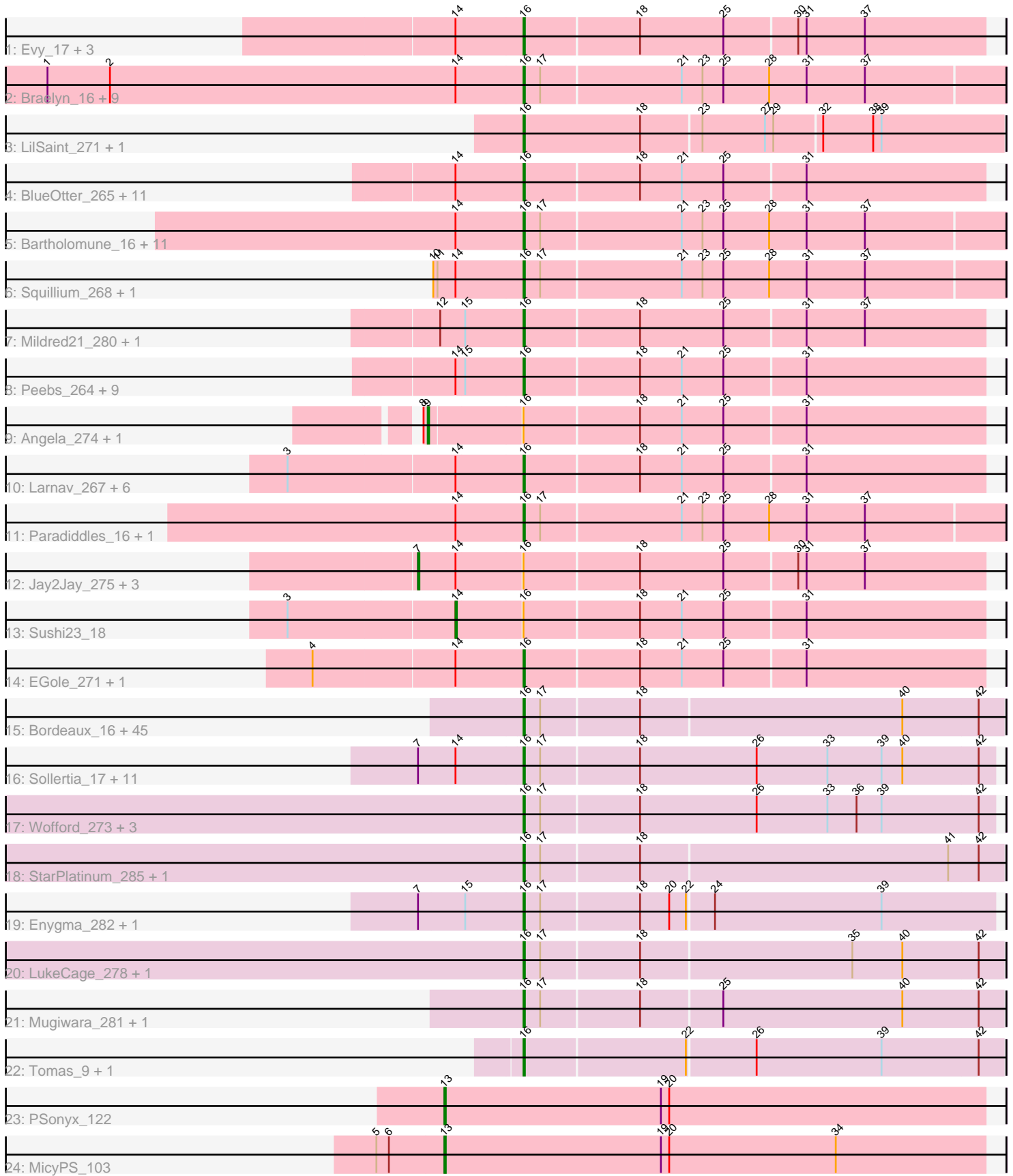


Pham 296322



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 296322 Report

This analysis was run 04/25/26 on database version 644.

