Manual Annotations of this start: 28 of 73
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Annadreamy\_51 (BK1), Belfort\_55 (BK1), Beuffert\_51 (BK1), BillNye\_50 (BK2), Blueeyedbeauty\_53 (BK1), Chaewon\_53 (BK2), Circinus\_51 (BK2), Comrade\_54 (BK1), DeluluLabubu\_53 (BK1), Emma1919\_55 (BK1), Faust\_54 (BK1), Forrest\_55 (BK1), Francob\_52 (BK1), Gilson\_54 (BK1), Jada\_53 (BK1), Karp\_52 (BK1), Kenrey\_55 (BK1), Limpid\_51 (BK1), Maupel\_53 (BK1), MeganTheeKilla\_52 (BK1), Moab\_54 (BK1), Muntaha\_51 (BK2), Patelgo\_54 (BK1), Phredrick\_53 (BK1), SeresaTree\_53 (BK1), Sham\_50 (BK1), SparkleGoddess\_54 (BK1), Stigma\_53 (BK1), TunaTartare\_52 (BK1), Wakanda\_50 (BK2), Westy\_54 (BK1),

Start 13:

- Found in 45 of 78 ( 57.7% ) of genes in pham
- Manual Annotations of this start: 1 of 73
- Called 2.2% of time when present
- Phage (with cluster) where this start called: LilSaint\_73 (BE1),

Start 15:

- Found in 6 of 78 ( 7.7% ) of genes in pham
- Manual Annotations of this start: 6 of 73
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angela\_71 (BE1), Bmoc\_72 (BE1), LilMartin\_71 (BE1), Marsus\_72 (BE1), Mildred21\_72 (BE1), MulchMansion\_71 (BE1),

#### Start 16:

- Found in 41 of 78 ( 52.6% ) of genes in pham
- Manual Annotations of this start: 36 of 73
- Called 92.7% of time when present
- Phage (with cluster) where this start called: Anedea\_72 (BE1), Bartholomune\_72 (BE1), BlueOtter\_74 (BE1), Braelyn\_73 (BE1), Cadmus\_72 (BE1), Coogler\_74 (BE1), Cross\_74 (BE1), Cursive\_72 (BE1), Daubenski\_75 (BE1), Davielle\_71 (BE1), EGole\_75 (BE1), Eliot67\_72 (BE1), Evy\_75 (BE1), FreddyDRoo\_72 (BE1), HangryHippo\_74 (BE1), Larnav\_74 (BE1), Leo04\_75 (BE1), Liandry\_73 (BE1), Lululemon\_73 (BE1), Navo\_72 (BE1), NootNoot\_70 (BE1), PacManQ\_73 (BE1), Paradiddles\_70 (BE1), Peebs\_73 (BE1), Pepperwood\_74 (BE1), Persimmon\_70 (BE1), PinkiePie\_72 (BE1), Riptide\_71 (BE1), Samisti12\_74 (BE1), Scheme\_75 (BE1), Shuckle\_72 (BE1), Squillium\_73 (BE1), Sushi23\_74 (BE1), Targaryen\_75 (BE1), Teutsch\_74 (BE1), Tribute\_72 (BE1), Watermoore\_74 (BE1), WhereRU\_71 (BE1),

#### Start 17:

- Found in 31 of 78 ( 39.7% ) of genes in pham
- Manual Annotations of this start: 2 of 73
- Called 6.5% of time when present
- Phage (with cluster) where this start called: Jay2Jay\_79 (BE1), Warpy\_78 (BE1),

### **Summary by clusters:**

There are 3 clusters represented in this pham: BE1, BK1, BK2,

#### Info for manual annotations of cluster BE1:

- Start number 13 was manually annotated 1 time for cluster BE1.
- Start number 15 was manually annotated 6 times for cluster BE1.
- Start number 16 was manually annotated 36 times for cluster BE1.
- Start number 17 was manually annotated 2 times for cluster BE1.

#### Info for manual annotations of cluster BK1:

- Start number 11 was manually annotated 24 times for cluster BK1.

#### Info for manual annotations of cluster BK2:

- Start number 11 was manually annotated 4 times for cluster BK2.

