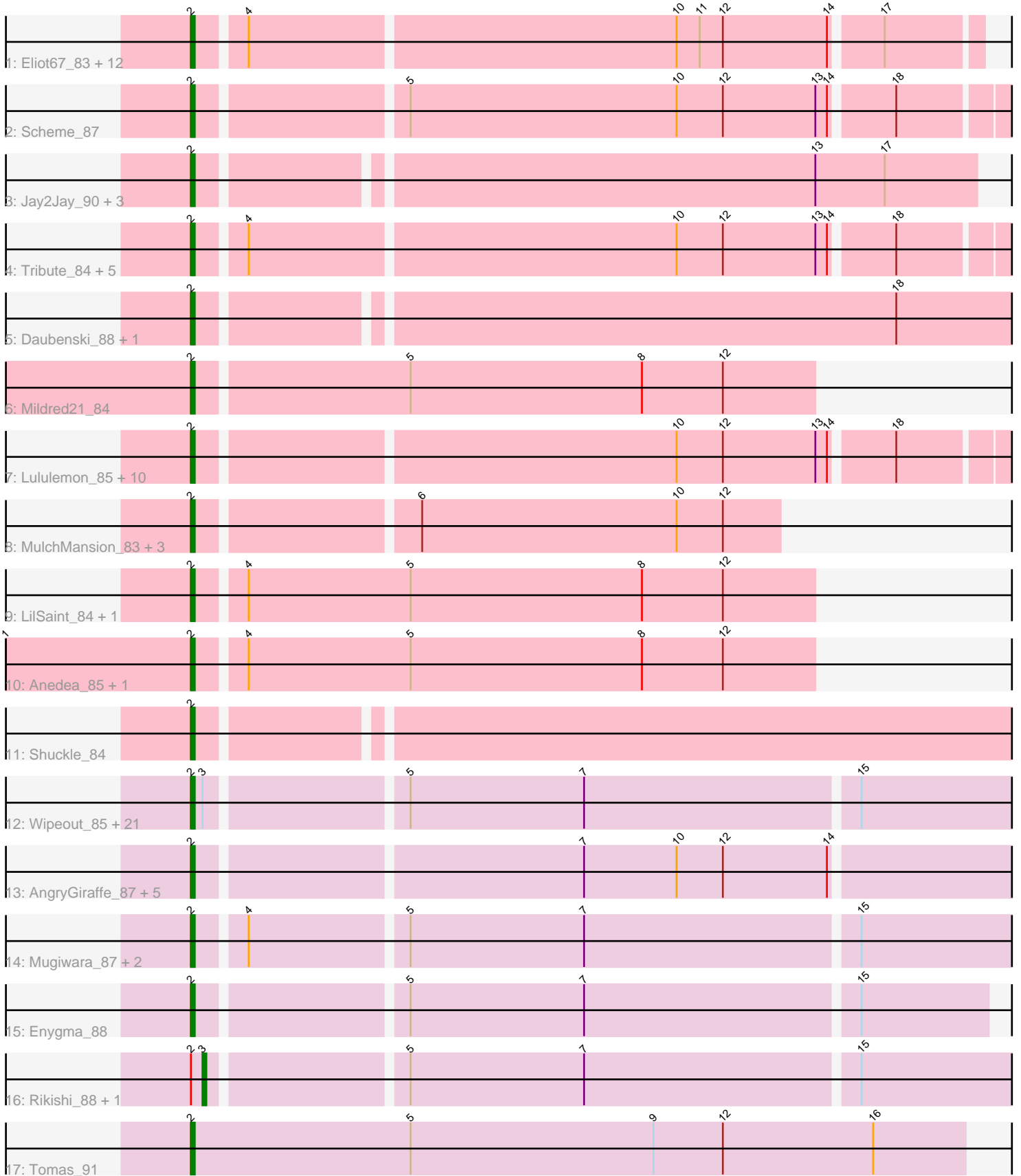


Pham 301306



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 301306 Report

This analysis was run 06/08/26 on database version 649.