Pham number 296322 has 146 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Evy\_17, Evy\_255, Targaryen\_266, Targaryen\_15
- Track 2 : Braelyn\_16, Navo\_257, Davielle\_15, Braelyn\_261, Davielle\_264, WhereRU\_15, WhereRU\_264, Navo\_15, Persimmon\_266, Persimmon\_15
- Track 3 : LilSaint\_271, LilSaint\_18
- Track 4 : BlueOtter\_265, Leo04\_268, Watermoore\_264, Cross\_265, Cursive\_269, HangryHippo\_17, Leo04\_17, HangryHippo\_265, Watermoore\_17, Cursive\_15, Cross\_17, BlueOtter\_17
- Track 5 : Bartholomune\_16, Bartholomune\_266, FreddyDRoo\_16, PinkiePie\_16, FreddyDRoo\_269, Liandry\_265, Liandry\_16, PinkiePie\_266, NootNoot\_261, Eliot67\_267, NootNoot\_16, Eliot67\_16
- Track 6 : Squillium\_268, Squillium\_16
- Track 7 : Mildred21\_280, Mildred21\_17
- Track 8 : Peebs\_264, Peebs\_17, Lululemon\_263, Pepperwood\_18, PacManQ\_263, Pepperwood\_267, PacManQ\_16, Scheme\_18, Scheme\_271, Lululemon\_16
- Track 9 : Angela\_274, Angela\_17
- Track 10 : Larnav\_267, Larnav\_17, Coogler\_17, Tribute\_17, Sushi23\_268, Coogler\_263, Tribute\_263
- Track 11 : Paradiddles\_16, Paradiddles\_257
- Track 12 : Jay2Jay\_275, Warpy\_272, Warpy\_20, Jay2Jay\_20
- Track 13 : Sushi23\_18
- Track 14 : EGole\_271, EGole\_17
- Track 15 : Bordeaux\_16, MindFlayer\_15, IchabodCrane\_15, Spelly\_16, TomSawyer\_281, Amabiko\_17, KentuckyRacer\_283, Wipeout\_269, AcciDwight\_288, Starbow\_16, Battuta\_16, CeilingFan\_15, PumpkinSpice\_280, Quaran19\_16, Quaran19\_277, Spilled\_15, Spelly\_282, CeilingFan\_281, Jollison\_274, Wipeout\_15, MindFlayer\_267, SaltySpittoon\_276, PumpkinSpice\_16, TomSawyer\_16, Spilled\_283, Rikishi\_16, Battuta\_273, Karimac\_274, Birchlyn\_273, Gibbi\_17, Jollison\_17, Karimac\_16, AcciDwight\_18, Brizzy\_15, Bordeaux\_273, Amabiko\_281, Brizzy\_273, Birchlyn\_13, IchabodCrane\_268, KentuckyRacer\_15, Starbow\_273, JimJam\_284, Rikishi\_278, Gibbi\_288, SaltySpittoon\_16, JimJam\_16
- Track 16 : Sollertia\_17, Yaboi\_278, Genie2\_17, BoomerJR\_17, BoomerJR\_272, AngryGiraffe\_17, Stanimal\_272, Stanimal\_17, Sollertia\_273, Yaboi\_17, AngryGiraffe\_273, Genie2\_272
- Track 17 : Wofford\_273, Elmer\_15, Wofford\_15, Elmer\_282
- Track 18 : StarPlatinum\_285, StarPlatinum\_15
- Track 19 : Enygma\_282, Enygma\_14
- Track 20 : LukeCage\_278, LukeCage\_15

- Track 21 : Mugiwara\_281, Mugiwara\_14
- Track 22 : Tomas\_9, Tomas\_265
- Track 23 : PSonyx\_122
- Track 24 : MicyPS\_103

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

The start number called the most often in the published annotations is 16, it was called in 129 of the 138 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AcciDwight\_18, AcciDwight\_288, Amabiko\_17, Amabiko\_281, AngryGiraffe\_17, AngryGiraffe\_273, Bartholomune\_16, Bartholomune\_266, Battuta\_16, Battuta\_273, Birchlyn\_13, Birchlyn\_273, BlueOtter\_17, BlueOtter\_265, BoomerJR\_17, BoomerJR\_272, Bordeaux\_16, Bordeaux\_273, Braelyn\_16, Braelyn\_261, Brizzy\_15, Brizzy\_273, CeilingFan\_15, CeilingFan\_281, Coogler\_17, Coogler\_263, Cross\_17, Cross\_265, Cursive\_15, Cursive\_269, Davielle\_15, Davielle\_264, EGole\_17, EGole\_271, Eliot67\_16, Eliot67\_267, Elmer\_15, Elmer\_282, Enygma\_14, Enygma\_282, Evy\_17, Evy\_255, FreddyDRoo\_16, FreddyDRoo\_269, Genie2\_17, Genie2\_272, Gibbi\_17, Gibbi\_288, HangryHippo\_17, HangryHippo\_265, IchabodCrane\_15, IchabodCrane\_268, JimJam\_16, JimJam\_284, Jollison\_17, Jollison\_274, Karimac\_16, Karimac\_274, KentuckyRacer\_15, KentuckyRacer\_283, Larnav\_17, Larnav\_267, Leo04\_17, Leo04\_268, Liandry\_16, Liandry\_265, LilSaint\_18, LilSaint\_271, LukeCage\_15, LukeCage\_278, Lululemon\_16, Lululemon\_263, Mildred21\_17, Mildred21\_280, MindFlayer\_15, MindFlayer\_267, Mugiwara\_14, Mugiwara\_281, Navo\_15, Navo\_257, NootNoot\_16, NootNoot\_261, PacManQ\_16, PacManQ\_263, Paradiddles\_16, Paradiddles\_257, Peebs\_17, Peebs\_264, Pepperwood\_18, Pepperwood\_267, Persimmon\_15, Persimmon\_266, PinkiePie\_16, PinkiePie\_266, PumpkinSpice\_16, PumpkinSpice\_280, Quaran19\_16, Quaran19\_277, Rikishi\_16, Rikishi\_278, SaltySpittoon\_16, SaltySpittoon\_276, Scheme\_18, Scheme\_271, Sollertia\_17, Sollertia\_273, Spelly\_16, Spelly\_282, Spilled\_15, Spilled\_283, Squillium\_16, Squillium\_268, Stanimal\_17, Stanimal\_272, StarPlatinum\_15, StarPlatinum\_285, Starbow\_16, Starbow\_273, Sushi23\_268, Targaryen\_15, Targaryen\_266, TomSawyer\_16, TomSawyer\_281, Tomas\_265, Tomas\_9, Tribute\_17, Tribute\_263, Watermoore\_17, Watermoore\_264, WhereRU\_15, WhereRU\_264, Wipeout\_15, Wipeout\_269, Wofford\_15, Wofford\_273, Yaboi\_17, Yaboi\_278,

