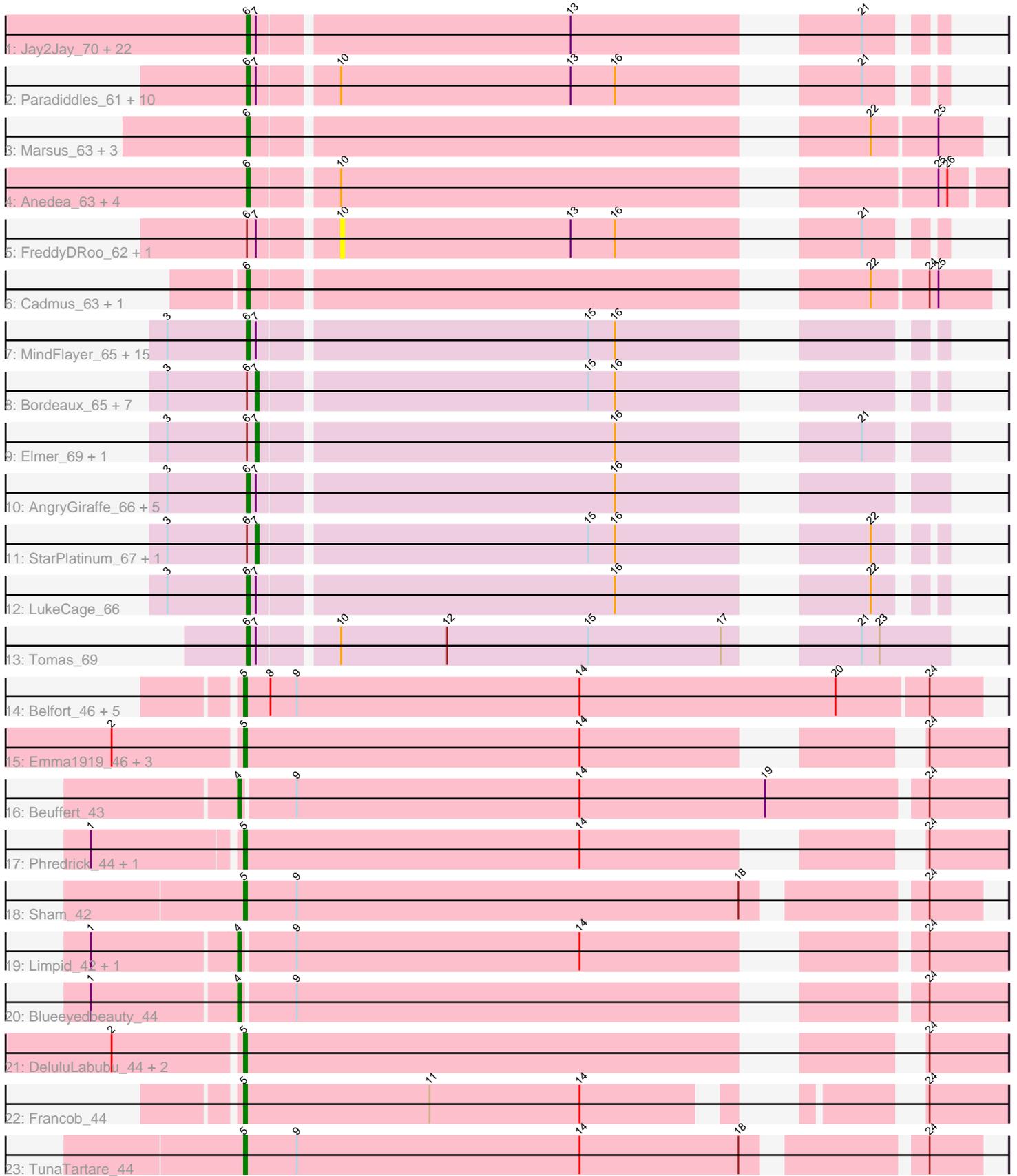


Pham 285445



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 285445 Report

This analysis was run 03/28/26 on database version 641.

Pham number 285445 has 105 members, 5 are drafts.

Phages represented in each track:

- Track 1 : Jay2Jay\_70, BlueOtter\_65, Cursive\_63, Evy\_66, Leo04\_66, Tribute\_63, Coogler\_65, PacManQ\_64, Watermoore\_65, Targaryen\_66, Cross\_65, HangryHippo\_65, Samisti12\_65, Scheme\_66, Peebs\_64, Lululemon\_64, Pepperwood\_65, Warpy\_69, Shuckle\_63, Teutsch\_65, Larnav\_65, Sushi23\_65, EGole\_66
- Track 2 : Paradiddles\_61, NootNoot\_61, Braelyn\_64, Persimmon\_61, Navo\_63, Squillium\_64, WhereRU\_62, Bartholomune\_63, Davielle\_62, PinkiePie\_63, Liandry\_64
- Track 3 : Marsus\_63, MulchMansion\_62, LilMartin\_62, Angela\_62
- Track 4 : Anedea\_63, Bmoc\_63, Mildred21\_63, LilSaint\_64, Riptide\_62
- Track 5 : FreddyDRoo\_62, Eliot67\_62
- Track 6 : Cadmus\_63, Daubenski\_66
- Track 7 : MindFlayer\_65, Wipeout\_65, Battuta\_65, Birchlyn\_64, Amabiko\_67, Karimac\_66, Gibbi\_71, Spilled\_68, IchabodCrane\_64, JimJam\_67, PumpkinSpice\_66, KentuckyRacer\_67, TomSawyer\_65, Brizzy\_66, CeilingFan\_66, Quarant19\_67
- Track 8 : Bordeaux\_65, SaltySpittoon\_67, Spelly\_67, Enygma\_67, Accidwight\_71, Jollison\_66, Starbow\_65, Rikishi\_67
- Track 9 : Elmer\_69, Wofford\_66
- Track 10 : AngryGiraffe\_66, Genie2\_67, Stanimal\_67, Sollertia\_67, Yaboi\_67, BoomerJR\_67
- Track 11 : StarPlatinum\_67, Mugiwara\_66
- Track 12 : LukeCage\_66
- Track 13 : Tomas\_69
- Track 14 : Belfort\_46, Stigma\_45, Westy\_45, Karp\_44, SparkleGoddess\_45, Comrade\_45
- Track 15 : Emma1919\_46, MeganTheeKilla\_44, Gilson\_46, Maupel\_45
- Track 16 : Beuffert\_43
- Track 17 : Phredrick\_44, Kenrey\_46
- Track 18 : Sham\_42
- Track 19 : Limpid\_42, Annadreamy\_42
- Track 20 : Blueeyedbeauty\_44
- Track 21 : DeluluLabubu\_44, Forrest\_46, Jada\_44
- Track 22 : Francob\_44
- Track 23 : TunaTartare\_44

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

The start number called the most often in the published annotations is 6, it was called in 68 of the 100 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amabiko\_67, Anedea\_63, Angela\_62, AngryGiraffe\_66, Bartholomune\_63, Battuta\_65, Birchlyn\_64, BlueOtter\_65, Bmoc\_63, BoomerJR\_67, Braelyn\_64, Brizzy\_66, Cadmus\_63, CeilingFan\_66, Coogler\_65, Cross\_65, Cursive\_63, Daubenski\_66, Davielle\_62, EGole\_66, Evy\_66, Genie2\_67, Gibbi\_71, HangryHippo\_65, IchabodCrane\_64, Jay2Jay\_70, JimJam\_67, Karimac\_66, KentuckyRacer\_67, Larnav\_65, Leo04\_66, Liandry\_64, LilMartin\_62, LilSaint\_64, LukeCage\_66, Lululemon\_64, Marsus\_63, Mildred21\_63, MindFlayer\_65, MulchMansion\_62, Navo\_63, NootNoot\_61, PacManQ\_64, Paradiddles\_61, Peebs\_64, Pepperwood\_65, Persimmon\_61, PinkiePie\_63, PumpkinSpice\_66, Quarant19\_67, Riptide\_62, Samisti12\_65, Scheme\_66, Shuckle\_63, Sollertia\_67, Spilled\_68, Squillium\_64, Stanimal\_67, Sushi23\_65, Targaryen\_66, Teutsch\_65, TomSawyer\_65, Tomas\_69, Tribute\_63, Warpy\_69, Watermoore\_65, WhereRU\_62, Wipeout\_65, Yaboi\_67,

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

- AcciDwight\_71, Bordeaux\_65, Eliot67\_62, Elmer\_69, Enygma\_67, FreddyDRoo\_62, Jollison\_66, Mugiwara\_66, Rikishi\_67, SaltySpittoon\_67, Spelly\_67, StarPlatinum\_67, Starbow\_65, Wofford\_66,

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

- Annadreamy\_42, Belfort\_46, Beuffert\_43, Blueeyedbeauty\_44, Comrade\_45, DeluluLabubu\_44, Emma1919\_46, Forrest\_46, Francob\_44, Gilson\_46, Jada\_44, Karp\_44, Kenrey\_46, Limpid\_42, Maupel\_45, MeganTheeKilla\_44, Phredrick\_44, Sham\_42, SparkleGoddess\_45, Stigma\_45, TunaTartare\_44, Westy\_45,

### **Summary by start number:**

Start 4:

- Found in 4 of 105 ( 3.8% ) of genes in pham
- Manual Annotations of this start: 4 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Annadreamy\_42 (BK1), Beuffert\_43 (BK1), Blueeyedbeauty\_44 (BK1), Limpid\_42 (BK1),

Start 5:

- Found in 18 of 105 ( 17.1% ) of genes in pham
- Manual Annotations of this start: 17 of 100
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Belfort\_46 (BK1), Comrade\_45 (BK1), DeluluLabubu\_44 (BK1), Emma1919\_46 (BK1), Forrest\_46 (BK1), Francob\_44 (BK1), Gilson\_46 (BK1), Jada\_44 (BK1), Karp\_44 (BK1), Kenrey\_46 (BK1), Maupel\_45 (BK1), MeganTheeKilla\_44 (BK1), Phredrick\_44 (BK1), Sham\_42 (BK1), SparkleGoddess\_45 (BK1), Stigma\_45 (BK1), TunaTartare\_44 (BK1), Westy\_45 (BK1),

Start 6:

- Found in 83 of 105 ( 79.0% ) of genes in pham
- Manual Annotations of this start: 68 of 100
- Called 83.1% of time when present
- Phage (with cluster) where this start called: Amabiko\_67 (BE2), Anedea\_63 (BE1), Angela\_62 (BE1), AngryGiraffe\_66 (BE2), Bartholomune\_63 (BE1), Battuta\_65 (BE2), Birchlyn\_64 (BE2), BlueOtter\_65 (BE1), Bmoc\_63 (BE1), BoomerJR\_67 (BE2), Braelyn\_64 (BE1), Brizzy\_66 (BE2), Cadmus\_63 (BE1), CeilingFan\_66 (BE2), Coogler\_65 (BE1), Cross\_65 (BE1), Cursive\_63 (BE1), Daubenski\_66 (BE1), Davielle\_62 (BE1), EGole\_66 (BE1), Evy\_66 (BE1), Genie2\_67 (BE2), Gibbi\_71 (BE2), HangryHippo\_65 (BE1), IchabodCrane\_64 (BE2), Jay2Jay\_70 (BE1), JimJam\_67 (BE2), Karimac\_66 (BE2), KentuckyRacer\_67 (BE2), Larnav\_65 (BE1), Leo04\_66 (BE1), Liandry\_64 (BE1), LilMartin\_62 (BE1), LilSaint\_64 (BE1), LukeCage\_66 (BE2), Lululemon\_64 (BE1), Marsus\_63 (BE1), Mildred21\_63 (BE1), MindFlayer\_65 (BE2), MulchMansion\_62 (BE1), Navo\_63 (BE1), NootNoot\_61 (BE1), PacManQ\_64 (BE1), Paradiddles\_61 (BE1), Peebs\_64 (BE1), Pepperwood\_65 (BE1), Persimmon\_61 (BE1), PinkiePie\_63 (BE1), PumpkinSpice\_66 (BE2), Quarant19\_67 (BE2), Riptide\_62 (BE1), Samisti12\_65 (BE1), Scheme\_66 (BE1), Shuckle\_63 (BE1), Sollertia\_67 (BE2), Spilled\_68 (BE2), Squillium\_64 (BE1), Stanimal\_67 (BE2), Sushi23\_65 (BE1), Targaryen\_66 (BE1), Teutsch\_65 (BE1), TomSawyer\_65 (BE2), Tomas\_69 (BE2), Tribute\_63 (BE1), Warpy\_69 (BE1), Watermoore\_65 (BE1), WhereRU\_62 (BE1), Wipeout\_65 (BE2), Yaboi\_67 (BE2),

#### Start 7:

- Found in 72 of 105 ( 68.6% ) of genes in pham
- Manual Annotations of this start: 11 of 100
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Accidwight\_71 (BE2), Bordeaux\_65 (BE2), Elmer\_69 (BE2), Enigma\_67 (BE2), Jollison\_66 (BE2), Mugiwara\_66 (BE2), Rikishi\_67 (BE2), SaltySpittoon\_67 (BE2), Spelly\_67 (BE2), StarPlatinum\_67 (BE2), Starbow\_65 (BE2), Wofford\_66 (BE2),

#### Start 10:

- Found in 19 of 105 ( 18.1% ) of genes in pham
- No Manual Annotations of this start.
- Called 10.5% of time when present
- Phage (with cluster) where this start called: Eliot67\_62 (BE1), FreddyDRoo\_62 (BE1),

### Summary by clusters:

There are 3 clusters represented in this pham: BE2, BE1, BK1,

Info for manual annotations of cluster BE1:

- Start number 6 was manually annotated 45 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 6 was manually annotated 23 times for cluster BE2.
- Start number 7 was manually annotated 11 times for cluster BE2.

Info for manual annotations of cluster BK1:

- Start number 4 was manually annotated 4 times for cluster BK1.
- Start number 5 was manually annotated 17 times for cluster BK1.

**Gene Information:**

Gene: AcciDwight\_71 Start: 50928, Stop: 51128, Start Num: 7

Candidate Starts for AcciDwight\_71:

(3, 50898), (Start: 6 @50925 has 68 MA's), (Start: 7 @50928 has 11 MA's), (15, 51036), (16, 51045),

Gene: Amabiko\_67 Start: 50970, Stop: 51173, Start Num: 6

Candidate Starts for Amabiko\_67:

(3, 50943), (Start: 6 @50970 has 68 MA's), (Start: 7 @50973 has 11 MA's), (15, 51081), (16, 51090),

Gene: Anedea\_63 Start: 50520, Stop: 50747, Start Num: 6

Candidate Starts for Anedea\_63:

(Start: 6 @50520 has 68 MA's), (10, 50547), (25, 50727), (26, 50730),

Gene: Angela\_62 Start: 49984, Stop: 50205, Start Num: 6

Candidate Starts for Angela\_62:

(Start: 6 @49984 has 68 MA's), (22, 50170), (25, 50191),

Gene: AngryGiraffe\_66 Start: 50932, Stop: 51138, Start Num: 6

Candidate Starts for AngryGiraffe\_66:

(3, 50905), (Start: 6 @50932 has 68 MA's), (Start: 7 @50935 has 11 MA's), (16, 51052),

Gene: Annadreamy\_42 Start: 39776, Stop: 40009, Start Num: 4

Candidate Starts for Annadreamy\_42:

(1, 39731), (Start: 4 @39776 has 4 MA's), (9, 39794), (14, 39890), (24, 39983),

Gene: Bartholomune\_63 Start: 50273, Stop: 50476, Start Num: 6

Candidate Starts for Bartholomune\_63:

(Start: 6 @50273 has 68 MA's), (Start: 7 @50276 has 11 MA's), (10, 50300), (13, 50378), (16, 50393), (21, 50456),

Gene: Battuta\_65 Start: 50944, Stop: 51147, Start Num: 6

Candidate Starts for Battuta\_65:

(3, 50917), (Start: 6 @50944 has 68 MA's), (Start: 7 @50947 has 11 MA's), (15, 51055), (16, 51064),

Gene: Belfort\_46 Start: 42270, Stop: 42518, Start Num: 5

Candidate Starts for Belfort\_46:

(Start: 5 @42270 has 17 MA's), (8, 42279), (9, 42288), (14, 42384), (20, 42471), (24, 42501),

Gene: Beuffert\_43 Start: 40896, Stop: 41150, Start Num: 4

Candidate Starts for Beuffert\_43:

(Start: 4 @40896 has 4 MA's), (9, 40914), (14, 41010), (19, 41073), (24, 41124),

Gene: Birchlyn\_64 Start: 48827, Stop: 49030, Start Num: 6

Candidate Starts for Birchlyn\_64:

(3, 48800), (Start: 6 @48827 has 68 MA's), (Start: 7 @48830 has 11 MA's), (15, 48938), (16, 48947),

Gene: BlueOtter\_65 Start: 51650, Stop: 51853, Start Num: 6

Candidate Starts for BlueOtter\_65:

(Start: 6 @51650 has 68 MA's), (Start: 7 @51653 has 11 MA's), (13, 51755), (21, 51833),

Gene: Blueeyedbeauty\_44 Start: 40288, Stop: 40521, Start Num: 4  
Candidate Starts for Blueeyedbeauty\_44:  
(1, 40243), (Start: 4 @40288 has 4 MA's), (9, 40306), (24, 40495),

Gene: Bmoc\_63 Start: 50324, Stop: 50551, Start Num: 6  
Candidate Starts for Bmoc\_63:  
(Start: 6 @50324 has 68 MA's), (10, 50351), (25, 50531), (26, 50534),

Gene: BoomerJR\_67 Start: 50821, Stop: 51027, Start Num: 6  
Candidate Starts for BoomerJR\_67:  
(3, 50794), (Start: 6 @50821 has 68 MA's), (Start: 7 @50824 has 11 MA's), (16, 50941),

Gene: Bordeaux\_65 Start: 51102, Stop: 51302, Start Num: 7  
Candidate Starts for Bordeaux\_65:  
(3, 51072), (Start: 6 @51099 has 68 MA's), (Start: 7 @51102 has 11 MA's), (15, 51210), (16, 51219),

Gene: Braelyn\_64 Start: 51040, Stop: 51243, Start Num: 6  
Candidate Starts for Braelyn\_64:  
(Start: 6 @51040 has 68 MA's), (Start: 7 @51043 has 11 MA's), (10, 51067), (13, 51145), (16, 51160),  
(21, 51223),

Gene: Brizzy\_66 Start: 50618, Stop: 50821, Start Num: 6  
Candidate Starts for Brizzy\_66:  
(3, 50591), (Start: 6 @50618 has 68 MA's), (Start: 7 @50621 has 11 MA's), (15, 50729), (16, 50738),

Gene: Cadmus\_63 Start: 50629, Stop: 50853, Start Num: 6  
Candidate Starts for Cadmus\_63:  
(Start: 6 @50629 has 68 MA's), (22, 50815), (24, 50833), (25, 50836),

Gene: CeilingFan\_66 Start: 50859, Stop: 51062, Start Num: 6  
Candidate Starts for CeilingFan\_66:  
(3, 50832), (Start: 6 @50859 has 68 MA's), (Start: 7 @50862 has 11 MA's), (15, 50970), (16, 50979),

Gene: Comrade\_45 Start: 41885, Stop: 42133, Start Num: 5  
Candidate Starts for Comrade\_45:  
(Start: 5 @41885 has 17 MA's), (8, 41894), (9, 41903), (14, 41999), (20, 42086), (24, 42116),

Gene: Coogler\_65 Start: 51676, Stop: 51879, Start Num: 6  
Candidate Starts for Coogler\_65:  
(Start: 6 @51676 has 68 MA's), (Start: 7 @51679 has 11 MA's), (13, 51781), (21, 51859),

Gene: Cross\_65 Start: 51651, Stop: 51854, Start Num: 6  
Candidate Starts for Cross\_65:  
(Start: 6 @51651 has 68 MA's), (Start: 7 @51654 has 11 MA's), (13, 51756), (21, 51834),

Gene: Cursive\_63 Start: 51176, Stop: 51379, Start Num: 6  
Candidate Starts for Cursive\_63:  
(Start: 6 @51176 has 68 MA's), (Start: 7 @51179 has 11 MA's), (13, 51281), (21, 51359),

Gene: Daubenski\_66 Start: 51393, Stop: 51617, Start Num: 6  
Candidate Starts for Daubenski\_66:  
(Start: 6 @51393 has 68 MA's), (22, 51579), (24, 51597), (25, 51600),

Gene: Davielle\_62 Start: 50460, Stop: 50663, Start Num: 6  
Candidate Starts for Davielle\_62:  
(Start: 6 @50460 has 68 MA's), (Start: 7 @50463 has 11 MA's), (10, 50487), (13, 50565), (16, 50580),  
(21, 50643),