Pham number 301306 has 82 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Eliot67\_83, Navo\_83, FreddyDRoo\_83, NootNoot\_81, Davielle\_84, Bartholomune\_84, Braelyn\_86, PinkiePie\_84, WhereRU\_83, Persimmon\_84, Squillium\_85, Paradiddles\_81, Liandry\_84
- Track 2 : Scheme\_87
- Track 3 : Jay2Jay\_90, Targaryen\_86, Warpy\_89, Evy\_86
- Track 4 : Tribute\_84, Pepperwood\_86, Larnav\_86, Peebs\_85, EGole\_87, Sushi23\_85
- Track 5 : Daubenski\_88, Cadmus\_85
- Track 6 : Mildred21\_84
- Track 7 : Lululemon\_85, Cross\_86, Coogler\_86, Teutsch\_86, Cursive\_84, PacManQ\_85, Watermoore\_86, HangryHippo\_86, Samisti12\_86, Leo04\_87, BlueOtter\_86
- Track 8 : MulchMansion\_83, LilMartin\_83, Angela\_83, Marsus\_84
- Track 9 : LilSaint\_84, Bmoc\_84
- Track 10 : Anedea\_85, Riptide\_82
- Track 11 : Shuckle\_84
- Track 12 : Wipeout\_85, Amabiko\_88, KentuckyRacer\_88, Gibbi\_92, CeilingFan\_87, JimJam\_88, MindFlayer\_85, Brizzy\_87, Karimac\_87, Jollison\_87, Starbow\_86, Elmer\_90, IchabodCrane\_85, Spelly\_88, Bordeaux\_86, Quarant19\_87, Battuta\_86, PumpkinSpice\_87, Birchlyn\_85, Spilled\_89, TomSawyer\_86, Wofford\_87
- Track 13 : AngryGiraffe\_87, Yaboi\_88, BoomerJR\_88, Genie2\_88, Stanimal\_88, Sollertia\_88
- Track 14 : Mugiwara\_87, LukeCage\_87, StarPlatinum\_88
- Track 15 : Enygma\_88
- Track 16 : Rikishi\_88, SaltySpittoon\_87
- Track 17 : Tomas\_91

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

The start number called the most often in the published annotations is 2, it was called in 77 of the 79 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amabiko\_88, Anedeia\_85, Angela\_83, AngryGiraffe\_87, Bartholomune\_84, Battuta\_86, Birchlyn\_85, BlueOtter\_86, Bmoc\_84, BoomerJR\_88, Bordeaux\_86, Braelyn\_86, Brizzy\_87, Cadmus\_85, CeilingFan\_87, Coogler\_86, Cross\_86, Cursive\_84, Daubenski\_88, Davielle\_84, EGole\_87, Eliot67\_83, Elmer\_90, Enygma\_88, Evy\_86, FreddyDRoo\_83, Genie2\_88, Gibbi\_92, HangryHippo\_86, IchabodCrane\_85, Jay2Jay\_90, JimJam\_88, Jollison\_87, Karimac\_87, KentuckyRacer\_88, Larnav\_86, Leo04\_87, Liandry\_84, LilMartin\_83, LilSaint\_84, LukeCage\_87, Lululemon\_85, Marsus\_84, Mildred21\_84, MindFlayer\_85, Mugiwara\_87, MulchMansion\_83, Navo\_83, NootNoot\_81, PacManQ\_85, Paradiddles\_81, Peebs\_85, Pepperwood\_86, Persimmon\_84, PinkiePie\_84, PumpkinSpice\_87, Quarant19\_87, Riptide\_82, Samisti12\_86, Scheme\_87, Shuckle\_84, Sollertia\_88, Spelly\_88, Spilled\_89, Squillium\_85, Stanimal\_88, StarPlatinum\_88, Starbow\_86, Sushi23\_85, Targaryen\_86, Teutsch\_86, TomSawyer\_86, Tomas\_91, Tribute\_84, Warpy\_89, Watermoore\_86, WhereRU\_83, Wipeout\_85, Wofford\_87, Yaboi\_88,

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

- Rikishi\_88, SaltySpitoon\_87,

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

- 

### Summary by start number:

Start 2:

- Found in 82 of 82 ( 100.0% ) of genes in pham
- Manual Annotations of this start: 77 of 79
- Called 97.6% of time when present
- Phage (with cluster) where this start called: Amabiko\_88 (BE2), Anedeia\_85 (BE1), Angela\_83 (BE1), AngryGiraffe\_87 (BE2), Bartholomune\_84 (BE1), Battuta\_86 (BE2), Birchlyn\_85 (BE2), BlueOtter\_86 (BE1), Bmoc\_84 (BE1), BoomerJR\_88 (BE2), Bordeaux\_86 (BE2), Braelyn\_86 (BE1), Brizzy\_87 (BE2), Cadmus\_85 (BE1), CeilingFan\_87 (BE2), Coogler\_86 (BE1), Cross\_86 (BE1), Cursive\_84 (BE1), Daubenski\_88 (BE1), Davielle\_84 (BE1), EGole\_87 (BE1), Eliot67\_83 (BE1), Elmer\_90 (BE2), Enygma\_88 (BE2), Evy\_86 (BE1), FreddyDRoo\_83 (BE1), Genie2\_88 (BE2), Gibbi\_92 (BE2), HangryHippo\_86 (BE1), IchabodCrane\_85 (BE2), Jay2Jay\_90 (BE1), JimJam\_88 (BE2), Jollison\_87 (BE2), Karimac\_87 (BE2), KentuckyRacer\_88 (BE2), Larnav\_86 (BE1), Leo04\_87 (BE1), Liandry\_84 (BE1), LilMartin\_83 (BE1), LilSaint\_84 (BE1), LukeCage\_87 (BE2), Lululemon\_85 (BE1), Marsus\_84 (BE1), Mildred21\_84 (BE1), MindFlayer\_85 (BE2), Mugiwara\_87 (BE2), MulchMansion\_83 (BE1), Navo\_83 (BE1), NootNoot\_81 (BE1), PacManQ\_85 (BE1), Paradiddles\_81 (BE1), Peebs\_85 (BE1), Pepperwood\_86 (BE1), Persimmon\_84 (BE1), PinkiePie\_84 (BE1), PumpkinSpice\_87 (BE2), Quarant19\_87 (BE2), Riptide\_82 (BE1), Samisti12\_86 (BE1), Scheme\_87 (BE1), Shuckle\_84 (BE1), Sollertia\_88 (BE2), Spelly\_88 (BE2), Spilled\_89 (BE2), Squillium\_85 (BE1), Stanimal\_88 (BE2), StarPlatinum\_88 (BE2), Starbow\_86 (BE2), Sushi23\_85 (BE1), Targaryen\_86 (BE1), Teutsch\_86 (BE1), TomSawyer\_86 (BE2), Tomas\_91 (BE2), Tribute\_84 (BE1), Warpy\_89 (BE1), Watermoore\_86 (BE1), WhereRU\_83 (BE1), Wipeout\_85 (BE2), Wofford\_87 (BE2), Yaboi\_88 (BE2),

Start 3:

- Found in 24 of 82 ( 29.3% ) of genes in pham
- Manual Annotations of this start: 2 of 79

- Called 8.3% of time when present
- Phage (with cluster) where this start called: Rikishi\_88 (BE2), SaltySpitoon\_87 (BE2),

### **Summary by clusters:**

There are 2 clusters represented in this pham: BE2, BE1,

Info for manual annotations of cluster BE1:

- Start number 2 was manually annotated 45 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 2 was manually annotated 32 times for cluster BE2.
- Start number 3 was manually annotated 2 times for cluster BE2.

### **Gene Information:**

Gene: Amabiko\_88 Start: 63980, Stop: 64192, Start Num: 2

Candidate Starts for Amabiko\_88:

(Start: 2 @63980 has 77 MA's), (Start: 3 @63983 has 2 MA's), (5, 64031), (7, 64076), (15, 64145),

Gene: Anedea\_85 Start: 63484, Stop: 63642, Start Num: 2

Candidate Starts for Anedea\_85:

(1, 63436), (Start: 2 @63484 has 77 MA's), (4, 63496), (5, 63538), (8, 63598), (12, 63619),

Gene: Angela\_83 Start: 62975, Stop: 63121, Start Num: 2

Candidate Starts for Angela\_83:

(Start: 2 @62975 has 77 MA's), (6, 63029), (10, 63095), (12, 63107),

Gene: AngryGiraffe\_87 Start: 63927, Stop: 64139, Start Num: 2

Candidate Starts for AngryGiraffe\_87:

(Start: 2 @63927 has 77 MA's), (7, 64023), (10, 64047), (12, 64059), (14, 64086),

