

Pham 206759



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 206759 Report

This analysis was run 02/22/25 on database version 588.

Pham number 206759 has 88 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Navo\_56
- Track 2 : Jay2Jay\_63, Warpy\_62
- Track 3 : WhereRU\_55, Liandry\_57, Squillium\_57, NootNoot\_54, Persimmon\_54, Bartholomune\_56, Braelyn\_57, PinkiePie\_56, Paradiddles\_54
- Track 4 : Anedea\_56
- Track 5 : Sushi23\_58, Leo04\_59, Teutsch\_58, EGole\_59, Cross\_58, Scheme\_59, Watermoore\_58, BlueOtter\_58, Shuckle\_56, Cursive\_56, Larnav\_58, HangryHippo\_58, Lululemon\_57, Tribute\_56, Samisti12\_58, Peebs\_57, PacManQ\_57, Pepperwood\_58
- Track 6 : Marsus\_57, Angela\_55, LilMartin\_55, MulchMansion\_55
- Track 7 : Bmoc\_56
- Track 8 : Evy\_59, Targaryen\_59
- Track 9 : Riptide\_56
- Track 10 : Daubenski\_59
- Track 11 : Mildred21\_56
- Track 12 : PumpkinSpice\_59, Stanimal\_60, TomSawyer\_58, Jollison\_59, Karimac\_59, Wipeout\_58, Birchlyn\_57, KentuckyRacer\_60, Gibbi\_64, JimJam\_60, Spilled\_61, Bordeaux\_58, Sollertia\_60, MindFlayer\_58, Spelly\_60, Amabiko\_60, Genie2\_60, IchabodCrane\_57, Starbow\_58, CeilingFan\_59, Battuta\_58, BoomerJR\_60, Mugiwara\_61, Quarant19\_60, SaltySpittoon\_60, Rikishi\_63
- Track 13 : Wofford\_59, Elmer\_62
- Track 14 : LukeCage\_59
- Track 15 : StarPlatinum\_60
- Track 16 : Tomas\_62
- Track 17 : Enygma\_60
- Track 18 : Karp\_37, Belfort\_39, Westy\_38, SparkleGoddess\_38
- Track 19 : Beuffert\_36, Blueeyedbeauty\_37, Limpid\_35, Annadreamy\_35
- Track 20 : Comrade\_38
- Track 21 : Moab\_38
- Track 22 : Francob\_37
- Track 23 : Muntaha\_34, Wakanda\_34
- Track 24 : BillNye\_33, Circinus\_35

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

The start number called the most often in the published annotations is 9, it was called in 48 of the 80 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amabiko\_60, Anedea\_56, Angela\_55, Bartholomune\_56, Battuta\_58, Birchlyn\_57, Bmoc\_56, BoomerJR\_60, Bordeaux\_58, Braelyn\_57, CeilingFan\_59, Elmer\_62, Enygma\_60, Evy\_59, Genie2\_60, Gibbi\_64, IchabodCrane\_57, Jay2Jay\_63, JimJam\_60, Jollison\_59, Karimac\_59, KentuckyRacer\_60, Liandry\_57, LilMartin\_55, LukeCage\_59, Marsus\_57, Mildred21\_56, MindFlayer\_58, Mugiwara\_61, MulchMansion\_55, Navo\_56, NootNoot\_54, Paradiddles\_54, Persimmon\_54, PinkiePie\_56, PumpkinSpice\_59, Quarant19\_60, Rikishi\_63, Riptide\_56, SaltySpittoon\_60, Sollertia\_60, Spelly\_60, Spilled\_61, Squillium\_57, Stanimal\_60, Starbow\_58, Targaryen\_59, TomSawyer\_58, Tomas\_62, Warpy\_62, WhereRU\_55, Wipeout\_58, Wofford\_59,

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

- StarPlatinum\_60,

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

- Annadreamy\_35, Belfort\_39, Beuffert\_36, BillNye\_33, BlueOtter\_58, Blueeyedbeauty\_37, Circinus\_35, Comrade\_38, Cross\_58, Cursive\_56, Daubenski\_59, EGole\_59, Francob\_37, HangryHippo\_58, Karp\_37, Larnav\_58, Leo04\_59, Limpid\_35, Lululemon\_57, Moab\_38, Muntaha\_34, PacManQ\_57, Peebs\_57, Pepperwood\_58, Samisti12\_58, Scheme\_59, Shuckle\_56, SparkleGoddess\_38, Sushi23\_58, Teutsch\_58, Tribute\_56, Wakanda\_34, Watermoore\_58, Westy\_38,