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

- Angela\_17, Angela\_274, Jay2Jay\_20, Jay2Jay\_275, Sushi23\_18, Warpy\_20, Warpy\_272,

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

- MicyPS\_103, PSonyx\_122,

**Summary by start number:**

Start 7:

- Found in 18 of 146 ( 12.3% ) of genes in pham
- Manual Annotations of this start: 4 of 138

- Called 22.2% of time when present
- Phage (with cluster) where this start called: Jay2Jay\_20 (BE1), Jay2Jay\_275 (BE1), Warpy\_20 (BE1), Warpy\_272 (BE1),

#### Start 9:

- Found in 2 of 146 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angela\_17 (BE1), Angela\_274 (BE1),

#### Start 13:

- Found in 2 of 146 ( 1.4% ) of genes in pham
- Manual Annotations of this start: 2 of 138
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MicyPS\_103 (EQ), PSonyx\_122 (EQ),

#### Start 14:

- Found in 78 of 146 ( 53.4% ) of genes in pham
- Manual Annotations of this start: 1 of 138
- Called 1.3% of time when present
- Phage (with cluster) where this start called: Sushi23\_18 (BE1),

#### Start 16:

- Found in 144 of 146 ( 98.6% ) of genes in pham
- Manual Annotations of this start: 129 of 138
- Called 95.1% of time when present
- Phage (with cluster) where this start called: AcciDwight\_18 (BE2), AcciDwight\_288 (BE2), Amabiko\_17 (BE2), Amabiko\_281 (BE2), AngryGiraffe\_17 (BE2), AngryGiraffe\_273 (BE2), Bartholomune\_16 (BE1), Bartholomune\_266 (BE1), Battuta\_16 (BE2), Battuta\_273 (BE2), Birchlyn\_13 (BE2), Birchlyn\_273 (BE2), BlueOtter\_17 (BE1), BlueOtter\_265 (BE1), BoomerJR\_17 (BE2), BoomerJR\_272 (BE2), Bordeaux\_16 (BE2), Bordeaux\_273 (BE2), Braelyn\_16 (BE1), Braelyn\_261 (BE1), Brizzy\_15 (BE2), Brizzy\_273 (BE2), CeilingFan\_15 (BE2), CeilingFan\_281 (BE2), Coogler\_17 (BE1), Coogler\_263 (BE1), Cross\_17 (BE1), Cross\_265 (BE1), Cursive\_15 (BE1), Cursive\_269 (BE1), Davielle\_15 (BE1), Davielle\_264 (BE1), EGole\_17 (BE1), EGole\_271 (BE1), Eliot67\_16 (BE1), Eliot67\_267 (BE1), Elmer\_15 (BE2), Elmer\_282 (BE2), Enygma\_14 (BE2), Enygma\_282 (BE2), Evy\_17 (BE1), Evy\_255 (BE1), FreddyDRoo\_16 (BE1), FreddyDRoo\_269 (BE1), Genie2\_17 (BE2), Genie2\_272 (BE2), Gibbi\_17 (BE2), Gibbi\_288 (BE2), HangryHippo\_17 (BE1), HangryHippo\_265 (BE1), IchabodCrane\_15 (BE2), IchabodCrane\_268 (BE2), JimJam\_16 (BE2), JimJam\_284 (BE2), Jollison\_17 (BE2), Jollison\_274 (BE2), Karimac\_16 (BE2), Karimac\_274 (BE2), KentuckyRacer\_15 (BE2), KentuckyRacer\_283 (BE2), Larnav\_17 (BE1), Larnav\_267 (BE1), Leo04\_17 (BE1), Leo04\_268 (BE1), Liandry\_16 (BE1), Liandry\_265 (BE1), LilSaint\_18 (BE1), LilSaint\_271 (BE1), LukeCage\_15 (BE2), LukeCage\_278 (BE2), Lululemon\_16 (BE1), Lululemon\_263 (BE1), Mildred21\_17 (BE1), Mildred21\_280 (BE1), MindFlayer\_15 (BE2), MindFlayer\_267 (BE2), Mugiwara\_14 (BE2), Mugiwara\_281 (BE2), Navo\_15 (BE1), Navo\_257 (BE1), NootNoot\_16 (BE1), NootNoot\_261 (BE1), PacManQ\_16 (BE1), PacManQ\_263 (BE1), Paradiddles\_16 (BE1), Paradiddles\_257 (BE1), Peebs\_17 (BE1), Peebs\_264 (BE1), Pepperwood\_18 (BE1), Pepperwood\_267 (BE1), Persimmon\_15 (BE1), Persimmon\_266 (BE1), PinkiePie\_16 (BE1), PinkiePie\_266 (BE1), PumpkinSpice\_16 (BE2), PumpkinSpice\_280 (BE2), Quarant19\_16 (BE2), Quarant19\_277 (BE2), Rikishi\_16 (BE2), Rikishi\_278 (BE2), SaltySpittoon\_16 (BE2),

