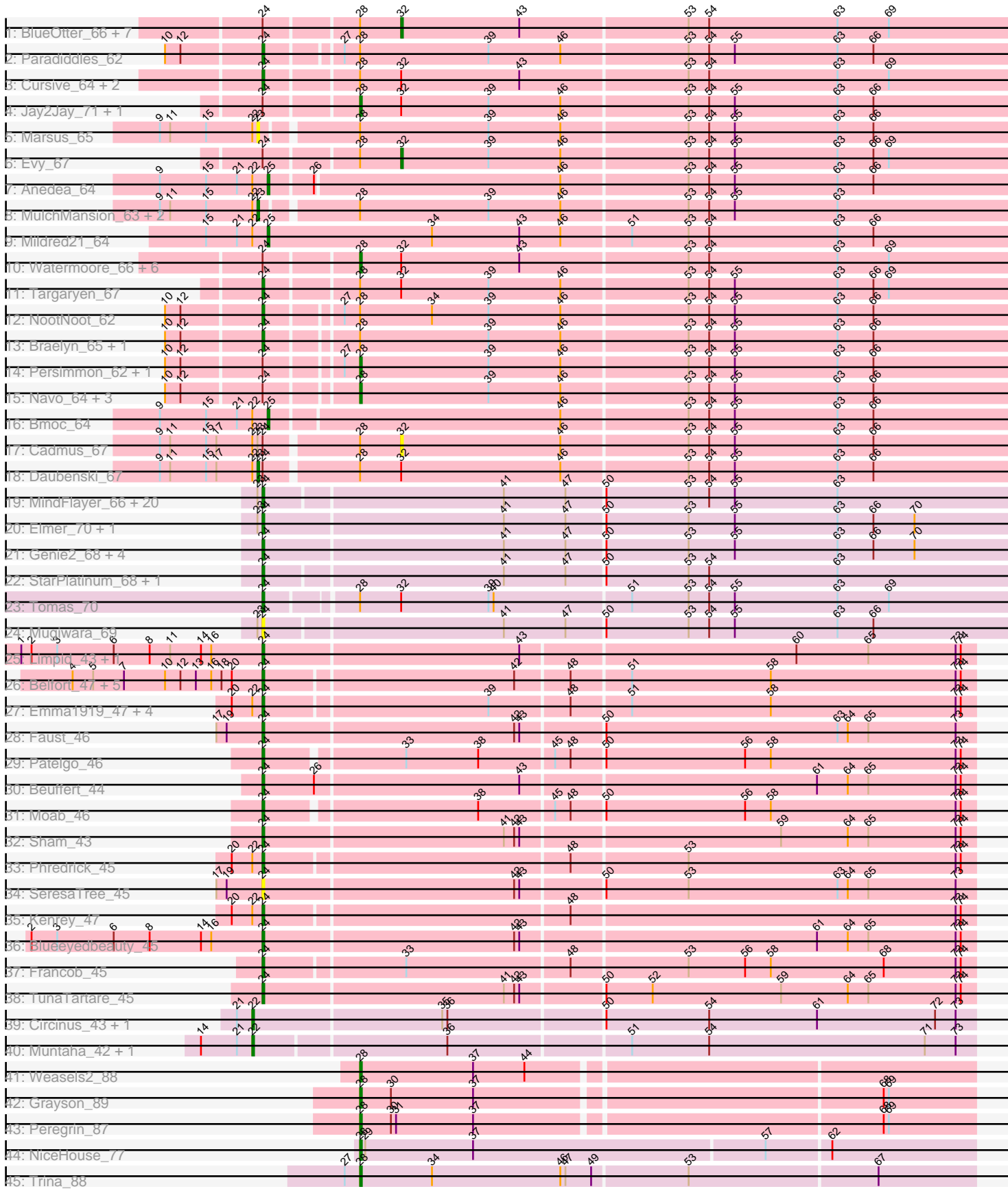


Pham 224442



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 224442 Report

This analysis was run 03/28/25 on database version 593.

Pham number 224442 has 106 members, 9 are drafts.

Phages represented in each track:

- Track 1 : BlueOtter\_66, Tribute\_64, HangryHippo\_66, Samisti12\_66, Scheme\_67, Shuckle\_64, Larnav\_66, Teutsch\_66
- Track 2 : Paradiddles\_62
- Track 3 : Cursive\_64, PacManQ\_65, Lululemon\_65
- Track 4 : Jay2Jay\_71, Warpy\_70
- Track 5 : Marsus\_65
- Track 6 : Evy\_67
- Track 7 : Anedea\_64
- Track 8 : MulchMansion\_63, LilMartin\_63, Angela\_63
- Track 9 : Mildred21\_64
- Track 10 : Watermoore\_66, Leo04\_67, Cross\_66, Peebs\_65, Pepperwood\_66, Sushi23\_66, EGole\_67
- Track 11 : Targaryen\_67
- Track 12 : NootNoot\_62
- Track 13 : Braelyn\_65, Liandry\_65
- Track 14 : Persimmon\_62, WhereRU\_63
- Track 15 : Navo\_64, Bartholomune\_64, PinkiePie\_64, Squillium\_65
- Track 16 : Bmoc\_64
- Track 17 : Cadmus\_67
- Track 18 : Daubenski\_67
- Track 19 : MindFlayer\_66, Wipeout\_66, Bordeaux\_66, Battuta\_66, Birchlyn\_65, SaltySpittoon\_68, Amabiko\_68, Karimac\_67, Gibbi\_72, TomSawyer\_66, Spilled\_69, Spelly\_68, IchabodCrane\_65, JimJam\_68, PumpkinSpice\_67, KentuckyRacer\_68, Jollison\_67, Rikishi\_71, Starbow\_66, CeilingFan\_67, Quarant19\_68
- Track 20 : Elmer\_70, Wofford\_67
- Track 21 : Genie2\_68, Stanimal\_68, Sollertia\_68, Yaboi\_68, BoomerJR\_68
- Track 22 : StarPlatinum\_68, Enygma\_68
- Track 23 : Tomas\_70
- Track 24 : Mugiwara\_69
- Track 25 : Limpid\_43, Annadreamy\_43
- Track 26 : Belfort\_47, Stigma\_46, Westy\_46, Karp\_45, Comrade\_46, SparkleGoddess\_46
- Track 27 : Emma1919\_47, Gilson\_47, MeganTheeKilla\_45, Forrest\_47, Jada\_45
- Track 28 : Faust\_46
- Track 29 : Patelgo\_46
- Track 30 : Beuffert\_44
- Track 31 : Moab\_46