### Summary by start number:

Start 6:

- Found in 1 of 88 ( 1.1% ) of genes in pham
- Manual Annotations of this start: 1 of 80
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Francob\_37 (BK1),

Start 7:

- Found in 4 of 88 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 4 of 80
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Annadreamy\_35 (BK1), Beuffert\_36 (BK1), Blueeyedbeauty\_37 (BK1), Limpid\_35 (BK1),

Start 8:

- Found in 2 of 88 ( 2.3% ) of genes in pham
- Manual Annotations of this start: 1 of 80
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Moab\_38 (BK1),

Start 9:

- Found in 54 of 88 ( 61.4% ) of genes in pham
- Manual Annotations of this start: 48 of 80
- Called 98.1% of time when present

- Phage (with cluster) where this start called: Amabiko\_60 (BE2), Anedea\_56 (BE1), Angela\_55 (BE1), Bartholomune\_56 (BE1), Battuta\_58 (BE2), Birchlyn\_57 (BE2), Bmoc\_56 (BE1), BoomerJR\_60 (BE2), Bordeaux\_58 (BE2), Braelyn\_57 (BE1), CeilingFan\_59 (BE2), Elmer\_62 (BE2), Enygma\_60 (BE2), Evy\_59 (BE1), Genie2\_60 (BE2), Gibbi\_64 (BE2), IchabodCrane\_57 (BE2), Jay2Jay\_63 (BE1), JimJam\_60 (BE2), Jollison\_59 (BE2), Karimac\_59 (BE2), KentuckyRacer\_60 (BE2), Liandry\_57 (BE1), LilMartin\_55 (BE1), LukeCage\_59 (BE2), Marsus\_57 (BE1), Mildred21\_56 (BE1), MindFlayer\_58 (BE2), Mugiwara\_61 (BE2), MulchMansion\_55 (BE1), Navo\_56 (BE1), NootNoot\_54 (BE1), Paradiddles\_54 (BE1), Persimmon\_54 (BE1), PinkiePie\_56 (BE1), PumpkinSpice\_59 (BE2), Quarant19\_60 (BE2), Rikishi\_63 (BE2), Riptide\_56 (BE1), SaltySpittoon\_60 (BE2), Sollertia\_60 (BE2), Spelly\_60 (BE2), Spilled\_61 (BE2), Squillium\_57 (BE1), Stanimal\_60 (BE2), Starbow\_58 (BE2), Targaryen\_59 (BE1), TomSawyer\_58 (BE2), Tomas\_62 (BE2), Warpy\_62 (BE1), WhereRU\_55 (BE1), Wipeout\_58 (BE2), Wofford\_59 (BE2),

Start 10:

- Found in 4 of 88 ( 4.5% ) of genes in pham
- Manual Annotations of this start: 4 of 80
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BillNye\_33 (BK2), Circinus\_35 (BK2), Muntaha\_34 (BK2), Wakanda\_34 (BK2),

Start 13:

- Found in 34 of 88 ( 38.6% ) of genes in pham
- Manual Annotations of this start: 2 of 80
- Called 5.9% of time when present
- Phage (with cluster) where this start called: Daubenski\_59 (BE1), StarPlatinum\_60 (BE2),

Start 17:

- Found in 23 of 88 ( 26.1% ) of genes in pham
- Manual Annotations of this start: 16 of 80
- Called 78.3% of time when present
- Phage (with cluster) where this start called: BlueOtter\_58 (BE1), Cross\_58 (BE1), Cursive\_56 (BE1), EGole\_59 (BE1), HangryHippo\_58 (BE1), Larnav\_58 (BE1), Leo04\_59 (BE1), Lululemon\_57 (BE1), PacManQ\_57 (BE1), Peebs\_57 (BE1), Pepperwood\_58 (BE1), Samisti12\_58 (BE1), Scheme\_59 (BE1), Shuckle\_56 (BE1), Sushi23\_58 (BE1), Teutsch\_58 (BE1), Tribute\_56 (BE1), Watermoore\_58 (BE1),