SaltySpitoon\_276 (BE2), Scheme\_18 (BE1), Scheme\_271 (BE1), Sollertia\_17 (BE2), Sollertia\_273 (BE2), Spelly\_16 (BE2), Spelly\_282 (BE2), Spilled\_15 (BE2), Spilled\_283 (BE2), Squillium\_16 (BE1), Squillium\_268 (BE1), Stanimal\_17 (BE2), Stanimal\_272 (BE2), StarPlatinum\_15 (BE2), StarPlatinum\_285 (BE2), Starbow\_16 (BE2), Starbow\_273 (BE2), Sushi23\_268 (BE1), Targaryen\_15 (BE1), Targaryen\_266 (BE1), TomSawyer\_16 (BE2), TomSawyer\_281 (BE2), Tomas\_265 (BE2), Tomas\_9 (BE2), Tribute\_17 (BE1), Tribute\_263 (BE1), Watermoore\_17 (BE1), Watermoore\_264 (BE1), WhereRU\_15 (BE1), WhereRU\_264 (BE1), Wipeout\_15 (BE2), Wipeout\_269 (BE2), Wofford\_15 (BE2), Wofford\_273 (BE2), Yaboi\_17 (BE2), Yaboi\_278 (BE2),

### **Summary by clusters:**

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

Info for manual annotations of cluster BE1:

- Start number 7 was manually annotated 4 times for cluster BE1.
- Start number 9 was manually annotated 2 times for cluster BE1.
- Start number 14 was manually annotated 1 time for cluster BE1.
- Start number 16 was manually annotated 61 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 16 was manually annotated 68 times for cluster BE2.

Info for manual annotations of cluster EQ:

- Start number 13 was manually annotated 2 times for cluster EQ.

### **Gene Information:**

Gene: AcciDwight\_288 Start: 128239, Stop: 127901, Start Num: 16

Candidate Starts for AcciDwight\_288:

(Start: 16 @128239 has 129 MA's), (17, 128227), (18, 128158), (40, 127972), (42, 127918),

Gene: AcciDwight\_18 Start: 8143, Stop: 7805, Start Num: 16

Candidate Starts for AcciDwight\_18:

(Start: 16 @8143 has 129 MA's), (17, 8131), (18, 8062), (40, 7876), (42, 7822),

Gene: Amabiko\_17 Start: 8143, Stop: 7805, Start Num: 16

Candidate Starts for Amabiko\_17:

(Start: 16 @8143 has 129 MA's), (17, 8131), (18, 8062), (40, 7876), (42, 7822),

Gene: Amabiko\_281 Start: 126969, Stop: 126631, Start Num: 16

Candidate Starts for Amabiko\_281:

(Start: 16 @126969 has 129 MA's), (17, 126957), (18, 126888), (40, 126702), (42, 126648),

Gene: Angela\_274 Start: 131229, Stop: 130840, Start Num: 9

Candidate Starts for Angela\_274:

(8, 131232), (Start: 9 @131229 has 2 MA's), (Start: 16 @131166 has 129 MA's), (18, 131085), (21, 131055), (25, 131025), (31, 130968),

Gene: Angela\_17 Start: 8826, Stop: 8437, Start Num: 9

Candidate Starts for Angela\_17:

(8, 8829), (Start: 9 @8826 has 2 MA's), (Start: 16 @8763 has 129 MA's), (18, 8682), (21, 8652), (25, 8622), (31, 8565),

Gene: AngryGiraffe\_17 Start: 8112, Stop: 7777, Start Num: 16

Candidate Starts for AngryGiraffe\_17:

(Start: 7 @8184 has 4 MA's), (Start: 14 @8157 has 1 MA's), (Start: 16 @8112 has 129 MA's), (17, 8100), (18, 8031), (26, 7947), (33, 7896), (39, 7857), (40, 7842), (42, 7788),

Gene: AngryGiraffe\_273 Start: 126455, Stop: 126120, Start Num: 16

Candidate Starts for AngryGiraffe\_273:

(Start: 7 @126527 has 4 MA's), (Start: 14 @126500 has 1 MA's), (Start: 16 @126455 has 129 MA's), (17, 126443), (18, 126374), (26, 126290), (33, 126239), (39, 126200), (40, 126185), (42, 126131),

Gene: Bartholomune\_16 Start: 8160, Stop: 7819, Start Num: 16

Candidate Starts for Bartholomune\_16:

(Start: 14 @8208 has 1 MA's), (Start: 16 @8160 has 129 MA's), (17, 8148), (21, 8049), (23, 8034), (25, 8019), (28, 7986), (31, 7959), (37, 7917),

Gene: Bartholomune\_266 Start: 129259, Stop: 128918, Start Num: 16

Candidate Starts for Bartholomune\_266:

(Start: 14 @129307 has 1 MA's), (Start: 16 @129259 has 129 MA's), (17, 129247), (21, 129148), (23, 129133), (25, 129118), (28, 129085), (31, 129058), (37, 129016),

Gene: Battuta\_16 Start: 8143, Stop: 7805, Start Num: 16

Candidate Starts for Battuta\_16:

(Start: 16 @8143 has 129 MA's), (17, 8131), (18, 8062), (40, 7876), (42, 7822),

Gene: Battuta\_273 Start: 126298, Stop: 125960, Start Num: 16

Candidate Starts for Battuta\_273:

(Start: 16 @126298 has 129 MA's), (17, 126286), (18, 126217), (40, 126031), (42, 125977),

Gene: Birchlyn\_273 Start: 122087, Stop: 121749, Start Num: 16

Candidate Starts for Birchlyn\_273:

(Start: 16 @122087 has 129 MA's), (17, 122075), (18, 122006), (40, 121820), (42, 121766),

Gene: Birchlyn\_13 Start: 5996, Stop: 5658, Start Num: 16

Candidate Starts for Birchlyn\_13:

(Start: 16 @5996 has 129 MA's), (17, 5984), (18, 5915), (40, 5729), (42, 5675),

Gene: BlueOtter\_265 Start: 129541, Stop: 129215, Start Num: 16

Candidate Starts for BlueOtter\_265:

(Start: 14 @129586 has 1 MA's), (Start: 16 @129541 has 129 MA's), (18, 129460), (21, 129430), (25, 129400), (31, 129343),

Gene: BlueOtter\_17 Start: 8454, Stop: 8128, Start Num: 16

Candidate Starts for BlueOtter\_17:

(Start: 14 @8499 has 1 MA's), (Start: 16 @8454 has 129 MA's), (18, 8373), (21, 8343), (25, 8313), (31, 8256),

Gene: BoomerJR\_17 Start: 8112, Stop: 7777, Start Num: 16

Candidate Starts for BoomerJR\_17:

(Start: 7 @8184 has 4 MA's), (Start: 14 @8157 has 1 MA's), (Start: 16 @8112 has 129 MA's), (17, 8100), (18, 8031), (26, 7947), (33, 7896), (39, 7857), (40, 7842), (42, 7788),

Gene: BoomerJR\_272 Start: 126900, Stop: 126565, Start Num: 16

Candidate Starts for BoomerJR\_272:

(Start: 7 @126972 has 4 MA's), (Start: 14 @126945 has 1 MA's), (Start: 16 @126900 has 129 MA's), (17, 126888), (18, 126819), (26, 126735), (33, 126684), (39, 126645), (40, 126630), (42, 126576),

Gene: Bordeaux\_16 Start: 8143, Stop: 7805, Start Num: 16

Candidate Starts for Bordeaux\_16:

(Start: 16 @8143 has 129 MA's), (17, 8131), (18, 8062), (40, 7876), (42, 7822),

Gene: Bordeaux\_273 Start: 126881, Stop: 126543, Start Num: 16

Candidate Starts for Bordeaux\_273:

(Start: 16 @126881 has 129 MA's), (17, 126869), (18, 126800), (40, 126614), (42, 126560),

Gene: Braelyn\_16 Start: 8203, Stop: 7862, Start Num: 16

Candidate Starts for Braelyn\_16:

(1, 8545), (2, 8500), (Start: 14 @8251 has 1 MA's), (Start: 16 @8203 has 129 MA's), (17, 8191), (21, 8092), (23, 8077), (25, 8062), (28, 8029), (31, 8002), (37, 7960),

Gene: Braelyn\_261 Start: 128613, Stop: 128272, Start Num: 16

Candidate Starts for Braelyn\_261:

(1, 128955), (2, 128910), (Start: 14 @128661 has 1 MA's), (Start: 16 @128613 has 129 MA's), (17, 128601), (21, 128502), (23, 128487), (25, 128472), (28, 128439), (31, 128412), (37, 128370),

Gene: Brizzy\_15 Start: 7732, Stop: 7394, Start Num: 16

Candidate Starts for Brizzy\_15:

(Start: 16 @7732 has 129 MA's), (17, 7720), (18, 7651), (40, 7465), (42, 7411),

Gene: Brizzy\_273 Start: 127000, Stop: 126662, Start Num: 16

Candidate Starts for Brizzy\_273:

(Start: 16 @127000 has 129 MA's), (17, 126988), (18, 126919), (40, 126733), (42, 126679),

Gene: CeilingFan\_15 Start: 7754, Stop: 7416, Start Num: 16

Candidate Starts for CeilingFan\_15:

(Start: 16 @7754 has 129 MA's), (17, 7742), (18, 7673), (40, 7487), (42, 7433),

Gene: CeilingFan\_281 Start: 128361, Stop: 128023, Start Num: 16

Candidate Starts for CeilingFan\_281:

(Start: 16 @128361 has 129 MA's), (17, 128349), (18, 128280), (40, 128094), (42, 128040),

Gene: Coogler\_17 Start: 8454, Stop: 8128, Start Num: 16

Candidate Starts for Coogler\_17:

(3, 8616), (Start: 14 @8499 has 1 MA's), (Start: 16 @8454 has 129 MA's), (18, 8373), (21, 8343), (25, 8313), (31, 8256),

Gene: Coogler\_263 Start: 129966, Stop: 129640, Start Num: 16

Candidate Starts for Coogler\_263:

(3, 130128), (Start: 14 @130011 has 1 MA's), (Start: 16 @129966 has 129 MA's), (18, 129885), (21, 129855), (25, 129825), (31, 129768),