### **Gene Information:**

Gene: Anedea\_72 Start: 53993, Stop: 54184, Start Num: 16

Candidate Starts for Anedea\_72:

(Start: 13 @53972 has 1 MA's), (Start: 16 @53993 has 36 MA's), (28, 54119),

Gene: Angela\_71 Start: 53445, Stop: 53642, Start Num: 15

Candidate Starts for Angela\_71:

(12, 53421), (Start: 13 @53427 has 1 MA's), (Start: 15 @53445 has 6 MA's),

Gene: Annadreamy\_51 Start: 43372, Stop: 43596, Start Num: 11

Candidate Starts for Annadreamy\_51:

(Start: 11 @43372 has 28 MA's), (21, 43438), (30, 43543),

Gene: Bartholomune\_72 Start: 53812, Stop: 54003, Start Num: 16  
Candidate Starts for Bartholomune\_72:  
(Start: 13 @53791 has 1 MA's), (Start: 16 @53812 has 36 MA's), (Start: 17 @53821 has 2 MA's), (22, 53869),

Gene: Belfort\_55 Start: 45887, Stop: 46132, Start Num: 11  
Candidate Starts for Belfort\_55:  
(1, 45788), (6, 45854), (7, 45857), (Start: 11 @45887 has 28 MA's), (18, 45938), (19, 45941), (21, 45962),

Gene: Beuffert\_51 Start: 44510, Stop: 44734, Start Num: 11  
Candidate Starts for Beuffert\_51:  
(Start: 11 @44510 has 28 MA's), (18, 44552), (20, 44558), (21, 44576), (30, 44681),

Gene: BillNye\_50 Start: 47336, Stop: 47578, Start Num: 11  
Candidate Starts for BillNye\_50:  
(5, 47300), (Start: 11 @47336 has 28 MA's), (18, 47381), (21, 47405), (23, 47429), (29, 47498), (31, 47513), (33, 47552),

Gene: BlueOtter\_74 Start: 55186, Stop: 55377, Start Num: 16  
Candidate Starts for BlueOtter\_74:  
(Start: 13 @55165 has 1 MA's), (Start: 16 @55186 has 36 MA's), (28, 55312),

Gene: Blueeyedbeauty\_53 Start: 43884, Stop: 44108, Start Num: 11  
Candidate Starts for Blueeyedbeauty\_53:  
(Start: 11 @43884 has 28 MA's), (18, 43926), (21, 43950), (26, 43992), (30, 44055),

Gene: Bmoc\_72 Start: 53803, Stop: 54021, Start Num: 15  
Candidate Starts for Bmoc\_72:  
(10, 53770), (14, 53788), (Start: 15 @53803 has 6 MA's), (Start: 17 @53815 has 2 MA's), (28, 53932),

Gene: Braelyn\_73 Start: 54579, Stop: 54770, Start Num: 16  
Candidate Starts for Braelyn\_73:  
(Start: 13 @54558 has 1 MA's), (Start: 16 @54579 has 36 MA's), (Start: 17 @54588 has 2 MA's), (22, 54636),

Gene: Cadmus\_72 Start: 54158, Stop: 54349, Start Num: 16  
Candidate Starts for Cadmus\_72:  
(12, 54134), (Start: 13 @54140 has 1 MA's), (Start: 16 @54158 has 36 MA's), (20, 54179), (29, 54296), (32, 54332),

Gene: Chaewon\_53 Start: 47476, Stop: 47715, Start Num: 11  
Candidate Starts for Chaewon\_53:  
(5, 47440), (Start: 11 @47476 has 28 MA's), (18, 47518), (21, 47542), (23, 47566), (31, 47650),

Gene: Circinus\_51 Start: 47475, Stop: 47717, Start Num: 11  
Candidate Starts for Circinus\_51:  
(5, 47439), (Start: 11 @47475 has 28 MA's), (18, 47520), (21, 47544), (23, 47568), (29, 47637), (31, 47652), (33, 47691),

Gene: Comrade\_54 Start: 45503, Stop: 45748, Start Num: 11  
Candidate Starts for Comrade\_54:

(1, 45404), (6, 45470), (7, 45473), (Start: 11 @45503 has 28 MA's), (18, 45554), (19, 45557), (21, 45578),

Gene: Coogler\_74 Start: 55212, Stop: 55403, Start Num: 16

Candidate Starts for Coogler\_74:

(Start: 13 @55191 has 1 MA's), (Start: 16 @55212 has 36 MA's), (28, 55338),

Gene: Cross\_74 Start: 55187, Stop: 55378, Start Num: 16

Candidate Starts for Cross\_74:

(Start: 13 @55166 has 1 MA's), (Start: 16 @55187 has 36 MA's), (28, 55313),

Gene: Cursive\_72 Start: 54712, Stop: 54903, Start Num: 16

Candidate Starts for Cursive\_72:

(Start: 13 @54691 has 1 MA's), (Start: 16 @54712 has 36 MA's), (28, 54838),

Gene: Daubenski\_75 Start: 54922, Stop: 55113, Start Num: 16

Candidate Starts for Daubenski\_75:

(12, 54898), (Start: 13 @54904 has 1 MA's), (Start: 16 @54922 has 36 MA's), (20, 54943), (29, 55060), (32, 55096),

Gene: Davielle\_71 Start: 53999, Stop: 54190, Start Num: 16

Candidate Starts for Davielle\_71:

(Start: 13 @53978 has 1 MA's), (Start: 16 @53999 has 36 MA's), (Start: 17 @54008 has 2 MA's), (22, 54056),

Gene: DeluluLabubu\_53 Start: 43617, Stop: 43847, Start Num: 11

Candidate Starts for DeluluLabubu\_53:

(3, 43566), (6, 43584), (8, 43605), (9, 43608), (Start: 11 @43617 has 28 MA's), (Start: 17 @43659 has 2 MA's), (18, 43665), (21, 43689),

Gene: EGole\_75 Start: 56133, Stop: 56324, Start Num: 16

Candidate Starts for EGole\_75:

(Start: 13 @56112 has 1 MA's), (Start: 16 @56133 has 36 MA's), (28, 56259),

Gene: Eliot67\_72 Start: 53854, Stop: 54045, Start Num: 16

Candidate Starts for Eliot67\_72:

(Start: 13 @53833 has 1 MA's), (Start: 16 @53854 has 36 MA's), (Start: 17 @53863 has 2 MA's), (22, 53911),

Gene: Emma1919\_55 Start: 44300, Stop: 44530, Start Num: 11

Candidate Starts for Emma1919\_55:

(3, 44249), (6, 44267), (8, 44288), (9, 44291), (Start: 11 @44300 has 28 MA's), (Start: 17 @44342 has 2 MA's), (18, 44348), (21, 44372),

Gene: Evy\_75 Start: 55080, Stop: 55271, Start Num: 16

Candidate Starts for Evy\_75:

(Start: 13 @55059 has 1 MA's), (Start: 16 @55080 has 36 MA's), (Start: 17 @55089 has 2 MA's), (22, 55137), (23, 55143),

Gene: Faust\_54 Start: 45437, Stop: 45667, Start Num: 11

Candidate Starts for Faust\_54:

(9, 45428), (Start: 11 @45437 has 28 MA's), (20, 45500), (21, 45518), (22, 45536), (27, 45590),

Gene: Forrest\_55 Start: 44997, Stop: 45227, Start Num: 11  
Candidate Starts for Forrest\_55:  
(3, 44946), (6, 44964), (8, 44985), (9, 44988), (Start: 11 @44997 has 28 MA's), (Start: 17 @45039 has 2 MA's), (18, 45045), (21, 45069), (28, 45150),

Gene: Francob\_52 Start: 44361, Stop: 44591, Start Num: 11  
Candidate Starts for Francob\_52:  
(2, 44307), (3, 44310), (6, 44328), (Start: 11 @44361 has 28 MA's), (Start: 17 @44403 has 2 MA's), (18, 44409), (21, 44433), (30, 44538),

Gene: FreddyDRoo\_72 Start: 53854, Stop: 54045, Start Num: 16  
Candidate Starts for FreddyDRoo\_72:  
(Start: 13 @53833 has 1 MA's), (Start: 16 @53854 has 36 MA's), (Start: 17 @53863 has 2 MA's), (22, 53911),

Gene: Gilson\_54 Start: 44253, Stop: 44483, Start Num: 11  
Candidate Starts for Gilson\_54:  
(3, 44202), (6, 44220), (8, 44241), (9, 44244), (Start: 11 @44253 has 28 MA's), (Start: 17 @44295 has 2 MA's), (18, 44301), (21, 44325),

Gene: HangryHippo\_74 Start: 55186, Stop: 55377, Start Num: 16  
Candidate Starts for HangryHippo\_74:  
(Start: 13 @55165 has 1 MA's), (Start: 16 @55186 has 36 MA's), (28, 55312),

Gene: Jada\_53 Start: 44179, Stop: 44409, Start Num: 11  
Candidate Starts for Jada\_53:  
(3, 44128), (6, 44146), (8, 44167), (9, 44170), (Start: 11 @44179 has 28 MA's), (Start: 17 @44221 has 2 MA's), (18, 44227), (21, 44251), (28, 44332),