Gene: DeluluLabubu\_44 Start: 40022, Stop: 40249, Start Num: 5  
Candidate Starts for DeluluLabubu\_44:  
(2, 39980), (Start: 5 @40022 has 17 MA's), (24, 40223),

Gene: EGole\_66 Start: 52597, Stop: 52800, Start Num: 6  
Candidate Starts for EGole\_66:  
(Start: 6 @52597 has 68 MA's), (Start: 7 @52600 has 11 MA's), (13, 52702), (21, 52780),

Gene: Eliot67\_62 Start: 50342, Stop: 50518, Start Num: 10  
Candidate Starts for Eliot67\_62:  
(Start: 6 @50315 has 68 MA's), (Start: 7 @50318 has 11 MA's), (10, 50342), (13, 50420), (16, 50435),  
(21, 50498),

Gene: Elmer\_69 Start: 52037, Stop: 52240, Start Num: 7  
Candidate Starts for Elmer\_69:  
(3, 52007), (Start: 6 @52034 has 68 MA's), (Start: 7 @52037 has 11 MA's), (16, 52154), (21, 52217),

Gene: Emma1919\_46 Start: 40705, Stop: 40932, Start Num: 5  
Candidate Starts for Emma1919\_46:  
(2, 40663), (Start: 5 @40705 has 17 MA's), (14, 40819), (24, 40906),

Gene: Enygma\_67 Start: 52765, Stop: 52965, Start Num: 7  
Candidate Starts for Enygma\_67:  
(3, 52735), (Start: 6 @52762 has 68 MA's), (Start: 7 @52765 has 11 MA's), (15, 52873), (16, 52882),

Gene: Evy\_66 Start: 51640, Stop: 51843, Start Num: 6  
Candidate Starts for Evy\_66:  
(Start: 6 @51640 has 68 MA's), (Start: 7 @51643 has 11 MA's), (13, 51745), (21, 51823),

Gene: Forrest\_46 Start: 40840, Stop: 41067, Start Num: 5  
Candidate Starts for Forrest\_46:  
(2, 40798), (Start: 5 @40840 has 17 MA's), (24, 41041),

Gene: Francob\_44 Start: 40787, Stop: 41002, Start Num: 5  
Candidate Starts for Francob\_44:  
(Start: 5 @40787 has 17 MA's), (11, 40850), (14, 40901), (24, 40976),

Gene: FreddyDRoo\_62 Start: 50342, Stop: 50518, Start Num: 10  
Candidate Starts for FreddyDRoo\_62:  
(Start: 6 @50315 has 68 MA's), (Start: 7 @50318 has 11 MA's), (10, 50342), (13, 50420), (16, 50435),  
(21, 50498),

Gene: Genie2\_67 Start: 50935, Stop: 51141, Start Num: 6  
Candidate Starts for Genie2\_67:  
(3, 50908), (Start: 6 @50935 has 68 MA's), (Start: 7 @50938 has 11 MA's), (16, 51055),

Gene: Gibbi\_71 Start: 51082, Stop: 51285, Start Num: 6  
Candidate Starts for Gibbi\_71:

(3, 51055), (Start: 6 @51082 has 68 MA's), (Start: 7 @51085 has 11 MA's), (15, 51193), (16, 51202),

Gene: Gilson\_46 Start: 40658, Stop: 40885, Start Num: 5

Candidate Starts for Gilson\_46:

(2, 40616), (Start: 5 @40658 has 17 MA's), (14, 40772), (24, 40859),

Gene: HangryHippo\_65 Start: 51650, Stop: 51853, Start Num: 6

Candidate Starts for HangryHippo\_65:

(Start: 6 @51650 has 68 MA's), (Start: 7 @51653 has 11 MA's), (13, 51755), (21, 51833),

Gene: IchabodCrane\_64 Start: 50671, Stop: 50874, Start Num: 6

Candidate Starts for IchabodCrane\_64:

(3, 50644), (Start: 6 @50671 has 68 MA's), (Start: 7 @50674 has 11 MA's), (15, 50782), (16, 50791),

Gene: Jada\_44 Start: 40022, Stop: 40249, Start Num: 5

Candidate Starts for Jada\_44:

(2, 39980), (Start: 5 @40022 has 17 MA's), (24, 40223),

Gene: Jay2Jay\_70 Start: 52493, Stop: 52696, Start Num: 6

Candidate Starts for Jay2Jay\_70:

(Start: 6 @52493 has 68 MA's), (Start: 7 @52496 has 11 MA's), (13, 52598), (21, 52676),

Gene: JimJam\_67 Start: 51045, Stop: 51248, Start Num: 6

Candidate Starts for JimJam\_67:

(3, 51018), (Start: 6 @51045 has 68 MA's), (Start: 7 @51048 has 11 MA's), (15, 51156), (16, 51165),

Gene: Jollison\_66 Start: 50930, Stop: 51130, Start Num: 7

Candidate Starts for Jollison\_66:

(3, 50900), (Start: 6 @50927 has 68 MA's), (Start: 7 @50930 has 11 MA's), (15, 51038), (16, 51047),

Gene: Karimac\_66 Start: 51076, Stop: 51279, Start Num: 6

Candidate Starts for Karimac\_66:

(3, 51049), (Start: 6 @51076 has 68 MA's), (Start: 7 @51079 has 11 MA's), (15, 51187), (16, 51196),