Gene: Cross\_265 Start: 130187, Stop: 129861, Start Num: 16

Candidate Starts for Cross\_265:

(Start: 14 @130232 has 1 MA's), (Start: 16 @130187 has 129 MA's), (18, 130106), (21, 130076), (25, 130046), (31, 129989),

Gene: Cross\_17 Start: 8455, Stop: 8129, Start Num: 16

Candidate Starts for Cross\_17:

(Start: 14 @8500 has 1 MA's), (Start: 16 @8455 has 129 MA's), (18, 8374), (21, 8344), (25, 8314), (31, 8257),

Gene: Cursive\_269 Start: 129281, Stop: 128955, Start Num: 16

Candidate Starts for Cursive\_269:

(Start: 14 @129326 has 1 MA's), (Start: 16 @129281 has 129 MA's), (18, 129200), (21, 129170), (25, 129140), (31, 129083),

Gene: Cursive\_15 Start: 7272, Stop: 6946, Start Num: 16

Candidate Starts for Cursive\_15:

(Start: 14 @7317 has 1 MA's), (Start: 16 @7272 has 129 MA's), (18, 7191), (21, 7161), (25, 7131), (31, 7074),

Gene: Davielle\_15 Start: 7989, Stop: 7648, Start Num: 16

Candidate Starts for Davielle\_15:

(1, 8331), (2, 8286), (Start: 14 @8037 has 1 MA's), (Start: 16 @7989 has 129 MA's), (17, 7977), (21, 7878), (23, 7863), (25, 7848), (28, 7815), (31, 7788), (37, 7746),

Gene: Davielle\_264 Start: 129149, Stop: 128808, Start Num: 16

Candidate Starts for Davielle\_264:

(1, 129491), (2, 129446), (Start: 14 @129197 has 1 MA's), (Start: 16 @129149 has 129 MA's), (17, 129137), (21, 129038), (23, 129023), (25, 129008), (28, 128975), (31, 128948), (37, 128906),

Gene: EGole\_271 Start: 133187, Stop: 132861, Start Num: 16

Candidate Starts for EGole\_271:

(4, 133331), (Start: 14 @133232 has 1 MA's), (Start: 16 @133187 has 129 MA's), (18, 133106), (21, 133076), (25, 133046), (31, 132989),

Gene: EGole\_17 Start: 8875, Stop: 8549, Start Num: 16

Candidate Starts for EGole\_17:

(4, 9019), (Start: 14 @8920 has 1 MA's), (Start: 16 @8875 has 129 MA's), (18, 8794), (21, 8764), (25, 8734), (31, 8677),

Gene: Eliot67\_267 Start: 128974, Stop: 128633, Start Num: 16

Candidate Starts for Eliot67\_267:

(Start: 14 @129022 has 1 MA's), (Start: 16 @128974 has 129 MA's), (17, 128962), (21, 128863), (23, 128848), (25, 128833), (28, 128800), (31, 128773), (37, 128731),

Gene: Eliot67\_16 Start: 8160, Stop: 7819, Start Num: 16

Candidate Starts for Eliot67\_16:

(Start: 14 @8208 has 1 MA's), (Start: 16 @8160 has 129 MA's), (17, 8148), (21, 8049), (23, 8034), (25, 8019), (28, 7986), (31, 7959), (37, 7917),

Gene: Elmer\_15 Start: 7244, Stop: 6909, Start Num: 16

Candidate Starts for Elmer\_15:

(Start: 16 @7244 has 129 MA's), (17, 7232), (18, 7163), (26, 7079), (33, 7028), (36, 7007), (39, 6989), (42, 6920),

Gene: Elmer\_282 Start: 129612, Stop: 129277, Start Num: 16

Candidate Starts for Elmer\_282:

(Start: 16 @129612 has 129 MA's), (17, 129600), (18, 129531), (26, 129447), (33, 129396), (36, 129375), (39, 129357), (42, 129288),

Gene: Enygma\_282 Start: 129818, Stop: 129486, Start Num: 16

Candidate Starts for Enygma\_282:

(Start: 7 @129890 has 4 MA's), (15, 129857), (Start: 16 @129818 has 129 MA's), (17, 129806), (18, 129737), (20, 129716), (22, 129704), (24, 129686), (39, 129566),

Gene: Enygma\_14 Start: 7394, Stop: 7062, Start Num: 16

Candidate Starts for Enygma\_14:

(Start: 7 @7466 has 4 MA's), (15, 7433), (Start: 16 @7394 has 129 MA's), (17, 7382), (18, 7313), (20, 7292), (22, 7280), (24, 7262), (39, 7142),

Gene: Evy\_17 Start: 8633, Stop: 8307, Start Num: 16

Candidate Starts for Evy\_17:

(Start: 14 @8678 has 1 MA's), (Start: 16 @8633 has 129 MA's), (18, 8552), (25, 8492), (30, 8441), (31, 8435), (37, 8393),

Gene: Evy\_255 Start: 130362, Stop: 130036, Start Num: 16

Candidate Starts for Evy\_255:

(Start: 14 @130407 has 1 MA's), (Start: 16 @130362 has 129 MA's), (18, 130281), (25, 130221), (30, 130170), (31, 130164), (37, 130122),