Gene: Bartholomune\_84 Start: 63348, Stop: 63542, Start Num: 2

Candidate Starts for Bartholomune\_84:

(Start: 2 @63348 has 77 MA's), (4, 63360), (10, 63468), (11, 63474), (12, 63480), (14, 63507), (17, 63519),

Gene: Battuta\_86 Start: 63954, Stop: 64166, Start Num: 2

Candidate Starts for Battuta\_86:

(Start: 2 @63954 has 77 MA's), (Start: 3 @63957 has 2 MA's), (5, 64005), (7, 64050), (15, 64119),

Gene: Birchlyn\_85 Start: 61837, Stop: 62049, Start Num: 2

Candidate Starts for Birchlyn\_85:

(Start: 2 @61837 has 77 MA's), (Start: 3 @61840 has 2 MA's), (5, 61888), (7, 61933), (15, 62002),

Gene: BlueOtter\_86 Start: 64692, Stop: 64901, Start Num: 2

Candidate Starts for BlueOtter\_86:

(Start: 2 @64692 has 77 MA's), (10, 64812), (12, 64824), (13, 64848), (14, 64851), (18, 64866),

Gene: Bmoc\_84 Start: 63322, Stop: 63480, Start Num: 2

Candidate Starts for Bmoc\_84:

(Start: 2 @63322 has 77 MA's), (4, 63334), (5, 63376), (8, 63436), (12, 63457),

Gene: BoomerJR\_88 Start: 63816, Stop: 64028, Start Num: 2

Candidate Starts for BoomerJR\_88:

(Start: 2 @63816 has 77 MA's), (7, 63912), (10, 63936), (12, 63948), (14, 63975),

Gene: Bordeaux\_86 Start: 64109, Stop: 64321, Start Num: 2

Candidate Starts for Bordeaux\_86:

(Start: 2 @64109 has 77 MA's), (Start: 3 @64112 has 2 MA's), (5, 64160), (7, 64205), (15, 64274),

Gene: Braelyn\_86 Start: 64112, Stop: 64306, Start Num: 2

Candidate Starts for Braelyn\_86:

(Start: 2 @64112 has 77 MA's), (4, 64124), (10, 64232), (11, 64238), (12, 64244), (14, 64271), (17, 64283),

Gene: Brizzy\_87 Start: 63628, Stop: 63840, Start Num: 2

Candidate Starts for Brizzy\_87:

(Start: 2 @63628 has 77 MA's), (Start: 3 @63631 has 2 MA's), (5, 63679), (7, 63724), (15, 63793),

Gene: Cadmus\_85 Start: 63644, Stop: 63853, Start Num: 2

Candidate Starts for Cadmus\_85:

(Start: 2 @63644 has 77 MA's), (18, 63818),

Gene: CeilingFan\_87 Start: 63869, Stop: 64081, Start Num: 2

Candidate Starts for CeilingFan\_87:

(Start: 2 @63869 has 77 MA's), (Start: 3 @63872 has 2 MA's), (5, 63920), (7, 63965), (15, 64034),

Gene: Coogler\_86 Start: 64718, Stop: 64927, Start Num: 2

Candidate Starts for Coogler\_86:

(Start: 2 @64718 has 77 MA's), (10, 64838), (12, 64850), (13, 64874), (14, 64877), (18, 64892),

Gene: Cross\_86 Start: 64693, Stop: 64902, Start Num: 2

Candidate Starts for Cross\_86:

(Start: 2 @64693 has 77 MA's), (10, 64813), (12, 64825), (13, 64849), (14, 64852), (18, 64867),

Gene: Cursive\_84 Start: 64218, Stop: 64427, Start Num: 2

Candidate Starts for Cursive\_84:

(Start: 2 @64218 has 77 MA's), (10, 64338), (12, 64350), (13, 64374), (14, 64377), (18, 64392),

Gene: Daubenski\_88 Start: 64408, Stop: 64617, Start Num: 2

Candidate Starts for Daubenski\_88:

(Start: 2 @64408 has 77 MA's), (18, 64582),

Gene: Davielle\_84 Start: 63532, Stop: 63726, Start Num: 2

Candidate Starts for Davielle\_84:

(Start: 2 @63532 has 77 MA's), (4, 63544), (10, 63652), (11, 63658), (12, 63664), (14, 63691), (17, 63703),

Gene: EGole\_87 Start: 65638, Stop: 65847, Start Num: 2

Candidate Starts for EGole\_87:

(Start: 2 @65638 has 77 MA's), (4, 65650), (10, 65758), (12, 65770), (13, 65794), (14, 65797), (18, 65812),

Gene: Eliot67\_83 Start: 63390, Stop: 63584, Start Num: 2  
Candidate Starts for Eliot67\_83:  
(Start: 2 @63390 has 77 MA's), (4, 63402), (10, 63510), (11, 63516), (12, 63522), (14, 63549), (17, 63561),

Gene: Elmer\_90 Start: 65056, Stop: 65268, Start Num: 2  
Candidate Starts for Elmer\_90:  
(Start: 2 @65056 has 77 MA's), (Start: 3 @65059 has 2 MA's), (5, 65107), (7, 65152), (15, 65221),

Gene: Enygma\_88 Start: 65756, Stop: 65953, Start Num: 2  
Candidate Starts for Enygma\_88:  
(Start: 2 @65756 has 77 MA's), (5, 65807), (7, 65852), (15, 65921),

Gene: Evy\_86 Start: 64593, Stop: 64787, Start Num: 2  
Candidate Starts for Evy\_86:  
(Start: 2 @64593 has 77 MA's), (13, 64746), (17, 64764),

Gene: FreddyDRoo\_83 Start: 63390, Stop: 63584, Start Num: 2  
Candidate Starts for FreddyDRoo\_83:  
(Start: 2 @63390 has 77 MA's), (4, 63402), (10, 63510), (11, 63516), (12, 63522), (14, 63549), (17, 63561),

Gene: Genie2\_88 Start: 63930, Stop: 64142, Start Num: 2  
Candidate Starts for Genie2\_88:  
(Start: 2 @63930 has 77 MA's), (7, 64026), (10, 64050), (12, 64062), (14, 64089),

Gene: Gibbi\_92 Start: 64092, Stop: 64304, Start Num: 2  
Candidate Starts for Gibbi\_92:  
(Start: 2 @64092 has 77 MA's), (Start: 3 @64095 has 2 MA's), (5, 64143), (7, 64188), (15, 64257),

Gene: HangryHippo\_86 Start: 64692, Stop: 64901, Start Num: 2  
Candidate Starts for HangryHippo\_86:  
(Start: 2 @64692 has 77 MA's), (10, 64812), (12, 64824), (13, 64848), (14, 64851), (18, 64866),

Gene: IchabodCrane\_85 Start: 63681, Stop: 63893, Start Num: 2  
Candidate Starts for IchabodCrane\_85:  
(Start: 2 @63681 has 77 MA's), (Start: 3 @63684 has 2 MA's), (5, 63732), (7, 63777), (15, 63846),

Gene: Jay2Jay\_90 Start: 65445, Stop: 65639, Start Num: 2  
Candidate Starts for Jay2Jay\_90:  
(Start: 2 @65445 has 77 MA's), (13, 65598), (17, 65616),

Gene: JimJam\_88 Start: 64055, Stop: 64267, Start Num: 2  
Candidate Starts for JimJam\_88:  
(Start: 2 @64055 has 77 MA's), (Start: 3 @64058 has 2 MA's), (5, 64106), (7, 64151), (15, 64220),

Gene: Jollison\_87 Start: 63937, Stop: 64149, Start Num: 2  
Candidate Starts for Jollison\_87:  
(Start: 2 @63937 has 77 MA's), (Start: 3 @63940 has 2 MA's), (5, 63988), (7, 64033), (15, 64102),

Gene: Karimac\_87 Start: 64086, Stop: 64298, Start Num: 2  
Candidate Starts for Karimac\_87:

(Start: 2 @64086 has 77 MA's), (Start: 3 @64089 has 2 MA's), (5, 64137), (7, 64182), (15, 64251),

Gene: KentuckyRacer\_88 Start: 63870, Stop: 64082, Start Num: 2

Candidate Starts for KentuckyRacer\_88:

(Start: 2 @63870 has 77 MA's), (Start: 3 @63873 has 2 MA's), (5, 63921), (7, 63966), (15, 64035),