Start 20:

- Found in 6 of 88 ( 6.8% ) of genes in pham
- Manual Annotations of this start: 4 of 80
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Belfort\_39 (BK1), Comrade\_38 (BK1), Karp\_37 (BK1), SparkleGoddess\_38 (BK1), Westy\_38 (BK1),

### Summary by clusters:

There are 4 clusters represented in this pham: BE2, BE1, BK1, BK2,

Info for manual annotations of cluster BE1:

- Start number 9 was manually annotated 20 times for cluster BE1.
- Start number 13 was manually annotated 1 time for cluster BE1.

- Start number 17 was manually annotated 16 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 9 was manually annotated 28 times for cluster BE2.
- Start number 13 was manually annotated 1 time for cluster BE2.

Info for manual annotations of cluster BK1:

- Start number 6 was manually annotated 1 time for cluster BK1.
- Start number 7 was manually annotated 4 times for cluster BK1.
- Start number 8 was manually annotated 1 time for cluster BK1.
- Start number 20 was manually annotated 4 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 10 was manually annotated 4 times for cluster BK2.

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

Gene: Amabiko\_60 Start: 33431, Stop: 33703, Start Num: 9

Candidate Starts for Amabiko\_60:

(Start: 9 @33431 has 48 MA's), (Start: 13 @33461 has 2 MA's),

Gene: Anedea\_56 Start: 32945, Stop: 33214, Start Num: 9

Candidate Starts for Anedea\_56:

(Start: 9 @32945 has 48 MA's),

Gene: Angela\_55 Start: 32418, Stop: 32687, Start Num: 9

Candidate Starts for Angela\_55:

(Start: 9 @32418 has 48 MA's), (18, 32475), (24, 32538),

Gene: Annadreamy\_35 Start: 22062, Stop: 22352, Start Num: 7

Candidate Starts for Annadreamy\_35:

(Start: 7 @22062 has 4 MA's), (Start: 17 @22137 has 16 MA's),

Gene: Bartholomune\_56 Start: 32734, Stop: 33003, Start Num: 9

Candidate Starts for Bartholomune\_56:

(Start: 9 @32734 has 48 MA's), (24, 32854),

Gene: Battuta\_58 Start: 33405, Stop: 33677, Start Num: 9

Candidate Starts for Battuta\_58:

(Start: 9 @33405 has 48 MA's), (Start: 13 @33435 has 2 MA's),

Gene: Belfort\_39 Start: 24663, Stop: 24860, Start Num: 20

Candidate Starts for Belfort\_39:

(Start: 20 @24663 has 4 MA's), (29, 24795),

Gene: Beuffert\_36 Start: 23157, Stop: 23447, Start Num: 7

Candidate Starts for Beuffert\_36:

(Start: 7 @23157 has 4 MA's), (Start: 17 @23232 has 16 MA's),

Gene: BillNye\_33 Start: 25474, Stop: 25743, Start Num: 10

Candidate Starts for BillNye\_33:

(Start: 10 @25474 has 4 MA's), (36, 25729),

Gene: Birchlyn\_57 Start: 31288, Stop: 31560, Start Num: 9

Candidate Starts for Birchlyn\_57:

(Start: 9 @31288 has 48 MA's), (Start: 13 @31318 has 2 MA's),

Gene: BlueOtter\_58 Start: 34147, Stop: 34368, Start Num: 17

Candidate Starts for BlueOtter\_58:

(Start: 17 @34147 has 16 MA's), (24, 34219),

Gene: Blueeyedbeauty\_37 Start: 22553, Stop: 22843, Start Num: 7

Candidate Starts for Blueeyedbeauty\_37:

(Start: 7 @22553 has 4 MA's), (Start: 17 @22628 has 16 MA's),

Gene: Bmoc\_56 Start: 32730, Stop: 32999, Start Num: 9

Candidate Starts for Bmoc\_56:

(Start: 9 @32730 has 48 MA's), (23, 32841),

Gene: BoomerJR\_60 Start: 33305, Stop: 33574, Start Num: 9

Candidate Starts for BoomerJR\_60:

(Start: 9 @33305 has 48 MA's), (Start: 13 @33335 has 2 MA's),

Gene: Bordeaux\_58 Start: 33560, Stop: 33832, Start Num: 9

Candidate Starts for Bordeaux\_58:

(Start: 9 @33560 has 48 MA's), (Start: 13 @33590 has 2 MA's),

Gene: Braelyn\_57 Start: 33501, Stop: 33770, Start Num: 9

Candidate Starts for Braelyn\_57:

(Start: 9 @33501 has 48 MA's), (24, 33621),

Gene: CeilingFan\_59 Start: 33320, Stop: 33592, Start Num: 9

Candidate Starts for CeilingFan\_59:

(Start: 9 @33320 has 48 MA's), (Start: 13 @33350 has 2 MA's),

Gene: Circinus\_35 Start: 25610, Stop: 25879, Start Num: 10

Candidate Starts for Circinus\_35:

(Start: 10 @25610 has 4 MA's), (36, 25865),

Gene: Comrade\_38 Start: 24278, Stop: 24475, Start Num: 20

Candidate Starts for Comrade\_38:

(Start: 20 @24278 has 4 MA's),

Gene: Cross\_58 Start: 34148, Stop: 34369, Start Num: 17

Candidate Starts for Cross\_58:

(Start: 17 @34148 has 16 MA's), (24, 34220),

Gene: Cursive\_56 Start: 33673, Stop: 33894, Start Num: 17

Candidate Starts for Cursive\_56:

(Start: 17 @33673 has 16 MA's), (24, 33745),

Gene: Daubenski\_59 Start: 33871, Stop: 34107, Start Num: 13

Candidate Starts for Daubenski\_59:

(5, 33733), (Start: 13 @33871 has 2 MA's), (Start: 17 @33889 has 16 MA's), (31, 34060), (32, 34063),

Gene: EGole\_59 Start: 35103, Stop: 35324, Start Num: 17

Candidate Starts for EGole\_59:

(Start: 17 @35103 has 16 MA's), (24, 35175),

Gene: Elmer\_62 Start: 34490, Stop: 34759, Start Num: 9

Candidate Starts for Elmer\_62:

(Start: 9 @34490 has 48 MA's), (Start: 13 @34520 has 2 MA's), (15, 34526), (19, 34556),

Gene: Enygma\_60 Start: 35238, Stop: 35510, Start Num: 9

Candidate Starts for Enygma\_60:

(Start: 8 @35220 has 1 MA's), (Start: 9 @35238 has 48 MA's), (Start: 13 @35268 has 2 MA's), (23, 35349), (37, 35493),

Gene: Evy\_59 Start: 34100, Stop: 34369, Start Num: 9

Candidate Starts for Evy\_59:

(Start: 9 @34100 has 48 MA's), (16, 34142),

Gene: Francob\_37 Start: 23047, Stop: 23396, Start Num: 6

Candidate Starts for Francob\_37:

(1, 22750), (2, 22846), (3, 22855), (4, 22903), (Start: 6 @23047 has 1 MA's), (11, 23152), (12, 23155), (14, 23161), (21, 23200), (22, 23239), (25, 23269), (27, 23302), (28, 23317), (33, 23356), (34, 23362), (35, 23377), (38, 23386),

Gene: Genie2\_60 Start: 33419, Stop: 33688, Start Num: 9

Candidate Starts for Genie2\_60:

(Start: 9 @33419 has 48 MA's), (Start: 13 @33449 has 2 MA's),

Gene: Gibbi\_64 Start: 33543, Stop: 33815, Start Num: 9

Candidate Starts for Gibbi\_64:

(Start: 9 @33543 has 48 MA's), (Start: 13 @33573 has 2 MA's),

Gene: HangryHippo\_58 Start: 34147, Stop: 34368, Start Num: 17

Candidate Starts for HangryHippo\_58:

(Start: 17 @34147 has 16 MA's), (24, 34219),

Gene: IchabodCrane\_57 Start: 33132, Stop: 33404, Start Num: 9

Candidate Starts for IchabodCrane\_57:

(Start: 9 @33132 has 48 MA's), (Start: 13 @33162 has 2 MA's),

Gene: Jay2Jay\_63 Start: 34953, Stop: 35222, Start Num: 9

Candidate Starts for Jay2Jay\_63:

(Start: 9 @34953 has 48 MA's), (16, 34995), (30, 35163),

Gene: JimJam\_60 Start: 33506, Stop: 33778, Start Num: 9

Candidate Starts for JimJam\_60:

(Start: 9 @33506 has 48 MA's), (Start: 13 @33536 has 2 MA's),

Gene: Jollison\_59 Start: 33388, Stop: 33660, Start Num: 9

Candidate Starts for Jollison\_59:

(Start: 9 @33388 has 48 MA's), (Start: 13 @33418 has 2 MA's),

Gene: Karimac\_59 Start: 33537, Stop: 33809, Start Num: 9

Candidate Starts for Karimac\_59:  
(Start: 9 @33537 has 48 MA's), (Start: 13 @33567 has 2 MA's),

Gene: Karp\_37 Start: 23878, Stop: 24075, Start Num: 20  
Candidate Starts for Karp\_37:  
(Start: 20 @23878 has 4 MA's), (29, 24010),

Gene: KentuckyRacer\_60 Start: 33321, Stop: 33593, Start Num: 9  
Candidate Starts for KentuckyRacer\_60:  
(Start: 9 @33321 has 48 MA's), (Start: 13 @33351 has 2 MA's),

Gene: Larnav\_58 Start: 34132, Stop: 34353, Start Num: 17  
Candidate Starts for Larnav\_58:  
(Start: 17 @34132 has 16 MA's), (24, 34204),

Gene: Leo04\_59 Start: 34647, Stop: 34868, Start Num: 17  
Candidate Starts for Leo04\_59:  
(Start: 17 @34647 has 16 MA's), (24, 34719),

Gene: Liandry\_57 Start: 33483, Stop: 33752, Start Num: 9  
Candidate Starts for Liandry\_57:  
(Start: 9 @33483 has 48 MA's), (24, 33603),

Gene: LilMartin\_55 Start: 32366, Stop: 32635, Start Num: 9  
Candidate Starts for LilMartin\_55:  
(Start: 9 @32366 has 48 MA's), (18, 32423), (24, 32486),

Gene: Limpid\_35 Start: 22061, Stop: 22351, Start Num: 7  
Candidate Starts for Limpid\_35:  
(Start: 7 @22061 has 4 MA's), (Start: 17 @22136 has 16 MA's),

Gene: LukeCage\_59 Start: 33287, Stop: 33559, Start Num: 9  
Candidate Starts for LukeCage\_59:  
(Start: 9 @33287 has 48 MA's), (Start: 13 @33317 has 2 MA's), (23, 33398),

Gene: Lululemon\_57 Start: 33528, Stop: 33749, Start Num: 17  
Candidate Starts for Lululemon\_57:  
(Start: 17 @33528 has 16 MA's), (24, 33600),

Gene: Marsus\_57 Start: 32638, Stop: 32907, Start Num: 9  
Candidate Starts for Marsus\_57:  
(Start: 9 @32638 has 48 MA's), (18, 32695), (24, 32758),

Gene: Mildred21\_56 Start: 32562, Stop: 32831, Start Num: 9  
Candidate Starts for Mildred21\_56:  
(Start: 9 @32562 has 48 MA's), (Start: 13 @32592 has 2 MA's),

Gene: MindFlayer\_58 Start: 33039, Stop: 33311, Start Num: 9  
Candidate Starts for MindFlayer\_58:  
(Start: 9 @33039 has 48 MA's), (Start: 13 @33069 has 2 MA's),

Gene: Moab\_38 Start: 24121, Stop: 24408, Start Num: 8  
Candidate Starts for Moab\_38:



(Start: 8 @24121 has 1 MA's), (Start: 20 @24208 has 4 MA's), (26, 24286), (29, 24340),

Gene: Mugiwara\_61 Start: 33787, Stop: 34059, Start Num: 9

Candidate Starts for Mugiwara\_61:

(Start: 9 @33787 has 48 MA's), (Start: 13 @33817 has 2 MA's),

Gene: MulchMansion\_55 Start: 32366, Stop: 32635, Start Num: 9

Candidate Starts for MulchMansion\_55:

(Start: 9 @32366 has 48 MA's), (18, 32423), (24, 32486),

Gene: Muntaha\_34 Start: 23939, Stop: 24205, Start Num: 10

Candidate Starts for Muntaha\_34:

(Start: 10 @23939 has 4 MA's), (30, 24146),

Gene: Navo\_56 Start: 33402, Stop: 33671, Start Num: 9

Candidate Starts for Navo\_56:

(Start: 9 @33402 has 48 MA's), (16, 33444), (24, 33522),

Gene: NootNoot\_54 Start: 32397, Stop: 32666, Start Num: 9

Candidate Starts for NootNoot\_54:

(Start: 9 @32397 has 48 MA's), (24, 32517),

Gene: PacManQ\_57 Start: 33528, Stop: 33749, Start Num: 17

Candidate Starts for PacManQ\_57:

(Start: 17 @33528 has 16 MA's), (24, 33600),

Gene: Paradiddles\_54 Start: 32658, Stop: 32927, Start Num: 9

Candidate Starts for Paradiddles\_54:

(Start: 9 @32658 has 48 MA's), (24, 32778),

Gene: Peebs\_57 Start: 33885, Stop: 34106, Start Num: 17

Candidate Starts for Peebs\_57:

(Start: 17 @33885 has 16 MA's), (24, 33957),

Gene: Pepperwood\_58 Start: 34018, Stop: 34239, Start Num: 17

Candidate Starts for Pepperwood\_58:

(Start: 17 @34018 has 16 MA's), (24, 34090),

Gene: Persimmon\_54 Start: 32327, Stop: 32596, Start Num: 9

Candidate Starts for Persimmon\_54:

(Start: 9 @32327 has 48 MA's), (24, 32447),

Gene: PinkiePie\_56 Start: 33483, Stop: 33752, Start Num: 9

Candidate Starts for PinkiePie\_56:

(Start: 9 @33483 has 48 MA's), (24, 33603),

Gene: PumpkinSpice\_59 Start: 33431, Stop: 33703, Start Num: 9

Candidate Starts for PumpkinSpice\_59:

(Start: 9 @33431 has 48 MA's), (Start: 13 @33461 has 2 MA's),

Gene: Quaran19\_60 Start: 33422, Stop: 33694, Start Num: 9

Candidate Starts for Quaran19\_60:

(Start: 9 @33422 has 48 MA's), (Start: 13 @33452 has 2 MA's),

Gene: Rikishi\_63 Start: 33337, Stop: 33609, Start Num: 9  
Candidate Starts for Rikishi\_63:  
(Start: 9 @33337 has 48 MA's), (Start: 13 @33367 has 2 MA's),

Gene: Riptide\_56 Start: 32167, Stop: 32436, Start Num: 9  
Candidate Starts for Riptide\_56:  
(Start: 9 @32167 has 48 MA's),

Gene: SaltySpittoon\_60 Start: 33431, Stop: 33703, Start Num: 9  
Candidate Starts for SaltySpittoon\_60:  
(Start: 9 @33431 has 48 MA's), (Start: 13 @33461 has 2 MA's),

Gene: Samisti12\_58 Start: 35321, Stop: 35542, Start Num: 17  
Candidate Starts for Samisti12\_58:  
(Start: 17 @35321 has 16 MA's), (24, 35393),

Gene: Scheme\_59 Start: 34732, Stop: 34953, Start Num: 17  
Candidate Starts for Scheme\_59:  
(Start: 17 @34732 has 16 MA's), (24, 34804),

Gene: Shuckle\_56 Start: 34338, Stop: 34559, Start Num: 17  
Candidate Starts for Shuckle\_56:  
(Start: 17 @34338 has 16 MA's), (24, 34410),

Gene: Sollertia\_60 Start: 33419, Stop: 33688, Start Num: 9  
Candidate Starts for Sollertia\_60:  
(Start: 9 @33419 has 48 MA's), (Start: 13 @33449 has 2 MA's),

Gene: SparkleGoddess\_38 Start: 24280, Stop: 24477, Start Num: 20  
Candidate Starts for SparkleGoddess\_38:  
(Start: 20 @24280 has 4 MA's), (29, 24412),