Gene: FreddyDRoo\_16 Start: 8160, Stop: 7819, Start Num: 16

Candidate Starts for FreddyDRoo\_16:

(Start: 14 @8208 has 1 MA's), (Start: 16 @8160 has 129 MA's), (17, 8148), (21, 8049), (23, 8034), (25, 8019), (28, 7986), (31, 7959), (37, 7917),

Gene: FreddyDRoo\_269 Start: 128974, Stop: 128633, Start Num: 16

Candidate Starts for FreddyDRoo\_269:

(Start: 14 @129022 has 1 MA's), (Start: 16 @128974 has 129 MA's), (17, 128962), (21, 128863), (23, 128848), (25, 128833), (28, 128800), (31, 128773), (37, 128731),

Gene: Genie2\_17 Start: 8112, Stop: 7777, Start Num: 16

Candidate Starts for Genie2\_17:

(Start: 7 @8184 has 4 MA's), (Start: 14 @8157 has 1 MA's), (Start: 16 @8112 has 129 MA's), (17, 8100), (18, 8031), (26, 7947), (33, 7896), (39, 7857), (40, 7842), (42, 7788),

Gene: Genie2\_272 Start: 127013, Stop: 126678, Start Num: 16

Candidate Starts for Genie2\_272:

(Start: 7 @127085 has 4 MA's), (Start: 14 @127058 has 1 MA's), (Start: 16 @127013 has 129 MA's), (17, 127001), (18, 126932), (26, 126848), (33, 126797), (39, 126758), (40, 126743), (42, 126689),

Gene: Gibbi\_17 Start: 7754, Stop: 7416, Start Num: 16

Candidate Starts for Gibbi\_17:

(Start: 16 @7754 has 129 MA's), (17, 7742), (18, 7673), (40, 7487), (42, 7433),

Gene: Gibbi\_288 Start: 127854, Stop: 127516, Start Num: 16

Candidate Starts for Gibbi\_288:

(Start: 16 @127854 has 129 MA's), (17, 127842), (18, 127773), (40, 127587), (42, 127533),

Gene: HangryHippo\_17 Start: 8454, Stop: 8128, Start Num: 16  
Candidate Starts for HangryHippo\_17:  
(Start: 14 @8499 has 1 MA's), (Start: 16 @8454 has 129 MA's), (18, 8373), (21, 8343), (25, 8313), (31, 8256),

Gene: HangryHippo\_265 Start: 129541, Stop: 129215, Start Num: 16  
Candidate Starts for HangryHippo\_265:  
(Start: 14 @129586 has 1 MA's), (Start: 16 @129541 has 129 MA's), (18, 129460), (21, 129430), (25, 129400), (31, 129343),

Gene: IchabodCrane\_15 Start: 7751, Stop: 7413, Start Num: 16  
Candidate Starts for IchabodCrane\_15:  
(Start: 16 @7751 has 129 MA's), (17, 7739), (18, 7670), (40, 7484), (42, 7430),

Gene: IchabodCrane\_268 Start: 126294, Stop: 125956, Start Num: 16  
Candidate Starts for IchabodCrane\_268:  
(Start: 16 @126294 has 129 MA's), (17, 126282), (18, 126213), (40, 126027), (42, 125973),

Gene: Jay2Jay\_275 Start: 130988, Stop: 130590, Start Num: 7  
Candidate Starts for Jay2Jay\_275:  
(Start: 7 @130988 has 4 MA's), (Start: 14 @130961 has 1 MA's), (Start: 16 @130916 has 129 MA's), (18, 130835), (25, 130775), (30, 130724), (31, 130718), (37, 130676),

Gene: Jay2Jay\_20 Start: 8895, Stop: 8497, Start Num: 7  
Candidate Starts for Jay2Jay\_20:  
(Start: 7 @8895 has 4 MA's), (Start: 14 @8868 has 1 MA's), (Start: 16 @8823 has 129 MA's), (18, 8742), (25, 8682), (30, 8631), (31, 8625), (37, 8583),

Gene: JimJam\_284 Start: 129678, Stop: 129340, Start Num: 16  
Candidate Starts for JimJam\_284:  
(Start: 16 @129678 has 129 MA's), (17, 129666), (18, 129597), (40, 129411), (42, 129357),

Gene: JimJam\_16 Start: 8142, Stop: 7804, Start Num: 16  
Candidate Starts for JimJam\_16:  
(Start: 16 @8142 has 129 MA's), (17, 8130), (18, 8061), (40, 7875), (42, 7821),

Gene: Jollison\_274 Start: 126818, Stop: 126480, Start Num: 16  
Candidate Starts for Jollison\_274:  
(Start: 16 @126818 has 129 MA's), (17, 126806), (18, 126737), (40, 126551), (42, 126497),

Gene: Jollison\_17 Start: 8143, Stop: 7805, Start Num: 16  
Candidate Starts for Jollison\_17:  
(Start: 16 @8143 has 129 MA's), (17, 8131), (18, 8062), (40, 7876), (42, 7822),

Gene: Karimac\_274 Start: 127464, Stop: 127126, Start Num: 16  
Candidate Starts for Karimac\_274:  
(Start: 16 @127464 has 129 MA's), (17, 127452), (18, 127383), (40, 127197), (42, 127143),