- Track 32 : Sham\_43
- Track 33 : Phredrick\_45
- Track 34 : SeresaTree\_45
- Track 35 : Kenrey\_47
- Track 36 : Blueeyedbeauty\_45
- Track 37 : Francob\_45
- Track 38 : TunaTartare\_45
- Track 39 : Circinus\_43, BillNye\_41
- Track 40 : Muntaha\_42, Wakanda\_42
- Track 41 : Weasels2\_88
- Track 42 : Grayson\_89
- Track 43 : Peregrin\_87
- Track 44 : NiceHouse\_77
- Track 45 : Trina\_88

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

The start number called the most often in the published annotations is 24, it was called in 59 of the 97 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amabiko\_68, Annadreamy\_43, Battuta\_66, Belfort\_47, Beuffert\_44, Birchlyn\_65, Blueeyedbeauty\_45, BoomerJR\_68, Bordeaux\_66, Braelyn\_65, CeilingFan\_67, Comrade\_46, Cursive\_64, Elmer\_70, Emma1919\_47, Enygma\_68, Faust\_46, Forrest\_47, Francob\_45, Genie2\_68, Gibbi\_72, Gilson\_47, IchabodCrane\_65, Jada\_45, JimJam\_68, Jollison\_67, Karimac\_67, Karp\_45, Kenrey\_47, KentuckyRacer\_68, Liandry\_65, Limpid\_43, Lululemon\_65, MeganTheeKilla\_45, MindFlayer\_66, Moab\_46, Mugiwara\_69, NootNoot\_62, PacManQ\_65, Paradiddles\_62, Patelgo\_46, Phredrick\_45, PumpkinSpice\_67, Quarant19\_68, Rikishi\_71, SaltySpittoon\_68, SeresaTree\_45, Sham\_43, Sollertia\_68, SparkleGoddess\_46, Spelly\_68, Spilled\_69, Stanimal\_68, StarPlatinum\_68, Starbow\_66, Stigma\_46, Targaryen\_67, TomSawyer\_66, Tomas\_70, TunaTartare\_45, Westy\_46, Wipeout\_66, Wofford\_67, Yaboi\_68,

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

- Bartholomune\_64, BlueOtter\_66, Cadmus\_67, Cross\_66, Daubenski\_67, EGole\_67, Evy\_67, HangryHippo\_66, Jay2Jay\_71, Larnav\_66, Leo04\_67, Navo\_64, Peebs\_65, Pepperwood\_66, Persimmon\_62, PinkiePie\_64, Samisti12\_66, Scheme\_67, Shuckle\_64, Squillium\_65, Sushi23\_66, Teutsch\_66, Tribute\_64, Warpy\_70, Watermoore\_66, WhereRU\_63,

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

- Anedea\_64, Angela\_63, BillNye\_41, Bmoc\_64, Circinus\_43, Grayson\_89, LilMartin\_63, Marsus\_65, Mildred21\_64, MulchMansion\_63, Muntaha\_42, NiceHouse\_77, Peregrin\_87, Trina\_88, Wakanda\_42, Weasels2\_88,

**Summary by start number:**

Start 22:

- Found in 20 of 106 ( 18.9% ) of genes in pham

- Manual Annotations of this start: 4 of 97
- Called 20.0% of time when present
- Phage (with cluster) where this start called: BillNye\_41 (BK2), Circinus\_43 (BK2), Muntaha\_42 (BK2), Wakanda\_42 (BK2),

#### Start 23:

- Found in 30 of 106 ( 28.3% ) of genes in pham
- Manual Annotations of this start: 4 of 97
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Angela\_63 (BE1), Daubenski\_67 (BE1), LilMartin\_63 (BE1), Marsus\_65 (BE1), MulchMansion\_63 (BE1),

#### Start 24:

- Found in 90 of 106 ( 84.9% ) of genes in pham
- Manual Annotations of this start: 59 of 97
- Called 71.1% of time when present
- Phage (with cluster) where this start called: Amabiko\_68 (BE2), Annadreamy\_43 (BK1), Battuta\_66 (BE2), Belfort\_47 (BK1), Beuffert\_44 (BK1), Birchlyn\_65 (BE2), Blueeyedbeauty\_45 (BK1), BoomerJR\_68 (BE2), Bordeaux\_66 (BE2), Braelyn\_65 (BE1), CeilingFan\_67 (BE2), Comrade\_46 (BK1), Cursive\_64 (BE1), Elmer\_70 (BE2), Emma1919\_47 (BK1), Enygma\_68 (BE2), Faust\_46 (BK1), Forrest\_47 (BK1), Francob\_45 (BK1), Genie2\_68 (BE2), Gibbi\_72 (BE2), Gilson\_47 (BK1), IchabodCrane\_65 (BE2), Jada\_45 (BK1), JimJam\_68 (BE2), Jollison\_67 (BE2), Karimac\_67 (BE2), Karp\_45 (BK1), Kenrey\_47 (BK1), KentuckyRacer\_68 (BE2), Liandry\_65 (BE1), Limpid\_43 (BK1), Lululemon\_65 (BE1), MeganTheeKilla\_45 (BK1), MindFlayer\_66 (BE2), Moab\_46 (BK1), Mugiwara\_69 (BE2), NootNoot\_62 (BE1), PacManQ\_65 (BE1), Paradiddles\_62 (BE1), Patelgo\_46 (BK1), Phredrick\_45 (BK1), PumpkinSpice\_67 (BE2), Quarant19\_68 (BE2), Rikishi\_71 (BE2), SaltySpittoon\_68 (BE2), SeresaTree\_45 (BK1), Sham\_43 (BK1), Sollertia\_68 (BE2), SparkleGoddess\_46 (BK1), Spelly\_68 (BE2), Spilled\_69 (BE2), Stanimal\_68 (BE2), StarPlatinum\_68 (BE2), Starbow\_66 (BE2), Stigma\_46 (BK1), Targaryen\_67 (BE1), TomSawyer\_66 (BE2), Tomas\_70 (BE2), TunaTartare\_45 (BK1), Westy\_46 (BK1), Wipeout\_66 (BE2), Wofford\_67 (BE2), Yaboi\_68 (BE2),

#### Start 25:

- Found in 3 of 106 ( 2.8% ) of genes in pham
- Manual Annotations of this start: 3 of 97
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anedea\_64 (BE1), Bmoc\_64 (BE1), Mildred21\_64 (BE1),

#### Start 28:

- Found in 44 of 106 ( 41.5% ) of genes in pham
- Manual Annotations of this start: 20 of 97
- Called 45.5% of time when present
- Phage (with cluster) where this start called: Bartholomune\_64 (BE1), Cross\_66 (BE1), EGole\_67 (BE1), Grayson\_89 (CB), Jay2Jay\_71 (BE1), Leo04\_67 (BE1), Navo\_64 (BE1), NiceHouse\_77 (CE), Peebs\_65 (BE1), Pepperwood\_66 (BE1), Peregrin\_87 (CB), Persimmon\_62 (BE1), PinkiePie\_64 (BE1), Squillium\_65 (BE1), Sushi23\_66 (BE1), Trina\_88 (CE), Warpy\_70 (BE1), Watermoore\_66 (BE1), Weasels2\_88 (CB), WhereRU\_63 (BE1),