Gene: Larnav\_86 Start: 64677, Stop: 64886, Start Num: 2

Candidate Starts for Larnav\_86:

(Start: 2 @64677 has 77 MA's), (4, 64689), (10, 64797), (12, 64809), (13, 64833), (14, 64836), (18, 64851),

Gene: Leo04\_87 Start: 65192, Stop: 65401, Start Num: 2

Candidate Starts for Leo04\_87:

(Start: 2 @65192 has 77 MA's), (10, 65312), (12, 65324), (13, 65348), (14, 65351), (18, 65366),

Gene: Liandry\_84 Start: 64097, Stop: 64291, Start Num: 2

Candidate Starts for Liandry\_84:

(Start: 2 @64097 has 77 MA's), (4, 64109), (10, 64217), (11, 64223), (12, 64229), (14, 64256), (17, 64268),

Gene: LilMartin\_83 Start: 62923, Stop: 63069, Start Num: 2

Candidate Starts for LilMartin\_83:

(Start: 2 @62923 has 77 MA's), (6, 62977), (10, 63043), (12, 63055),

Gene: LilSaint\_84 Start: 63157, Stop: 63315, Start Num: 2

Candidate Starts for LilSaint\_84:

(Start: 2 @63157 has 77 MA's), (4, 63169), (5, 63211), (8, 63271), (12, 63292),

Gene: LukeCage\_87 Start: 63843, Stop: 64055, Start Num: 2

Candidate Starts for LukeCage\_87:

(Start: 2 @63843 has 77 MA's), (4, 63855), (5, 63894), (7, 63939), (15, 64008),

Gene: Lululemon\_85 Start: 64073, Stop: 64282, Start Num: 2

Candidate Starts for Lululemon\_85:

(Start: 2 @64073 has 77 MA's), (10, 64193), (12, 64205), (13, 64229), (14, 64232), (18, 64247),

Gene: Marsus\_84 Start: 63172, Stop: 63318, Start Num: 2

Candidate Starts for Marsus\_84:

(Start: 2 @63172 has 77 MA's), (6, 63226), (10, 63292), (12, 63304),

Gene: Mildred21\_84 Start: 63128, Stop: 63286, Start Num: 2

Candidate Starts for Mildred21\_84:

(Start: 2 @63128 has 77 MA's), (5, 63182), (8, 63242), (12, 63263),

Gene: MindFlayer\_85 Start: 63588, Stop: 63800, Start Num: 2

Candidate Starts for MindFlayer\_85:

(Start: 2 @63588 has 77 MA's), (Start: 3 @63591 has 2 MA's), (5, 63639), (7, 63684), (15, 63753),

Gene: Mugiwara\_87 Start: 64342, Stop: 64554, Start Num: 2

Candidate Starts for Mugiwara\_87:

(Start: 2 @64342 has 77 MA's), (4, 64354), (5, 64393), (7, 64438), (15, 64507),

Gene: MulchMansion\_83 Start: 62923, Stop: 63069, Start Num: 2

Candidate Starts for MulchMansion\_83:

(Start: 2 @62923 has 77 MA's), (6, 62977), (10, 63043), (12, 63055),

Gene: Navo\_83 Start: 64016, Stop: 64210, Start Num: 2

Candidate Starts for Navo\_83:

(Start: 2 @64016 has 77 MA's), (4, 64028), (10, 64136), (11, 64142), (12, 64148), (14, 64175), (17, 64187),

Gene: NootNoot\_81 Start: 63011, Stop: 63205, Start Num: 2

Candidate Starts for NootNoot\_81:

(Start: 2 @63011 has 77 MA's), (4, 63023), (10, 63131), (11, 63137), (12, 63143), (14, 63170), (17, 63182),

Gene: PacManQ\_85 Start: 64073, Stop: 64282, Start Num: 2

Candidate Starts for PacManQ\_85:

(Start: 2 @64073 has 77 MA's), (10, 64193), (12, 64205), (13, 64229), (14, 64232), (18, 64247),

Gene: Paradiddles\_81 Start: 63275, Stop: 63469, Start Num: 2

Candidate Starts for Paradiddles\_81:

(Start: 2 @63275 has 77 MA's), (4, 63287), (10, 63395), (11, 63401), (12, 63407), (14, 63434), (17, 63446),