Gene: Jay2Jay\_79 Start: 55942, Stop: 56124, Start Num: 17  
Candidate Starts for Jay2Jay\_79:  
(Start: 13 @55912 has 1 MA's), (Start: 16 @55933 has 36 MA's), (Start: 17 @55942 has 2 MA's), (22, 55990), (23, 55996),

Gene: Karp\_52 Start: 45102, Stop: 45347, Start Num: 11  
Candidate Starts for Karp\_52:  
(1, 45003), (6, 45069), (7, 45072), (Start: 11 @45102 has 28 MA's), (18, 45153), (19, 45156), (21, 45177),

Gene: Kenrey\_55 Start: 44448, Stop: 44678, Start Num: 11  
Candidate Starts for Kenrey\_55:  
(3, 44397), (6, 44415), (7, 44418), (8, 44436), (9, 44439), (Start: 11 @44448 has 28 MA's), (Start: 17 @44490 has 2 MA's), (18, 44496), (20, 44502), (21, 44520),

Gene: Larnav\_74 Start: 55171, Stop: 55362, Start Num: 16  
Candidate Starts for Larnav\_74:  
(Start: 13 @55150 has 1 MA's), (Start: 16 @55171 has 36 MA's), (28, 55297),

Gene: Leo04\_75 Start: 55686, Stop: 55877, Start Num: 16  
Candidate Starts for Leo04\_75:  
(Start: 13 @55665 has 1 MA's), (Start: 16 @55686 has 36 MA's), (28, 55812),

Gene: Liandry\_73 Start: 54561, Stop: 54752, Start Num: 16

Candidate Starts for Liandry\_73:

(Start: 13 @54540 has 1 MA's), (Start: 16 @54561 has 36 MA's), (Start: 17 @54570 has 2 MA's), (22, 54618),

Gene: LilMartin\_71 Start: 53393, Stop: 53590, Start Num: 15

Candidate Starts for LilMartin\_71:

(12, 53369), (Start: 13 @53375 has 1 MA's), (Start: 15 @53393 has 6 MA's),

Gene: LilSaint\_73 Start: 53644, Stop: 53856, Start Num: 13

Candidate Starts for LilSaint\_73:

(Start: 13 @53644 has 1 MA's), (Start: 16 @53665 has 36 MA's), (28, 53791),

Gene: Limpid\_51 Start: 43371, Stop: 43595, Start Num: 11

Candidate Starts for Limpid\_51:

(Start: 11 @43371 has 28 MA's), (21, 43437), (30, 43542),

Gene: Lululemon\_73 Start: 54567, Stop: 54758, Start Num: 16

Candidate Starts for Lululemon\_73:

(Start: 13 @54546 has 1 MA's), (Start: 16 @54567 has 36 MA's), (28, 54693),

Gene: Marsus\_72 Start: 53665, Stop: 53862, Start Num: 15

Candidate Starts for Marsus\_72:

(12, 53641), (Start: 13 @53647 has 1 MA's), (Start: 15 @53665 has 6 MA's),

Gene: Maupel\_53 Start: 44253, Stop: 44483, Start Num: 11

Candidate Starts for Maupel\_53:

(3, 44202), (6, 44220), (8, 44241), (9, 44244), (Start: 11 @44253 has 28 MA's), (Start: 17 @44295 has 2 MA's), (18, 44301), (21, 44325),

Gene: MeganTheeKilla\_52 Start: 43614, Stop: 43844, Start Num: 11

Candidate Starts for MeganTheeKilla\_52:

(3, 43563), (6, 43581), (8, 43602), (9, 43605), (Start: 11 @43614 has 28 MA's), (Start: 17 @43656 has 2 MA's), (18, 43662), (21, 43686), (28, 43767),

Gene: Mildred21\_72 Start: 53597, Stop: 53794, Start Num: 15

Candidate Starts for Mildred21\_72:

(Start: 15 @53597 has 6 MA's), (Start: 17 @53609 has 2 MA's), (23, 53663), (25, 53675), (30, 53750),

Gene: Moab\_54 Start: 45473, Stop: 45700, Start Num: 11

Candidate Starts for Moab\_54:

(2, 45419), (6, 45440), (7, 45443), (Start: 11 @45473 has 28 MA's), (Start: 17 @45512 has 2 MA's), (18, 45518), (21, 45542), (30, 45647), (33, 45689),