#### Start 32:

- Found in 25 of 106 ( 23.6% ) of genes in pham
- Manual Annotations of this start: 7 of 97
- Called 40.0% of time when present
- Phage (with cluster) where this start called: BlueOtter\_66 (BE1), Cadmus\_67 (BE1), Evy\_67 (BE1), HangryHippo\_66 (BE1), Larnav\_66 (BE1), Samisti12\_66 (BE1), Scheme\_67 (BE1), Shuckle\_64 (BE1), Teutsch\_66 (BE1), Tribute\_64 (BE1),

### **Summary by clusters:**

There are 6 clusters represented in this pham: CB, CE, BK1, BK2, BE2, BE1,

Info for manual annotations of cluster BE1:

- Start number 23 was manually annotated 4 times for cluster BE1.
- Start number 24 was manually annotated 8 times for cluster BE1.
- Start number 25 was manually annotated 3 times for cluster BE1.
- Start number 28 was manually annotated 15 times for cluster BE1.
- Start number 32 was manually annotated 7 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 24 was manually annotated 29 times for cluster BE2.

Info for manual annotations of cluster BK1:

- Start number 24 was manually annotated 22 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 22 was manually annotated 4 times for cluster BK2.

Info for manual annotations of cluster CB:

- Start number 28 was manually annotated 3 times for cluster CB.

Info for manual annotations of cluster CE:

- Start number 28 was manually annotated 2 times for cluster CE.

### **Gene Information:**

Gene: Amabiko\_68 Start: 51148, Stop: 51591, Start Num: 24

Candidate Starts for Amabiko\_68:

(Start: 23 @51145 has 4 MA's), (Start: 24 @51148 has 59 MA's), (41, 51283), (47, 51319), (50, 51340), (53, 51388), (54, 51400), (55, 51415), (63, 51475),

Gene: Anedea\_64 Start: 50725, Stop: 51165, Start Num: 25

Candidate Starts for Anedea\_64:

(9, 50662), (15, 50689), (21, 50707), (Start: 22 @50716 has 4 MA's), (Start: 25 @50725 has 3 MA's), (26, 50749), (46, 50890), (53, 50962), (54, 50974), (55, 50989), (63, 51049), (66, 51070),

Gene: Angela\_63 Start: 50183, Stop: 50626, Start Num: 23

Candidate Starts for Angela\_63:

(9, 50126), (11, 50132), (15, 50153), (Start: 22 @50180 has 4 MA's), (Start: 23 @50183 has 4 MA's), (Start: 28 @50234 has 20 MA's), (39, 50309), (46, 50351), (53, 50423), (54, 50435), (55, 50450), (63, 50510),

Gene: Annadreamy\_43 Start: 39981, Stop: 40388, Start Num: 24  
Candidate Starts for Annadreamy\_43:  
(1, 39840), (2, 39846), (3, 39861), (6, 39894), (8, 39915), (11, 39927), (14, 39945), (16, 39951), (Start: 24 @39981 has 59 MA's), (43, 40128), (60, 40284), (65, 40326), (73, 40377), (74, 40380),

Gene: Bartholomune\_64 Start: 50499, Stop: 50891, Start Num: 28  
Candidate Starts for Bartholomune\_64:  
(10, 50397), (12, 50406), (Start: 24 @50451 has 59 MA's), (Start: 28 @50499 has 20 MA's), (39, 50574), (46, 50616), (53, 50688), (54, 50700), (55, 50715), (63, 50775), (66, 50796),

Gene: Battuta\_66 Start: 51122, Stop: 51565, Start Num: 24  
Candidate Starts for Battuta\_66:  
(Start: 23 @51119 has 4 MA's), (Start: 24 @51122 has 59 MA's), (41, 51257), (47, 51293), (50, 51314), (53, 51362), (54, 51374), (55, 51389), (63, 51449),

Gene: Belfort\_47 Start: 42499, Stop: 42903, Start Num: 24  
Candidate Starts for Belfort\_47:  
(4, 42388), (5, 42400), (7, 42418), (10, 42442), (12, 42451), (13, 42460), (16, 42469), (18, 42475), (20, 42481), (Start: 24 @42499 has 59 MA's), (42, 42640), (48, 42670), (51, 42703), (58, 42784), (73, 42892), (74, 42895),

Gene: Beuffert\_44 Start: 41122, Stop: 41529, Start Num: 24  
Candidate Starts for Beuffert\_44:  
(Start: 24 @41122 has 59 MA's), (26, 41152), (43, 41269), (61, 41437), (64, 41455), (65, 41467), (73, 41518), (74, 41521),

Gene: BillNye\_41 Start: 43372, Stop: 43785, Start Num: 22  
Candidate Starts for BillNye\_41:  
(21, 43363), (Start: 22 @43372 has 4 MA's), (35, 43480), (36, 43483), (50, 43570), (54, 43630), (61, 43693), (72, 43762), (73, 43774),

Gene: Birchlyn\_65 Start: 49005, Stop: 49448, Start Num: 24  
Candidate Starts for Birchlyn\_65:  
(Start: 23 @49002 has 4 MA's), (Start: 24 @49005 has 59 MA's), (41, 49140), (47, 49176), (50, 49197), (53, 49245), (54, 49257), (55, 49272), (63, 49332),

Gene: BlueOtter\_66 Start: 51903, Stop: 52271, Start Num: 32  
Candidate Starts for BlueOtter\_66:  
(Start: 24 @51828 has 59 MA's), (Start: 28 @51879 has 20 MA's), (Start: 32 @51903 has 7 MA's), (43, 51972), (53, 52068), (54, 52080), (63, 52155), (69, 52185),

Gene: Blueeyedbeauty\_45 Start: 40493, Stop: 40900, Start Num: 24  
Candidate Starts for Blueeyedbeauty\_45:  
(2, 40358), (3, 40373), (6, 40406), (8, 40427), (14, 40457), (16, 40463), (Start: 24 @40493 has 59 MA's), (42, 40637), (43, 40640), (61, 40808), (64, 40826), (65, 40838), (73, 40889), (74, 40892),

Gene: Bmoc\_64 Start: 50529, Stop: 50969, Start Num: 25  
Candidate Starts for Bmoc\_64:  
(9, 50466), (15, 50493), (21, 50511), (Start: 22 @50520 has 4 MA's), (Start: 25 @50529 has 3 MA's), (46, 50694), (53, 50766), (54, 50778), (55, 50793), (63, 50853), (66, 50874),