Gene: Peebs\_85 Start: 64427, Stop: 64636, Start Num: 2

Candidate Starts for Peebs\_85:

(Start: 2 @64427 has 77 MA's), (4, 64439), (10, 64547), (12, 64559), (13, 64583), (14, 64586), (18, 64601),

Gene: Pepperwood\_86 Start: 64560, Stop: 64769, Start Num: 2

Candidate Starts for Pepperwood\_86:

(Start: 2 @64560 has 77 MA's), (4, 64572), (10, 64680), (12, 64692), (13, 64716), (14, 64719), (18, 64734),

Gene: Persimmon\_84 Start: 62944, Stop: 63138, Start Num: 2

Candidate Starts for Persimmon\_84:

(Start: 2 @62944 has 77 MA's), (4, 62956), (10, 63064), (11, 63070), (12, 63076), (14, 63103), (17, 63115),

Gene: PinkiePie\_84 Start: 64097, Stop: 64291, Start Num: 2

Candidate Starts for PinkiePie\_84:

(Start: 2 @64097 has 77 MA's), (4, 64109), (10, 64217), (11, 64223), (12, 64229), (14, 64256), (17, 64268),

Gene: PumpkinSpice\_87 Start: 63980, Stop: 64192, Start Num: 2

Candidate Starts for PumpkinSpice\_87:

(Start: 2 @63980 has 77 MA's), (Start: 3 @63983 has 2 MA's), (5, 64031), (7, 64076), (15, 64145),

Gene: Quaran19\_87 Start: 63971, Stop: 64183, Start Num: 2

Candidate Starts for Quaran19\_87:

(Start: 2 @63971 has 77 MA's), (Start: 3 @63974 has 2 MA's), (5, 64022), (7, 64067), (15, 64136),

Gene: Rikishi\_88 Start: 63889, Stop: 64098, Start Num: 3

Candidate Starts for Rikishi\_88:

(Start: 2 @63886 has 77 MA's), (Start: 3 @63889 has 2 MA's), (5, 63937), (7, 63982), (15, 64051),

Gene: Riptide\_82 Start: 62701, Stop: 62859, Start Num: 2

Candidate Starts for Riptide\_82:

(1, 62653), (Start: 2 @62701 has 77 MA's), (4, 62713), (5, 62755), (8, 62815), (12, 62836),

Gene: SaltySpittoon\_87 Start: 63983, Stop: 64192, Start Num: 3

Candidate Starts for SaltySpittoon\_87:

(Start: 2 @63980 has 77 MA's), (Start: 3 @63983 has 2 MA's), (5, 64031), (7, 64076), (15, 64145),

Gene: Samisti12\_86 Start: 65869, Stop: 66078, Start Num: 2

Candidate Starts for Samisti12\_86:

(Start: 2 @65869 has 77 MA's), (10, 65989), (12, 66001), (13, 66025), (14, 66028), (18, 66043),

Gene: Scheme\_87 Start: 65274, Stop: 65483, Start Num: 2

Candidate Starts for Scheme\_87:

(Start: 2 @65274 has 77 MA's), (5, 65325), (10, 65394), (12, 65406), (13, 65430), (14, 65433), (18, 65448),

Gene: Shuckle\_84 Start: 64882, Stop: 65091, Start Num: 2

Candidate Starts for Shuckle\_84:

(Start: 2 @64882 has 77 MA's),

Gene: Sollertia\_88 Start: 63930, Stop: 64142, Start Num: 2

Candidate Starts for Sollertia\_88:

(Start: 2 @63930 has 77 MA's), (7, 64026), (10, 64050), (12, 64062), (14, 64089),

Gene: Spelly\_88 Start: 63935, Stop: 64147, Start Num: 2

Candidate Starts for Spelly\_88:

(Start: 2 @63935 has 77 MA's), (Start: 3 @63938 has 2 MA's), (5, 63986), (7, 64031), (15, 64100),

Gene: Spilled\_89 Start: 64052, Stop: 64264, Start Num: 2

Candidate Starts for Spilled\_89:

(Start: 2 @64052 has 77 MA's), (Start: 3 @64055 has 2 MA's), (5, 64103), (7, 64148), (15, 64217),