Gene: Spelly\_60 Start: 33386, Stop: 33658, Start Num: 9  
Candidate Starts for Spelly\_60:  
(Start: 9 @33386 has 48 MA's), (Start: 13 @33416 has 2 MA's),

Gene: Spilled\_61 Start: 33503, Stop: 33775, Start Num: 9  
Candidate Starts for Spilled\_61:  
(Start: 9 @33503 has 48 MA's), (Start: 13 @33533 has 2 MA's),

Gene: Squillium\_57 Start: 33484, Stop: 33753, Start Num: 9  
Candidate Starts for Squillium\_57:  
(Start: 9 @33484 has 48 MA's), (24, 33604),

Gene: Stanimal\_60 Start: 33308, Stop: 33577, Start Num: 9  
Candidate Starts for Stanimal\_60:  
(Start: 9 @33308 has 48 MA's), (Start: 13 @33338 has 2 MA's),

Gene: StarPlatinum\_60 Start: 33957, Stop: 34199, Start Num: 13  
Candidate Starts for StarPlatinum\_60:  
(Start: 9 @33927 has 48 MA's), (Start: 13 @33957 has 2 MA's), (23, 34038), (37, 34182),

Gene: Starbow\_58 Start: 33407, Stop: 33679, Start Num: 9  
Candidate Starts for Starbow\_58:  
(Start: 9 @33407 has 48 MA's), (Start: 13 @33437 has 2 MA's),

Gene: Sushi23\_58 Start: 34243, Stop: 34464, Start Num: 17  
Candidate Starts for Sushi23\_58:  
(Start: 17 @34243 has 16 MA's), (24, 34315),

Gene: Targaryen\_59 Start: 35002, Stop: 35271, Start Num: 9  
Candidate Starts for Targaryen\_59:  
(Start: 9 @35002 has 48 MA's), (16, 35044),

Gene: Teutsch\_58 Start: 34512, Stop: 34733, Start Num: 17  
Candidate Starts for Teutsch\_58:  
(Start: 17 @34512 has 16 MA's), (24, 34584),

Gene: TomSawyer\_58 Start: 33025, Stop: 33297, Start Num: 9  
Candidate Starts for TomSawyer\_58:  
(Start: 9 @33025 has 48 MA's), (Start: 13 @33055 has 2 MA's),

Gene: Tomas\_62 Start: 35753, Stop: 36022, Start Num: 9  
Candidate Starts for Tomas\_62:  
(Start: 9 @35753 has 48 MA's), (Start: 13 @35783 has 2 MA's), (29, 35954),

Gene: Tribute\_56 Start: 33712, Stop: 33933, Start Num: 17  
Candidate Starts for Tribute\_56:  
(Start: 17 @33712 has 16 MA's), (24, 33784),

Gene: Wakanda\_34 Start: 23877, Stop: 24143, Start Num: 10  
Candidate Starts for Wakanda\_34:  
(Start: 10 @23877 has 4 MA's), (30, 24084),

Gene: Warpy\_62 Start: 34466, Stop: 34735, Start Num: 9  
Candidate Starts for Warpy\_62:  
(Start: 9 @34466 has 48 MA's), (16, 34508), (30, 34676),

Gene: Watermoore\_58 Start: 34719, Stop: 34940, Start Num: 17  
Candidate Starts for Watermoore\_58:  
(Start: 17 @34719 has 16 MA's), (24, 34791),

Gene: Westy\_38 Start: 24281, Stop: 24478, Start Num: 20  
Candidate Starts for Westy\_38:  
(Start: 20 @24281 has 4 MA's), (29, 24413),

Gene: WhereRU\_55 Start: 32918, Stop: 33187, Start Num: 9  
Candidate Starts for WhereRU\_55:  
(Start: 9 @32918 has 48 MA's), (24, 33038),

Gene: Wipeout\_58 Start: 33776, Stop: 34048, Start Num: 9  
Candidate Starts for Wipeout\_58:  
(Start: 9 @33776 has 48 MA's), (Start: 13 @33806 has 2 MA's),

Gene: Wofford\_59 Start: 34453, Stop: 34722, Start Num: 9

Candidate Starts for Wofford\_59:

(Start: 9 @34453 has 48 MA's), (Start: 13 @34483 has 2 MA's), (15, 34489), (19, 34519),