Gene: BoomerJR\_68 Start: 50999, Stop: 51445, Start Num: 24  
Candidate Starts for BoomerJR\_68:

(Start: 24 @50999 has 59 MA's), (41, 51137), (47, 51173), (50, 51194), (53, 51242), (55, 51269), (63, 51329), (66, 51350), (70, 51374),

Gene: Bordeaux\_66 Start: 51277, Stop: 51720, Start Num: 24

Candidate Starts for Bordeaux\_66:

(Start: 23 @51274 has 4 MA's), (Start: 24 @51277 has 59 MA's), (41, 51412), (47, 51448), (50, 51469), (53, 51517), (54, 51529), (55, 51544), (63, 51604),

Gene: Braelyn\_65 Start: 51218, Stop: 51658, Start Num: 24

Candidate Starts for Braelyn\_65:

(10, 51164), (12, 51173), (Start: 24 @51218 has 59 MA's), (Start: 28 @51266 has 20 MA's), (39, 51341), (46, 51383), (53, 51455), (54, 51467), (55, 51482), (63, 51542), (66, 51563),

Gene: Cadmus\_67 Start: 50906, Stop: 51274, Start Num: 32

Candidate Starts for Cadmus\_67:

(9, 50771), (11, 50777), (15, 50798), (17, 50804), (Start: 22 @50825 has 4 MA's), (Start: 23 @50828 has 4 MA's), (Start: 24 @50831 has 59 MA's), (Start: 28 @50882 has 20 MA's), (Start: 32 @50906 has 7 MA's), (46, 50999), (53, 51071), (54, 51083), (55, 51098), (63, 51158), (66, 51179),

Gene: CeilingFan\_67 Start: 51037, Stop: 51480, Start Num: 24

Candidate Starts for CeilingFan\_67:

(Start: 23 @51034 has 4 MA's), (Start: 24 @51037 has 59 MA's), (41, 51172), (47, 51208), (50, 51229), (53, 51277), (54, 51289), (55, 51304), (63, 51364),

Gene: Circinus\_43 Start: 43511, Stop: 43924, Start Num: 22

Candidate Starts for Circinus\_43:

(21, 43502), (Start: 22 @43511 has 4 MA's), (35, 43619), (36, 43622), (50, 43709), (54, 43769), (61, 43832), (72, 43901), (73, 43913),

Gene: Comrade\_46 Start: 42114, Stop: 42518, Start Num: 24

Candidate Starts for Comrade\_46:

(4, 42003), (5, 42015), (7, 42033), (10, 42057), (12, 42066), (13, 42075), (16, 42084), (18, 42090), (20, 42096), (Start: 24 @42114 has 59 MA's), (42, 42255), (48, 42285), (51, 42318), (58, 42399), (73, 42507), (74, 42510),

Gene: Cross\_66 Start: 51880, Stop: 52272, Start Num: 28

Candidate Starts for Cross\_66:

(Start: 24 @51829 has 59 MA's), (Start: 28 @51880 has 20 MA's), (Start: 32 @51904 has 7 MA's), (43, 51973), (53, 52069), (54, 52081), (63, 52156), (69, 52186),

Gene: Cursive\_64 Start: 51354, Stop: 51797, Start Num: 24

Candidate Starts for Cursive\_64:

(Start: 24 @51354 has 59 MA's), (Start: 28 @51405 has 20 MA's), (Start: 32 @51429 has 7 MA's), (43, 51498), (53, 51594), (54, 51606), (63, 51681), (69, 51711),

Gene: Daubenski\_67 Start: 51592, Stop: 52038, Start Num: 23

Candidate Starts for Daubenski\_67:

(9, 51535), (11, 51541), (15, 51562), (17, 51568), (Start: 22 @51589 has 4 MA's), (Start: 23 @51592 has 4 MA's), (Start: 24 @51595 has 59 MA's), (Start: 28 @51646 has 20 MA's), (Start: 32 @51670 has 7 MA's), (46, 51763), (53, 51835), (54, 51847), (55, 51862), (63, 51922), (66, 51943),

Gene: EGole\_67 Start: 52826, Stop: 53218, Start Num: 28

Candidate Starts for EGole\_67:

(Start: 24 @52775 has 59 MA's), (Start: 28 @52826 has 20 MA's), (Start: 32 @52850 has 7 MA's), (43, 52919), (53, 53015), (54, 53027), (63, 53102), (69, 53132),

Gene: Elmer\_70 Start: 52212, Stop: 52658, Start Num: 24

Candidate Starts for Elmer\_70:

(Start: 23 @52209 has 4 MA's), (Start: 24 @52212 has 59 MA's), (41, 52350), (47, 52386), (50, 52407), (53, 52455), (55, 52482), (63, 52542), (66, 52563), (70, 52587),

Gene: Emma1919\_47 Start: 40904, Stop: 41308, Start Num: 24

Candidate Starts for Emma1919\_47:

(20, 40886), (Start: 22 @40898 has 4 MA's), (Start: 24 @40904 has 59 MA's), (39, 41030), (48, 41075), (51, 41108), (58, 41189), (73, 41297), (74, 41300),

Gene: Enygma\_68 Start: 52940, Stop: 53383, Start Num: 24

Candidate Starts for Enygma\_68:

(Start: 24 @52940 has 59 MA's), (41, 53075), (47, 53111), (50, 53132), (53, 53180), (54, 53192), (63, 53267),

Gene: Evy\_67 Start: 51893, Stop: 52261, Start Num: 32

Candidate Starts for Evy\_67:

(Start: 24 @51818 has 59 MA's), (Start: 28 @51869 has 20 MA's), (Start: 32 @51893 has 7 MA's), (39, 51944), (46, 51986), (53, 52058), (54, 52070), (55, 52085), (63, 52145), (66, 52166), (69, 52175),

Gene: Faust\_46 Start: 41424, Stop: 41831, Start Num: 24

Candidate Starts for Faust\_46:

(17, 41397), (19, 41403), (Start: 24 @41424 has 59 MA's), (42, 41568), (43, 41571), (50, 41616), (63, 41751), (64, 41757), (65, 41769), (73, 41820),

Gene: Forrest\_47 Start: 41039, Stop: 41443, Start Num: 24

Candidate Starts for Forrest\_47:

(20, 41021), (Start: 22 @41033 has 4 MA's), (Start: 24 @41039 has 59 MA's), (39, 41165), (48, 41210), (51, 41243), (58, 41324), (73, 41432), (74, 41435),

Gene: Francob\_45 Start: 40974, Stop: 41378, Start Num: 24

Candidate Starts for Francob\_45:

(Start: 24 @40974 has 59 MA's), (33, 41052), (48, 41145), (53, 41211), (56, 41244), (58, 41259), (68, 41325), (73, 41367), (74, 41370),

Gene: Genie2\_68 Start: 51113, Stop: 51559, Start Num: 24

Candidate Starts for Genie2\_68:

(Start: 24 @51113 has 59 MA's), (41, 51251), (47, 51287), (50, 51308), (53, 51356), (55, 51383), (63, 51443), (66, 51464), (70, 51488),

Gene: Gibbi\_72 Start: 51260, Stop: 51703, Start Num: 24

Candidate Starts for Gibbi\_72:

(Start: 23 @51257 has 4 MA's), (Start: 24 @51260 has 59 MA's), (41, 51395), (47, 51431), (50, 51452), (53, 51500), (54, 51512), (55, 51527), (63, 51587),

Gene: Gilson\_47 Start: 40857, Stop: 41261, Start Num: 24

Candidate Starts for Gilson\_47:

(20, 40839), (Start: 22 @40851 has 4 MA's), (Start: 24 @40857 has 59 MA's), (39, 40983), (48, 41028), (51, 41061), (58, 41142), (73, 41250), (74, 41253),



Gene: Grayson\_89 Start: 54653, Stop: 55000, Start Num: 28

Candidate Starts for Grayson\_89:

(Start: 28 @54653 has 20 MA's), (30, 54671), (37, 54719), (68, 54947), (69, 54950),

Gene: HangryHippo\_66 Start: 51903, Stop: 52271, Start Num: 32

Candidate Starts for HangryHippo\_66:

(Start: 24 @51828 has 59 MA's), (Start: 28 @51879 has 20 MA's), (Start: 32 @51903 has 7 MA's), (43, 51972), (53, 52068), (54, 52080), (63, 52155), (69, 52185),

Gene: IchabodCrane\_65 Start: 50849, Stop: 51292, Start Num: 24

Candidate Starts for IchabodCrane\_65:

(Start: 23 @50846 has 4 MA's), (Start: 24 @50849 has 59 MA's), (41, 50984), (47, 51020), (50, 51041), (53, 51089), (54, 51101), (55, 51116), (63, 51176),

Gene: Jada\_45 Start: 40221, Stop: 40625, Start Num: 24

Candidate Starts for Jada\_45:

(20, 40203), (Start: 22 @40215 has 4 MA's), (Start: 24 @40221 has 59 MA's), (39, 40347), (48, 40392), (51, 40425), (58, 40506), (73, 40614), (74, 40617),

Gene: Jay2Jay\_71 Start: 52722, Stop: 53114, Start Num: 28

Candidate Starts for Jay2Jay\_71:

(Start: 24 @52671 has 59 MA's), (Start: 28 @52722 has 20 MA's), (Start: 32 @52746 has 7 MA's), (39, 52797), (46, 52839), (53, 52911), (54, 52923), (55, 52938), (63, 52998), (66, 53019),

Gene: JimJam\_68 Start: 51223, Stop: 51666, Start Num: 24

Candidate Starts for JimJam\_68:

(Start: 23 @51220 has 4 MA's), (Start: 24 @51223 has 59 MA's), (41, 51358), (47, 51394), (50, 51415), (53, 51463), (54, 51475), (55, 51490), (63, 51550),

Gene: Jollison\_67 Start: 51105, Stop: 51548, Start Num: 24

Candidate Starts for Jollison\_67:

(Start: 23 @51102 has 4 MA's), (Start: 24 @51105 has 59 MA's), (41, 51240), (47, 51276), (50, 51297), (53, 51345), (54, 51357), (55, 51372), (63, 51432),

Gene: Karimac\_67 Start: 51254, Stop: 51697, Start Num: 24

Candidate Starts for Karimac\_67:

(Start: 23 @51251 has 4 MA's), (Start: 24 @51254 has 59 MA's), (41, 51389), (47, 51425), (50, 51446), (53, 51494), (54, 51506), (55, 51521), (63, 51581),

Gene: Karp\_45 Start: 41714, Stop: 42118, Start Num: 24

Candidate Starts for Karp\_45:

(4, 41603), (5, 41615), (7, 41633), (10, 41657), (12, 41666), (13, 41675), (16, 41684), (18, 41690), (20, 41696), (Start: 24 @41714 has 59 MA's), (42, 41855), (48, 41885), (51, 41918), (58, 41999), (73, 42107), (74, 42110),

Gene: Kenrey\_47 Start: 41049, Stop: 41453, Start Num: 24

Candidate Starts for Kenrey\_47:

(20, 41031), (Start: 22 @41043 has 4 MA's), (Start: 24 @41049 has 59 MA's), (48, 41220), (73, 41442), (74, 41445),

Gene: KentuckyRacer\_68 Start: 51038, Stop: 51481, Start Num: 24

Candidate Starts for KentuckyRacer\_68:

(Start: 23 @51035 has 4 MA's), (Start: 24 @51038 has 59 MA's), (41, 51173), (47, 51209), (50, 51230), (53, 51278), (54, 51290), (55, 51305), (63, 51365),

Gene: Larnav\_66 Start: 51888, Stop: 52256, Start Num: 32

Candidate Starts for Larnav\_66:

(Start: 24 @51813 has 59 MA's), (Start: 28 @51864 has 20 MA's), (Start: 32 @51888 has 7 MA's), (43, 51957), (53, 52053), (54, 52065), (63, 52140), (69, 52170),

Gene: Leo04\_67 Start: 52379, Stop: 52771, Start Num: 28

Candidate Starts for Leo04\_67:

(Start: 24 @52328 has 59 MA's), (Start: 28 @52379 has 20 MA's), (Start: 32 @52403 has 7 MA's), (43, 52472), (53, 52568), (54, 52580), (63, 52655), (69, 52685),

Gene: Liandry\_65 Start: 51200, Stop: 51640, Start Num: 24

Candidate Starts for Liandry\_65:

(10, 51146), (12, 51155), (Start: 24 @51200 has 59 MA's), (Start: 28 @51248 has 20 MA's), (39, 51323), (46, 51365), (53, 51437), (54, 51449), (55, 51464), (63, 51524), (66, 51545),

Gene: LilMartin\_63 Start: 50131, Stop: 50574, Start Num: 23

Candidate Starts for LilMartin\_63:

(9, 50074), (11, 50080), (15, 50101), (Start: 22 @50128 has 4 MA's), (Start: 23 @50131 has 4 MA's), (Start: 28 @50182 has 20 MA's), (39, 50257), (46, 50299), (53, 50371), (54, 50383), (55, 50398), (63, 50458),

Gene: Limpid\_43 Start: 39980, Stop: 40387, Start Num: 24

Candidate Starts for Limpid\_43:

(1, 39839), (2, 39845), (3, 39860), (6, 39893), (8, 39914), (11, 39926), (14, 39944), (16, 39950), (Start: 24 @39980 has 59 MA's), (43, 40127), (60, 40283), (65, 40325), (73, 40376), (74, 40379),