Gene: MulchMansion\_71 Start: 53393, Stop: 53590, Start Num: 15

Candidate Starts for MulchMansion\_71:

(12, 53369), (Start: 13 @53375 has 1 MA's), (Start: 15 @53393 has 6 MA's),

Gene: Muntaha\_51 Start: 45723, Stop: 45953, Start Num: 11

Candidate Starts for Muntaha\_51:

(4, 45678), (Start: 11 @45723 has 28 MA's), (18, 45759), (21, 45783), (23, 45807), (30, 45888),

Gene: Navo\_72 Start: 54483, Stop: 54674, Start Num: 16

Candidate Starts for Navo\_72:

(Start: 13 @54462 has 1 MA's), (Start: 16 @54483 has 36 MA's), (Start: 17 @54492 has 2 MA's), (22, 54540),

Gene: NootNoot\_70 Start: 53475, Stop: 53666, Start Num: 16

Candidate Starts for NootNoot\_70:

(Start: 13 @53454 has 1 MA's), (Start: 16 @53475 has 36 MA's), (Start: 17 @53484 has 2 MA's), (22, 53532),

Gene: PacManQ\_73 Start: 54567, Stop: 54758, Start Num: 16

Candidate Starts for PacManQ\_73:

(Start: 13 @54546 has 1 MA's), (Start: 16 @54567 has 36 MA's), (28, 54693),

Gene: Paradiddles\_70 Start: 53739, Stop: 53930, Start Num: 16

Candidate Starts for Paradiddles\_70:

(Start: 13 @53718 has 1 MA's), (Start: 16 @53739 has 36 MA's), (Start: 17 @53748 has 2 MA's), (22, 53796),

Gene: Patelgo\_54 Start: 45660, Stop: 45887, Start Num: 11

Candidate Starts for Patelgo\_54:

(2, 45606), (6, 45627), (7, 45630), (Start: 11 @45660 has 28 MA's), (Start: 17 @45699 has 2 MA's), (18, 45705), (21, 45729), (30, 45834), (33, 45876),

Gene: Peebs\_73 Start: 54921, Stop: 55112, Start Num: 16

Candidate Starts for Peebs\_73:

(Start: 13 @54900 has 1 MA's), (Start: 16 @54921 has 36 MA's), (28, 55047),

Gene: Pepperwood\_74 Start: 55054, Stop: 55245, Start Num: 16

Candidate Starts for Pepperwood\_74:

(Start: 13 @55033 has 1 MA's), (Start: 16 @55054 has 36 MA's), (28, 55180),

Gene: Persimmon\_70 Start: 53408, Stop: 53599, Start Num: 16

Candidate Starts for Persimmon\_70:

(Start: 13 @53387 has 1 MA's), (Start: 16 @53408 has 36 MA's), (Start: 17 @53417 has 2 MA's), (22, 53465),

Gene: Phredrick\_53 Start: 43519, Stop: 43749, Start Num: 11

Candidate Starts for Phredrick\_53:

(2, 43465), (3, 43468), (6, 43486), (7, 43489), (8, 43507), (9, 43510), (Start: 11 @43519 has 28 MA's), (Start: 17 @43561 has 2 MA's), (18, 43567), (20, 43573), (21, 43591), (28, 43672),

Gene: PinkiePie\_72 Start: 54561, Stop: 54752, Start Num: 16

Candidate Starts for PinkiePie\_72:

(Start: 13 @54540 has 1 MA's), (Start: 16 @54561 has 36 MA's), (Start: 17 @54570 has 2 MA's), (22, 54618),

Gene: Riptide\_71 Start: 53209, Stop: 53400, Start Num: 16

Candidate Starts for Riptide\_71:

(Start: 13 @53188 has 1 MA's), (Start: 16 @53209 has 36 MA's), (28, 53335),

Gene: Samisti12\_74 Start: 56364, Stop: 56555, Start Num: 16

Candidate Starts for Samisti12\_74:

(Start: 13 @56343 has 1 MA's), (Start: 16 @56364 has 36 MA's),

Gene: Scheme\_75 Start: 55768, Stop: 55959, Start Num: 16  
Candidate Starts for Scheme\_75:  
(Start: 13 @55747 has 1 MA's), (Start: 16 @55768 has 36 MA's), (28, 55894),