Gene: Karp\_44 Start: 41485, Stop: 41733, Start Num: 5

Candidate Starts for Karp\_44:

(Start: 5 @41485 has 17 MA's), (8, 41494), (9, 41503), (14, 41599), (20, 41686), (24, 41716),

Gene: Kenrey\_46 Start: 40850, Stop: 41077, Start Num: 5

Candidate Starts for Kenrey\_46:

(1, 40802), (Start: 5 @40850 has 17 MA's), (14, 40964), (24, 41051),

Gene: KentuckyRacer\_67 Start: 50860, Stop: 51063, Start Num: 6

Candidate Starts for KentuckyRacer\_67:

(3, 50833), (Start: 6 @50860 has 68 MA's), (Start: 7 @50863 has 11 MA's), (15, 50971), (16, 50980),

Gene: Larnav\_65 Start: 51635, Stop: 51838, Start Num: 6

Candidate Starts for Larnav\_65:

(Start: 6 @51635 has 68 MA's), (Start: 7 @51638 has 11 MA's), (13, 51740), (21, 51818),

Gene: Leo04\_66 Start: 52150, Stop: 52353, Start Num: 6

Candidate Starts for Leo04\_66:

(Start: 6 @52150 has 68 MA's), (Start: 7 @52153 has 11 MA's), (13, 52255), (21, 52333),

Gene: Liandry\_64 Start: 51022, Stop: 51225, Start Num: 6  
Candidate Starts for Liandry\_64:  
(Start: 6 @51022 has 68 MA's), (Start: 7 @51025 has 11 MA's), (10, 51049), (13, 51127), (16, 51142),  
(21, 51205),

Gene: LilMartin\_62 Start: 49932, Stop: 50153, Start Num: 6  
Candidate Starts for LilMartin\_62:  
(Start: 6 @49932 has 68 MA's), (22, 50118), (25, 50139),

Gene: LilSaint\_64 Start: 50192, Stop: 50419, Start Num: 6  
Candidate Starts for LilSaint\_64:  
(Start: 6 @50192 has 68 MA's), (10, 50219), (25, 50399), (26, 50402),

Gene: Limpid\_42 Start: 39775, Stop: 40008, Start Num: 4  
Candidate Starts for Limpid\_42:  
(1, 39730), (Start: 4 @39775 has 4 MA's), (9, 39793), (14, 39889), (24, 39982),

Gene: LukeCage\_66 Start: 50830, Stop: 51033, Start Num: 6  
Candidate Starts for LukeCage\_66:  
(3, 50803), (Start: 6 @50830 has 68 MA's), (Start: 7 @50833 has 11 MA's), (16, 50950), (22, 51016),

Gene: Lululemon\_64 Start: 51031, Stop: 51234, Start Num: 6  
Candidate Starts for Lululemon\_64:  
(Start: 6 @51031 has 68 MA's), (Start: 7 @51034 has 11 MA's), (13, 51136), (21, 51214),

Gene: Marsus\_63 Start: 50204, Stop: 50425, Start Num: 6  
Candidate Starts for Marsus\_63:  
(Start: 6 @50204 has 68 MA's), (22, 50390), (25, 50411),

Gene: Maupel\_45 Start: 40658, Stop: 40885, Start Num: 5  
Candidate Starts for Maupel\_45:  
(2, 40616), (Start: 5 @40658 has 17 MA's), (14, 40772), (24, 40859),

Gene: MeganTheeKilla\_44 Start: 40019, Stop: 40246, Start Num: 5  
Candidate Starts for MeganTheeKilla\_44:  
(2, 39977), (Start: 5 @40019 has 17 MA's), (14, 40133), (24, 40220),

Gene: Mildred21\_63 Start: 50119, Stop: 50349, Start Num: 6  
Candidate Starts for Mildred21\_63:  
(Start: 6 @50119 has 68 MA's), (10, 50146), (25, 50326), (26, 50329),

Gene: MindFlayer\_65 Start: 50578, Stop: 50781, Start Num: 6  
Candidate Starts for MindFlayer\_65:  
(3, 50551), (Start: 6 @50578 has 68 MA's), (Start: 7 @50581 has 11 MA's), (15, 50689), (16, 50698),

Gene: Mugiwara\_66 Start: 51332, Stop: 51532, Start Num: 7  
Candidate Starts for Mugiwara\_66:  
(3, 51302), (Start: 6 @51329 has 68 MA's), (Start: 7 @51332 has 11 MA's), (15, 51440), (16, 51449),  
(22, 51515),

Gene: MulchMansion\_62 Start: 49932, Stop: 50153, Start Num: 6  
Candidate Starts for MulchMansion\_62:

(Start: 6 @49932 has 68 MA's), (22, 50118), (25, 50139),

Gene: Navo\_63 Start: 50944, Stop: 51147, Start Num: 6

Candidate Starts for Navo\_63:

(Start: 6 @50944 has 68 MA's), (Start: 7 @50947 has 11 MA's), (10, 50971), (13, 51049), (16, 51064), (21, 51127),

Gene: NootNoot\_61 Start: 49936, Stop: 50139, Start Num: 6

Candidate Starts for NootNoot\_61:

(Start: 6 @49936 has 68 MA's), (Start: 7 @49939 has 11 MA's), (10, 49963), (13, 50041), (16, 50056), (21, 50119),

Gene: PacManQ\_64 Start: 51031, Stop: 51234, Start Num: 6

Candidate Starts for PacManQ\_64:

(Start: 6 @51031 has 68 MA's), (Start: 7 @51034 has 11 MA's), (13, 51136), (21, 51214),

Gene: Paradiddles\_61 Start: 50200, Stop: 50403, Start Num: 6

Candidate Starts for Paradiddles\_61:

(Start: 6 @50200 has 68 MA's), (Start: 7 @50203 has 11 MA's), (10, 50227), (13, 50305), (16, 50320), (21, 50383),

Gene: Peebs\_64 Start: 51385, Stop: 51588, Start Num: 6

Candidate Starts for Peebs\_64:

(Start: 6 @51385 has 68 MA's), (Start: 7 @51388 has 11 MA's), (13, 51490), (21, 51568),

Gene: Pepperwood\_65 Start: 51518, Stop: 51721, Start Num: 6

Candidate Starts for Pepperwood\_65:

(Start: 6 @51518 has 68 MA's), (Start: 7 @51521 has 11 MA's), (13, 51623), (21, 51701),

Gene: Persimmon\_61 Start: 49869, Stop: 50072, Start Num: 6

Candidate Starts for Persimmon\_61:

(Start: 6 @49869 has 68 MA's), (Start: 7 @49872 has 11 MA's), (10, 49896), (13, 49974), (16, 49989), (21, 50052),

Gene: Phredrick\_44 Start: 39921, Stop: 40148, Start Num: 5

Candidate Starts for Phredrick\_44:

(1, 39873), (Start: 5 @39921 has 17 MA's), (14, 40035), (24, 40122),

Gene: PinkiePie\_63 Start: 51022, Stop: 51225, Start Num: 6

Candidate Starts for PinkiePie\_63:

(Start: 6 @51022 has 68 MA's), (Start: 7 @51025 has 11 MA's), (10, 51049), (13, 51127), (16, 51142), (21, 51205),

Gene: PumpkinSpice\_66 Start: 50970, Stop: 51173, Start Num: 6

Candidate Starts for PumpkinSpice\_66:

(3, 50943), (Start: 6 @50970 has 68 MA's), (Start: 7 @50973 has 11 MA's), (15, 51081), (16, 51090),

Gene: Quaran19\_67 Start: 50961, Stop: 51164, Start Num: 6

Candidate Starts for Quaran19\_67:

(3, 50934), (Start: 6 @50961 has 68 MA's), (Start: 7 @50964 has 11 MA's), (15, 51072), (16, 51081),

Gene: Rikishi\_67 Start: 50879, Stop: 51079, Start Num: 7

Candidate Starts for Rikishi\_67:

(3, 50849), (Start: 6 @50876 has 68 MA's), (Start: 7 @50879 has 11 MA's), (15, 50987), (16, 50996),

Gene: Riptide\_62 Start: 49742, Stop: 49969, Start Num: 6

Candidate Starts for Riptide\_62:

(Start: 6 @49742 has 68 MA's), (10, 49769), (25, 49949), (26, 49952),

Gene: SaltySpittoon\_67 Start: 50973, Stop: 51173, Start Num: 7

Candidate Starts for SaltySpittoon\_67:

(3, 50943), (Start: 6 @50970 has 68 MA's), (Start: 7 @50973 has 11 MA's), (15, 51081), (16, 51090),

Gene: Samisti12\_65 Start: 52825, Stop: 53028, Start Num: 6

Candidate Starts for Samisti12\_65:

(Start: 6 @52825 has 68 MA's), (Start: 7 @52828 has 11 MA's), (13, 52930), (21, 53008),

Gene: Scheme\_66 Start: 52232, Stop: 52435, Start Num: 6

Candidate Starts for Scheme\_66:

(Start: 6 @52232 has 68 MA's), (Start: 7 @52235 has 11 MA's), (13, 52337), (21, 52415),

Gene: Sham\_42 Start: 41761, Stop: 41997, Start Num: 5

Candidate Starts for Sham\_42:

(Start: 5 @41761 has 17 MA's), (9, 41779), (18, 41929), (24, 41980),

Gene: Shuckle\_63 Start: 51839, Stop: 52042, Start Num: 6

Candidate Starts for Shuckle\_63:

(Start: 6 @51839 has 68 MA's), (Start: 7 @51842 has 11 MA's), (13, 51944), (21, 52022),

Gene: Sollertia\_67 Start: 50935, Stop: 51141, Start Num: 6

Candidate Starts for Sollertia\_67:

(3, 50908), (Start: 6 @50935 has 68 MA's), (Start: 7 @50938 has 11 MA's), (16, 51055),

Gene: SparkleGoddess\_45 Start: 41887, Stop: 42135, Start Num: 5

Candidate Starts for SparkleGoddess\_45:

(Start: 5 @41887 has 17 MA's), (8, 41896), (9, 41905), (14, 42001), (20, 42088), (24, 42118),

Gene: Spelly\_67 Start: 50928, Stop: 51128, Start Num: 7

Candidate Starts for Spelly\_67:

(3, 50898), (Start: 6 @50925 has 68 MA's), (Start: 7 @50928 has 11 MA's), (15, 51036), (16, 51045),

Gene: Spilled\_68 Start: 51042, Stop: 51245, Start Num: 6

Candidate Starts for Spilled\_68:

(3, 51015), (Start: 6 @51042 has 68 MA's), (Start: 7 @51045 has 11 MA's), (15, 51153), (16, 51162),