Gene: Lululemon\_65 Start: 51209, Stop: 51652, Start Num: 24

Candidate Starts for Lululemon\_65:

(Start: 24 @51209 has 59 MA's), (Start: 28 @51260 has 20 MA's), (Start: 32 @51284 has 7 MA's), (43, 51353), (53, 51449), (54, 51461), (63, 51536), (69, 51566),

Gene: Marsus\_65 Start: 50403, Stop: 50846, Start Num: 23

Candidate Starts for Marsus\_65:

(9, 50346), (11, 50352), (15, 50373), (Start: 22 @50400 has 4 MA's), (Start: 23 @50403 has 4 MA's), (Start: 28 @50454 has 20 MA's), (39, 50529), (46, 50571), (53, 50643), (54, 50655), (55, 50670), (63, 50730), (66, 50751),

Gene: MeganTheeKilla\_45 Start: 40218, Stop: 40622, Start Num: 24

Candidate Starts for MeganTheeKilla\_45:

(20, 40200), (Start: 22 @40212 has 4 MA's), (Start: 24 @40218 has 59 MA's), (39, 40344), (48, 40389), (51, 40422), (58, 40503), (73, 40611), (74, 40614),

Gene: Mildred21\_64 Start: 50324, Stop: 50770, Start Num: 25

Candidate Starts for Mildred21\_64:

(15, 50288), (21, 50306), (Start: 22 @50315 has 4 MA's), (Start: 25 @50324 has 3 MA's), (34, 50420), (43, 50471), (46, 50495), (51, 50534), (53, 50567), (54, 50579), (63, 50654), (66, 50675),

Gene: MindFlayer\_66 Start: 50756, Stop: 51199, Start Num: 24

Candidate Starts for MindFlayer\_66:

(Start: 23 @50753 has 4 MA's), (Start: 24 @50756 has 59 MA's), (41, 50891), (47, 50927), (50, 50948), (53, 50996), (54, 51008), (55, 51023), (63, 51083),

Gene: Moab\_46 Start: 42091, Stop: 42492, Start Num: 24

Candidate Starts for Moab\_46:

(Start: 24 @42091 has 59 MA's), (38, 42208), (45, 42250), (48, 42259), (50, 42277), (56, 42358), (58, 42373), (73, 42481), (74, 42484),

Gene: Mugiwara\_69 Start: 51507, Stop: 51950, Start Num: 24

Candidate Starts for Mugiwara\_69:

(Start: 23 @51504 has 4 MA's), (Start: 24 @51507 has 59 MA's), (41, 51642), (47, 51678), (50, 51699), (53, 51747), (54, 51759), (55, 51774), (63, 51834), (66, 51855),

Gene: MulchMansion\_63 Start: 50131, Stop: 50574, Start Num: 23

Candidate Starts for MulchMansion\_63:

(9, 50074), (11, 50080), (15, 50101), (Start: 22 @50128 has 4 MA's), (Start: 23 @50131 has 4 MA's), (Start: 28 @50182 has 20 MA's), (39, 50257), (46, 50299), (53, 50371), (54, 50383), (55, 50398), (63, 50458),

Gene: Muntaha\_42 Start: 41788, Stop: 42198, Start Num: 22

Candidate Starts for Muntaha\_42:

(14, 41758), (21, 41779), (Start: 22 @41788 has 4 MA's), (36, 41896), (51, 41998), (54, 42043), (71, 42169), (73, 42187),

Gene: Navo\_64 Start: 51170, Stop: 51562, Start Num: 28

Candidate Starts for Navo\_64:

(10, 51068), (12, 51077), (Start: 24 @51122 has 59 MA's), (Start: 28 @51170 has 20 MA's), (39, 51245), (46, 51287), (53, 51359), (54, 51371), (55, 51386), (63, 51446), (66, 51467),

Gene: NiceHouse\_77 Start: 57280, Stop: 57633, Start Num: 28

Candidate Starts for NiceHouse\_77:

(Start: 28 @57280 has 20 MA's), (29, 57283), (37, 57346), (57, 57514), (62, 57550),

Gene: NootNoot\_62 Start: 50114, Stop: 50554, Start Num: 24

Candidate Starts for NootNoot\_62:

(10, 50060), (12, 50069), (Start: 24 @50114 has 59 MA's), (27, 50153), (Start: 28 @50162 has 20 MA's), (34, 50204), (39, 50237), (46, 50279), (53, 50351), (54, 50363), (55, 50378), (63, 50438), (66, 50459),

Gene: PacManQ\_65 Start: 51209, Stop: 51652, Start Num: 24

Candidate Starts for PacManQ\_65:

(Start: 24 @51209 has 59 MA's), (Start: 28 @51260 has 20 MA's), (Start: 32 @51284 has 7 MA's), (43, 51353), (53, 51449), (54, 51461), (63, 51536), (69, 51566),

Gene: Paradiddles\_62 Start: 50378, Stop: 50818, Start Num: 24

Candidate Starts for Paradiddles\_62:

(10, 50324), (12, 50333), (Start: 24 @50378 has 59 MA's), (27, 50417), (Start: 28 @50426 has 20 MA's), (39, 50501), (46, 50543), (53, 50615), (54, 50627), (55, 50642), (63, 50702), (66, 50723),

Gene: Patelgo\_46 Start: 42278, Stop: 42679, Start Num: 24

Candidate Starts for Patelgo\_46:

(Start: 24 @42278 has 59 MA's), (33, 42353), (38, 42395), (45, 42437), (48, 42446), (50, 42464), (56, 42545), (58, 42560), (73, 42668), (74, 42671),

Gene: Peebs\_65 Start: 51614, Stop: 52006, Start Num: 28

Candidate Starts for Peebs\_65:

(Start: 24 @51563 has 59 MA's), (Start: 28 @51614 has 20 MA's), (Start: 32 @51638 has 7 MA's), (43, 51707), (53, 51803), (54, 51815), (63, 51890), (69, 51920),

Gene: Pepperwood\_66 Start: 51747, Stop: 52139, Start Num: 28

Candidate Starts for Pepperwood\_66:

(Start: 24 @51696 has 59 MA's), (Start: 28 @51747 has 20 MA's), (Start: 32 @51771 has 7 MA's), (43, 51840), (53, 51936), (54, 51948), (63, 52023), (69, 52053),

Gene: Peregrin\_87 Start: 53436, Stop: 53783, Start Num: 28

Candidate Starts for Peregrin\_87:

(Start: 28 @53436 has 20 MA's), (30, 53454), (31, 53457), (37, 53502), (68, 53730), (69, 53733),

Gene: Persimmon\_62 Start: 50095, Stop: 50487, Start Num: 28

Candidate Starts for Persimmon\_62:

(10, 49993), (12, 50002), (Start: 24 @50047 has 59 MA's), (27, 50086), (Start: 28 @50095 has 20 MA's), (39, 50170), (46, 50212), (53, 50284), (54, 50296), (55, 50311), (63, 50371), (66, 50392),

Gene: Phredrick\_45 Start: 40120, Stop: 40524, Start Num: 24

Candidate Starts for Phredrick\_45:

(20, 40102), (Start: 22 @40114 has 4 MA's), (Start: 24 @40120 has 59 MA's), (48, 40291), (53, 40357), (73, 40513), (74, 40516),

Gene: PinkiePie\_64 Start: 51248, Stop: 51640, Start Num: 28

Candidate Starts for PinkiePie\_64:

(10, 51146), (12, 51155), (Start: 24 @51200 has 59 MA's), (Start: 28 @51248 has 20 MA's), (39, 51323), (46, 51365), (53, 51437), (54, 51449), (55, 51464), (63, 51524), (66, 51545),

Gene: PumpkinSpice\_67 Start: 51148, Stop: 51591, Start Num: 24

Candidate Starts for PumpkinSpice\_67:

(Start: 23 @51145 has 4 MA's), (Start: 24 @51148 has 59 MA's), (41, 51283), (47, 51319), (50, 51340), (53, 51388), (54, 51400), (55, 51415), (63, 51475),

Gene: Quaran19\_68 Start: 51139, Stop: 51582, Start Num: 24

Candidate Starts for Quaran19\_68:

(Start: 23 @51136 has 4 MA's), (Start: 24 @51139 has 59 MA's), (41, 51274), (47, 51310), (50, 51331), (53, 51379), (54, 51391), (55, 51406), (63, 51466),

Gene: Rikishi\_71 Start: 51054, Stop: 51497, Start Num: 24

Candidate Starts for Rikishi\_71:

(Start: 23 @51051 has 4 MA's), (Start: 24 @51054 has 59 MA's), (41, 51189), (47, 51225), (50, 51246), (53, 51294), (54, 51306), (55, 51321), (63, 51381),

Gene: SaltySpittoon\_68 Start: 51148, Stop: 51591, Start Num: 24

Candidate Starts for SaltySpittoon\_68:

(Start: 23 @51145 has 4 MA's), (Start: 24 @51148 has 59 MA's), (41, 51283), (47, 51319), (50, 51340), (53, 51388), (54, 51400), (55, 51415), (63, 51475),

Gene: Samisti12\_66 Start: 53078, Stop: 53446, Start Num: 32

Candidate Starts for Samisti12\_66:

(Start: 24 @53003 has 59 MA's), (Start: 28 @53054 has 20 MA's), (Start: 32 @53078 has 7 MA's), (43, 53147), (53, 53243), (54, 53255), (63, 53330), (69, 53360),

Gene: Scheme\_67 Start: 52485, Stop: 52853, Start Num: 32  
Candidate Starts for Scheme\_67:

(Start: 24 @52410 has 59 MA's), (Start: 28 @52461 has 20 MA's), (Start: 32 @52485 has 7 MA's), (43, 52554), (53, 52650), (54, 52662), (63, 52737), (69, 52767),

Gene: SeresaTree\_45 Start: 40814, Stop: 41221, Start Num: 24  
Candidate Starts for SeresaTree\_45:

(17, 40787), (19, 40793), (Start: 24 @40814 has 59 MA's), (42, 40958), (43, 40961), (50, 41006), (53, 41054), (63, 41141), (64, 41147), (65, 41159), (73, 41210),

Gene: Sham\_43 Start: 41978, Stop: 42385, Start Num: 24  
Candidate Starts for Sham\_43:

(Start: 24 @41978 has 59 MA's), (41, 42116), (42, 42122), (43, 42125), (59, 42272), (64, 42311), (65, 42323), (73, 42374), (74, 42377),

Gene: Shuckle\_64 Start: 52092, Stop: 52460, Start Num: 32  
Candidate Starts for Shuckle\_64:

(Start: 24 @52017 has 59 MA's), (Start: 28 @52068 has 20 MA's), (Start: 32 @52092 has 7 MA's), (43, 52161), (53, 52257), (54, 52269), (63, 52344), (69, 52374),

Gene: Sollertia\_68 Start: 51113, Stop: 51559, Start Num: 24  
Candidate Starts for Sollertia\_68:

(Start: 24 @51113 has 59 MA's), (41, 51251), (47, 51287), (50, 51308), (53, 51356), (55, 51383), (63, 51443), (66, 51464), (70, 51488),

Gene: SparkleGoddess\_46 Start: 42116, Stop: 42520, Start Num: 24  
Candidate Starts for SparkleGoddess\_46:

(4, 42005), (5, 42017), (7, 42035), (10, 42059), (12, 42068), (13, 42077), (16, 42086), (18, 42092), (20, 42098), (Start: 24 @42116 has 59 MA's), (42, 42257), (48, 42287), (51, 42320), (58, 42401), (73, 42509), (74, 42512),

Gene: Spelly\_68 Start: 51103, Stop: 51546, Start Num: 24  
Candidate Starts for Spelly\_68:

(Start: 23 @51100 has 4 MA's), (Start: 24 @51103 has 59 MA's), (41, 51238), (47, 51274), (50, 51295), (53, 51343), (54, 51355), (55, 51370), (63, 51430),

Gene: Spilled\_69 Start: 51220, Stop: 51663, Start Num: 24  
Candidate Starts for Spilled\_69:

(Start: 23 @51217 has 4 MA's), (Start: 24 @51220 has 59 MA's), (41, 51355), (47, 51391), (50, 51412), (53, 51460), (54, 51472), (55, 51487), (63, 51547),

Gene: Squillium\_65 Start: 51249, Stop: 51641, Start Num: 28  
Candidate Starts for Squillium\_65:

(10, 51147), (12, 51156), (Start: 24 @51201 has 59 MA's), (Start: 28 @51249 has 20 MA's), (39, 51324), (46, 51366), (53, 51438), (54, 51450), (55, 51465), (63, 51525), (66, 51546),

Gene: Stanimal\_68 Start: 51002, Stop: 51448, Start Num: 24  
Candidate Starts for Stanimal\_68:

(Start: 24 @51002 has 59 MA's), (41, 51140), (47, 51176), (50, 51197), (53, 51245), (55, 51272), (63, 51332), (66, 51353), (70, 51377),

Gene: StarPlatinum\_68 Start: 51648, Stop: 52091, Start Num: 24

Candidate Starts for StarPlatinum\_68:

(Start: 24 @51648 has 59 MA's), (41, 51783), (47, 51819), (50, 51840), (53, 51888), (54, 51900), (63, 51975),

Gene: Starbow\_66 Start: 51124, Stop: 51567, Start Num: 24

Candidate Starts for Starbow\_66:

(Start: 23 @51121 has 4 MA's), (Start: 24 @51124 has 59 MA's), (41, 51259), (47, 51295), (50, 51316), (53, 51364), (54, 51376), (55, 51391), (63, 51451),

Gene: Stigma\_46 Start: 42129, Stop: 42533, Start Num: 24

Candidate Starts for Stigma\_46:

(4, 42018), (5, 42030), (7, 42048), (10, 42072), (12, 42081), (13, 42090), (16, 42099), (18, 42105), (20, 42111), (Start: 24 @42129 has 59 MA's), (42, 42270), (48, 42300), (51, 42333), (58, 42414), (73, 42522), (74, 42525),

Gene: Sushi23\_66 Start: 51972, Stop: 52364, Start Num: 28

Candidate Starts for Sushi23\_66:

(Start: 24 @51921 has 59 MA's), (Start: 28 @51972 has 20 MA's), (Start: 32 @51996 has 7 MA's), (43, 52065), (53, 52161), (54, 52173), (63, 52248), (69, 52278),

Gene: Targaryen\_67 Start: 52720, Stop: 53163, Start Num: 24

Candidate Starts for Targaryen\_67:

(Start: 24 @52720 has 59 MA's), (Start: 28 @52771 has 20 MA's), (Start: 32 @52795 has 7 MA's), (39, 52846), (46, 52888), (53, 52960), (54, 52972), (55, 52987), (63, 53047), (66, 53068), (69, 53077),

Gene: Teutsch\_66 Start: 52259, Stop: 52627, Start Num: 32

Candidate Starts for Teutsch\_66:

(Start: 24 @52184 has 59 MA's), (Start: 28 @52235 has 20 MA's), (Start: 32 @52259 has 7 MA's), (43, 52328), (53, 52424), (54, 52436), (63, 52511), (69, 52541),

Gene: TomSawyer\_66 Start: 50742, Stop: 51185, Start Num: 24

Candidate Starts for TomSawyer\_66:

(Start: 23 @50739 has 4 MA's), (Start: 24 @50742 has 59 MA's), (41, 50877), (47, 50913), (50, 50934), (53, 50982), (54, 50994), (55, 51009), (63, 51069),

Gene: Tomas\_70 Start: 53465, Stop: 53905, Start Num: 24

Candidate Starts for Tomas\_70:

(Start: 24 @53465 has 59 MA's), (Start: 28 @53513 has 20 MA's), (Start: 32 @53537 has 7 MA's), (39, 53588), (40, 53591), (51, 53669), (53, 53702), (54, 53714), (55, 53729), (63, 53789), (69, 53819),

Gene: Tribute\_64 Start: 51465, Stop: 51833, Start Num: 32

Candidate Starts for Tribute\_64:

(Start: 24 @51390 has 59 MA's), (Start: 28 @51441 has 20 MA's), (Start: 32 @51465 has 7 MA's), (43, 51534), (53, 51630), (54, 51642), (63, 51717), (69, 51747),

Gene: Trina\_88 Start: 60434, Stop: 60787, Start Num: 28

Candidate Starts for Trina\_88:

(27, 60425), (Start: 28 @60434 has 20 MA's), (34, 60476), (46, 60551), (47, 60554), (49, 60569), (53, 60623), (67, 60731),

Gene: TunaTartare\_45 Start: 42276, Stop: 42683, Start Num: 24

Candidate Starts for TunaTartare\_45:

(Start: 24 @42276 has 59 MA's), (41, 42414), (42, 42420), (43, 42423), (50, 42468), (52, 42495), (59, 42570), (64, 42609), (65, 42621), (73, 42672), (74, 42675),

Gene: Wakanda\_42 Start: 41726, Stop: 42136, Start Num: 22

Candidate Starts for Wakanda\_42:

(14, 41696), (21, 41717), (Start: 22 @41726 has 4 MA's), (36, 41834), (51, 41936), (54, 41981), (71, 42107), (73, 42125),

Gene: Warpy\_70 Start: 52235, Stop: 52627, Start Num: 28

Candidate Starts for Warpy\_70:

(Start: 24 @52184 has 59 MA's), (Start: 28 @52235 has 20 MA's), (Start: 32 @52259 has 7 MA's), (39, 52310), (46, 52352), (53, 52424), (54, 52436), (55, 52451), (63, 52511), (66, 52532),

Gene: Watermoore\_66 Start: 52451, Stop: 52843, Start Num: 28

Candidate Starts for Watermoore\_66:

(Start: 24 @52400 has 59 MA's), (Start: 28 @52451 has 20 MA's), (Start: 32 @52475 has 7 MA's), (43, 52544), (53, 52640), (54, 52652), (63, 52727), (69, 52757),

Gene: Weasels2\_88 Start: 54194, Stop: 54541, Start Num: 28

Candidate Starts for Weasels2\_88:

(Start: 28 @54194 has 20 MA's), (37, 54260), (44, 54290),

Gene: Westy\_46 Start: 42117, Stop: 42521, Start Num: 24

Candidate Starts for Westy\_46:

(4, 42006), (5, 42018), (7, 42036), (10, 42060), (12, 42069), (13, 42078), (16, 42087), (18, 42093), (20, 42099), (Start: 24 @42117 has 59 MA's), (42, 42258), (48, 42288), (51, 42321), (58, 42402), (73, 42510), (74, 42513),

Gene: WhereRU\_63 Start: 50686, Stop: 51078, Start Num: 28

Candidate Starts for WhereRU\_63:

(10, 50584), (12, 50593), (Start: 24 @50638 has 59 MA's), (27, 50677), (Start: 28 @50686 has 20 MA's), (39, 50761), (46, 50803), (53, 50875), (54, 50887), (55, 50902), (63, 50962), (66, 50983),

Gene: Wipeout\_66 Start: 51493, Stop: 51936, Start Num: 24

Candidate Starts for Wipeout\_66:

(Start: 23 @51490 has 4 MA's), (Start: 24 @51493 has 59 MA's), (41, 51628), (47, 51664), (50, 51685), (53, 51733), (54, 51745), (55, 51760), (63, 51820),

Gene: Wofford\_67 Start: 52175, Stop: 52621, Start Num: 24

Candidate Starts for Wofford\_67:

(Start: 23 @52172 has 4 MA's), (Start: 24 @52175 has 59 MA's), (41, 52313), (47, 52349), (50, 52370), (53, 52418), (55, 52445), (63, 52505), (66, 52526), (70, 52550),

Gene: Yaboi\_68 Start: 51090, Stop: 51536, Start Num: 24

Candidate Starts for Yaboi\_68:

(Start: 24 @51090 has 59 MA's), (41, 51228), (47, 51264), (50, 51285), (53, 51333), (55, 51360), (63, 51420), (66, 51441), (70, 51465),