Gene: Squillium\_85 Start: 64098, Stop: 64292, Start Num: 2

Candidate Starts for Squillium\_85:

(Start: 2 @64098 has 77 MA's), (4, 64110), (10, 64218), (11, 64224), (12, 64230), (14, 64257), (17, 64269),

Gene: Stanimal\_88 Start: 63819, Stop: 64031, Start Num: 2

Candidate Starts for Stanimal\_88:

(Start: 2 @63819 has 77 MA's), (7, 63915), (10, 63939), (12, 63951), (14, 63978),

Gene: StarPlatinum\_88 Start: 64488, Stop: 64700, Start Num: 2

Candidate Starts for StarPlatinum\_88:

(Start: 2 @64488 has 77 MA's), (4, 64500), (5, 64539), (7, 64584), (15, 64653),

Gene: Starbow\_86 Start: 63956, Stop: 64168, Start Num: 2

Candidate Starts for Starbow\_86:

(Start: 2 @63956 has 77 MA's), (Start: 3 @63959 has 2 MA's), (5, 64007), (7, 64052), (15, 64121),

Gene: Sushi23\_85 Start: 64785, Stop: 64994, Start Num: 2

Candidate Starts for Sushi23\_85:

(Start: 2 @64785 has 77 MA's), (4, 64797), (10, 64905), (12, 64917), (13, 64941), (14, 64944), (18, 64959),

Gene: Targaryen\_86 Start: 65495, Stop: 65689, Start Num: 2

Candidate Starts for Targaryen\_86:

(Start: 2 @65495 has 77 MA's), (13, 65648), (17, 65666),

Gene: Teutsch\_86 Start: 65048, Stop: 65257, Start Num: 2

Candidate Starts for Teutsch\_86:

(Start: 2 @65048 has 77 MA's), (10, 65168), (12, 65180), (13, 65204), (14, 65207), (18, 65222),

Gene: TomSawyer\_86 Start: 63571, Stop: 63783, Start Num: 2

Candidate Starts for TomSawyer\_86:

(Start: 2 @63571 has 77 MA's), (Start: 3 @63574 has 2 MA's), (5, 63622), (7, 63667), (15, 63736),

Gene: Tomas\_91 Start: 66894, Stop: 67094, Start Num: 2

Candidate Starts for Tomas\_91:

(Start: 2 @66894 has 77 MA's), (5, 66951), (9, 67014), (12, 67032), (16, 67071),

Gene: Tribute\_84 Start: 64254, Stop: 64463, Start Num: 2

Candidate Starts for Tribute\_84:

(Start: 2 @64254 has 77 MA's), (4, 64266), (10, 64374), (12, 64386), (13, 64410), (14, 64413), (18, 64428),

Gene: Warpy\_89 Start: 64958, Stop: 65152, Start Num: 2

Candidate Starts for Warpy\_89:

(Start: 2 @64958 has 77 MA's), (13, 65111), (17, 65129),

Gene: Watermoore\_86 Start: 65264, Stop: 65473, Start Num: 2

Candidate Starts for Watermoore\_86:

(Start: 2 @65264 has 77 MA's), (10, 65384), (12, 65396), (13, 65420), (14, 65423), (18, 65438),

Gene: WhereRU\_83 Start: 63532, Stop: 63726, Start Num: 2

Candidate Starts for WhereRU\_83:

(Start: 2 @63532 has 77 MA's), (4, 63544), (10, 63652), (11, 63658), (12, 63664), (14, 63691), (17, 63703),

Gene: Wipeout\_85 Start: 64322, Stop: 64534, Start Num: 2

Candidate Starts for Wipeout\_85:

(Start: 2 @64322 has 77 MA's), (Start: 3 @64325 has 2 MA's), (5, 64373), (7, 64418), (15, 64487),

Gene: Wofford\_87 Start: 65019, Stop: 65231, Start Num: 2

Candidate Starts for Wofford\_87:

(Start: 2 @65019 has 77 MA's), (Start: 3 @65022 has 2 MA's), (5, 65070), (7, 65115), (15, 65184),

Gene: Yaboi\_88 Start: 63907, Stop: 64119, Start Num: 2

Candidate Starts for Yaboi\_88:

(Start: 2 @63907 has 77 MA's), (7, 64003), (10, 64027), (12, 64039), (14, 64066),