Gene: Squillium\_64 Start: 51023, Stop: 51226, Start Num: 6

Candidate Starts for Squillium\_64:

(Start: 6 @51023 has 68 MA's), (Start: 7 @51026 has 11 MA's), (10, 51050), (13, 51128), (16, 51143), (21, 51206),

Gene: Stanimal\_67 Start: 50824, Stop: 51030, Start Num: 6

Candidate Starts for Stanimal\_67:

(3, 50797), (Start: 6 @50824 has 68 MA's), (Start: 7 @50827 has 11 MA's), (16, 50944),

Gene: StarPlatinum\_67 Start: 51473, Stop: 51673, Start Num: 7

Candidate Starts for StarPlatinum\_67:

(3, 51443), (Start: 6 @51470 has 68 MA's), (Start: 7 @51473 has 11 MA's), (15, 51581), (16, 51590), (22, 51656),

Gene: Starbow\_65 Start: 50949, Stop: 51149, Start Num: 7

Candidate Starts for Starbow\_65:

(3, 50919), (Start: 6 @50946 has 68 MA's), (Start: 7 @50949 has 11 MA's), (15, 51057), (16, 51066),

Gene: Stigma\_45 Start: 41900, Stop: 42148, Start Num: 5

Candidate Starts for Stigma\_45:

(Start: 5 @41900 has 17 MA's), (8, 41909), (9, 41918), (14, 42014), (20, 42101), (24, 42131),

Gene: Sushi23\_65 Start: 51743, Stop: 51946, Start Num: 6

Candidate Starts for Sushi23\_65:

(Start: 6 @51743 has 68 MA's), (Start: 7 @51746 has 11 MA's), (13, 51848), (21, 51926),

Gene: Targaryen\_66 Start: 52542, Stop: 52745, Start Num: 6

Candidate Starts for Targaryen\_66:

(Start: 6 @52542 has 68 MA's), (Start: 7 @52545 has 11 MA's), (13, 52647), (21, 52725),

Gene: Teutsch\_65 Start: 52006, Stop: 52209, Start Num: 6

Candidate Starts for Teutsch\_65:

(Start: 6 @52006 has 68 MA's), (Start: 7 @52009 has 11 MA's), (13, 52111), (21, 52189),

Gene: TomSawyer\_65 Start: 50564, Stop: 50767, Start Num: 6

Candidate Starts for TomSawyer\_65:

(3, 50537), (Start: 6 @50564 has 68 MA's), (Start: 7 @50567 has 11 MA's), (15, 50675), (16, 50684),

Gene: Tomas\_69 Start: 53278, Stop: 53490, Start Num: 6

Candidate Starts for Tomas\_69:

(Start: 6 @53278 has 68 MA's), (Start: 7 @53281 has 11 MA's), (10, 53305), (12, 53341), (15, 53389), (17, 53434), (21, 53461), (23, 53467),

Gene: Tribute\_63 Start: 51212, Stop: 51415, Start Num: 6

Candidate Starts for Tribute\_63:

(Start: 6 @51212 has 68 MA's), (Start: 7 @51215 has 11 MA's), (13, 51317), (21, 51395),

Gene: TunaTartare\_44 Start: 42059, Stop: 42295, Start Num: 5

Candidate Starts for TunaTartare\_44:

(Start: 5 @42059 has 17 MA's), (9, 42077), (14, 42173), (18, 42227), (24, 42278),

Gene: Warpy\_69 Start: 52006, Stop: 52209, Start Num: 6

Candidate Starts for Warpy\_69:

(Start: 6 @52006 has 68 MA's), (Start: 7 @52009 has 11 MA's), (13, 52111), (21, 52189),

Gene: Watermoore\_65 Start: 52222, Stop: 52425, Start Num: 6

Candidate Starts for Watermoore\_65:

(Start: 6 @52222 has 68 MA's), (Start: 7 @52225 has 11 MA's), (13, 52327), (21, 52405),

Gene: Westy\_45 Start: 41888, Stop: 42136, Start Num: 5

Candidate Starts for Westy\_45:

(Start: 5 @41888 has 17 MA's), (8, 41897), (9, 41906), (14, 42002), (20, 42089), (24, 42119),

Gene: WhereRU\_62 Start: 50460, Stop: 50663, Start Num: 6

Candidate Starts for WhereRU\_62:

(Start: 6 @50460 has 68 MA's), (Start: 7 @50463 has 11 MA's), (10, 50487), (13, 50565), (16, 50580), (21, 50643),

Gene: Wipeout\_65 Start: 51315, Stop: 51518, Start Num: 6

Candidate Starts for Wipeout\_65:

(3, 51288), (Start: 6 @51315 has 68 MA's), (Start: 7 @51318 has 11 MA's), (15, 51426), (16, 51435),

Gene: Wofford\_66 Start: 52000, Stop: 52203, Start Num: 7

Candidate Starts for Wofford\_66:

(3, 51970), (Start: 6 @51997 has 68 MA's), (Start: 7 @52000 has 11 MA's), (16, 52117), (21, 52180),

Gene: Yaboi\_67 Start: 50912, Stop: 51118, Start Num: 6

Candidate Starts for Yaboi\_67:

(3, 50885), (Start: 6 @50912 has 68 MA's), (Start: 7 @50915 has 11 MA's), (16, 51032),