Gene: SeresaTree\_53 Start: 44827, Stop: 45057, Start Num: 11  
Candidate Starts for SeresaTree\_53:  
(9, 44818), (Start: 11 @44827 has 28 MA's), (20, 44890), (21, 44908), (22, 44926), (27, 44980),

Gene: Sham\_50 Start: 45368, Stop: 45598, Start Num: 11  
Candidate Starts for Sham\_50:  
(9, 45359), (Start: 11 @45368 has 28 MA's), (20, 45431), (21, 45449), (24, 45479), (27, 45521), (33, 45587),

Gene: Shuckle\_72 Start: 55378, Stop: 55569, Start Num: 16  
Candidate Starts for Shuckle\_72:  
(Start: 13 @55357 has 1 MA's), (Start: 16 @55378 has 36 MA's),

Gene: SparkleGoddess\_54 Start: 45504, Stop: 45749, Start Num: 11  
Candidate Starts for SparkleGoddess\_54:  
(1, 45405), (6, 45471), (7, 45474), (Start: 11 @45504 has 28 MA's), (18, 45555), (19, 45558), (21, 45579),

Gene: Squillium\_73 Start: 54562, Stop: 54753, Start Num: 16  
Candidate Starts for Squillium\_73:  
(Start: 13 @54541 has 1 MA's), (Start: 16 @54562 has 36 MA's), (Start: 17 @54571 has 2 MA's), (22, 54619),

Gene: Stigma\_53 Start: 45518, Stop: 45763, Start Num: 11  
Candidate Starts for Stigma\_53:  
(1, 45419), (6, 45485), (7, 45488), (Start: 11 @45518 has 28 MA's), (18, 45569), (19, 45572), (21, 45593),

Gene: Sushi23\_74 Start: 55279, Stop: 55470, Start Num: 16  
Candidate Starts for Sushi23\_74:  
(Start: 13 @55258 has 1 MA's), (Start: 16 @55279 has 36 MA's), (28, 55405),

Gene: Targaryen\_75 Start: 55982, Stop: 56173, Start Num: 16  
Candidate Starts for Targaryen\_75:  
(Start: 13 @55961 has 1 MA's), (Start: 16 @55982 has 36 MA's), (Start: 17 @55991 has 2 MA's), (22, 56039), (23, 56045),

Gene: Teutsch\_74 Start: 55542, Stop: 55733, Start Num: 16  
Candidate Starts for Teutsch\_74:  
(Start: 13 @55521 has 1 MA's), (Start: 16 @55542 has 36 MA's), (28, 55668),

Gene: Tribute\_72 Start: 54748, Stop: 54939, Start Num: 16  
Candidate Starts for Tribute\_72:  
(Start: 13 @54727 has 1 MA's), (Start: 16 @54748 has 36 MA's), (28, 54874),

Gene: TunaTartare\_52 Start: 45671, Stop: 45901, Start Num: 11  
Candidate Starts for TunaTartare\_52:  
(9, 45662), (Start: 11 @45671 has 28 MA's), (20, 45734), (21, 45752), (24, 45782), (27, 45824), (33, 45890),

Gene: Wakanda\_50 Start: 45660, Stop: 45890, Start Num: 11

Candidate Starts for Wakanda\_50:

(4, 45615), (Start: 11 @45660 has 28 MA's), (18, 45696), (21, 45720), (23, 45744), (30, 45825),

Gene: Warpy\_78 Start: 55455, Stop: 55637, Start Num: 17

Candidate Starts for Warpy\_78:

(Start: 13 @55425 has 1 MA's), (Start: 16 @55446 has 36 MA's), (Start: 17 @55455 has 2 MA's), (22, 55503), (23, 55509),

Gene: Watermoore\_74 Start: 55758, Stop: 55949, Start Num: 16

Candidate Starts for Watermoore\_74:

(Start: 13 @55737 has 1 MA's), (Start: 16 @55758 has 36 MA's), (28, 55884),

Gene: Westy\_54 Start: 45505, Stop: 45750, Start Num: 11

Candidate Starts for Westy\_54:

(1, 45406), (6, 45472), (7, 45475), (Start: 11 @45505 has 28 MA's), (18, 45556), (19, 45559), (21, 45580),

Gene: WhereRU\_71 Start: 53999, Stop: 54190, Start Num: 16

Candidate Starts for WhereRU\_71:

(Start: 13 @53978 has 1 MA's), (Start: 16 @53999 has 36 MA's), (Start: 17 @54008 has 2 MA's), (22, 54056),