Gene: Karimac\_16 Start: 8145, Stop: 7807, Start Num: 16  
Candidate Starts for Karimac\_16:  
(Start: 16 @8145 has 129 MA's), (17, 8133), (18, 8064), (40, 7878), (42, 7824),

Gene: KentuckyRacer\_283 Start: 129206, Stop: 128868, Start Num: 16  
Candidate Starts for KentuckyRacer\_283:  
(Start: 16 @129206 has 129 MA's), (17, 129194), (18, 129125), (40, 128939), (42, 128885),

Gene: KentuckyRacer\_15 Start: 7755, Stop: 7417, Start Num: 16  
Candidate Starts for KentuckyRacer\_15:  
(Start: 16 @7755 has 129 MA's), (17, 7743), (18, 7674), (40, 7488), (42, 7434),

Gene: Larnav\_267 Start: 130459, Stop: 130133, Start Num: 16  
Candidate Starts for Larnav\_267:  
(3, 130621), (Start: 14 @130504 has 1 MA's), (Start: 16 @130459 has 129 MA's), (18, 130378), (21, 130348), (25, 130318), (31, 130261),

Gene: Larnav\_17 Start: 8454, Stop: 8128, Start Num: 16  
Candidate Starts for Larnav\_17:  
(3, 8616), (Start: 14 @8499 has 1 MA's), (Start: 16 @8454 has 129 MA's), (18, 8373), (21, 8343), (25, 8313), (31, 8256),

Gene: Leo04\_268 Start: 130571, Stop: 130245, Start Num: 16  
Candidate Starts for Leo04\_268:  
(Start: 14 @130616 has 1 MA's), (Start: 16 @130571 has 129 MA's), (18, 130490), (21, 130460), (25, 130430), (31, 130373),

Gene: Leo04\_17 Start: 8453, Stop: 8127, Start Num: 16  
Candidate Starts for Leo04\_17:  
(Start: 14 @8498 has 1 MA's), (Start: 16 @8453 has 129 MA's), (18, 8372), (21, 8342), (25, 8312), (31, 8255),

Gene: Liandry\_265 Start: 129680, Stop: 129339, Start Num: 16  
Candidate Starts for Liandry\_265:  
(Start: 14 @129728 has 1 MA's), (Start: 16 @129680 has 129 MA's), (17, 129668), (21, 129569), (23, 129554), (25, 129539), (28, 129506), (31, 129479), (37, 129437),

Gene: Liandry\_16 Start: 8159, Stop: 7818, Start Num: 16  
Candidate Starts for Liandry\_16:  
(Start: 14 @8207 has 1 MA's), (Start: 16 @8159 has 129 MA's), (17, 8147), (21, 8048), (23, 8033), (25, 8018), (28, 7985), (31, 7958), (37, 7916),

Gene: LilSaint\_271 Start: 130422, Stop: 130084, Start Num: 16  
Candidate Starts for LilSaint\_271:  
(Start: 16 @130422 has 129 MA's), (18, 130338), (23, 130296), (27, 130251), (29, 130245), (32, 130212), (38, 130176), (39, 130170),

Gene: LilSaint\_18 Start: 8572, Stop: 8234, Start Num: 16  
Candidate Starts for LilSaint\_18:  
(Start: 16 @8572 has 129 MA's), (18, 8488), (23, 8446), (27, 8401), (29, 8395), (32, 8362), (38, 8326), (39, 8320),

Gene: LukeCage\_278 Start: 128580, Stop: 128242, Start Num: 16  
Candidate Starts for LukeCage\_278:  
(Start: 16 @128580 has 129 MA's), (17, 128568), (18, 128499), (35, 128349), (40, 128313), (42, 128259),

Gene: LukeCage\_15 Start: 7676, Stop: 7338, Start Num: 16

Candidate Starts for LukeCage\_15:

(Start: 16 @7676 has 129 MA's), (17, 7664), (18, 7595), (35, 7445), (40, 7409), (42, 7355),

Gene: Lululemon\_263 Start: 128726, Stop: 128400, Start Num: 16

Candidate Starts for Lululemon\_263:

(Start: 14 @128771 has 1 MA's), (15, 128765), (Start: 16 @128726 has 129 MA's), (18, 128645), (21, 128615), (25, 128585), (31, 128528),

Gene: Lululemon\_16 Start: 7834, Stop: 7508, Start Num: 16

Candidate Starts for Lululemon\_16:

(Start: 14 @7879 has 1 MA's), (15, 7873), (Start: 16 @7834 has 129 MA's), (18, 7753), (21, 7723), (25, 7693), (31, 7636),

Gene: MicyPS\_103 Start: 60929, Stop: 60540, Start Num: 13

Candidate Starts for MicyPS\_103:

(5, 60977), (6, 60968), (Start: 13 @60929 has 2 MA's), (19, 60773), (20, 60767), (34, 60647),

Gene: Mildred21\_280 Start: 129506, Stop: 129180, Start Num: 16

Candidate Starts for Mildred21\_280:

(12, 129563), (15, 129545), (Start: 16 @129506 has 129 MA's), (18, 129425), (25, 129365), (31, 129308), (37, 129266),

Gene: Mildred21\_17 Start: 8348, Stop: 8022, Start Num: 16

Candidate Starts for Mildred21\_17:

(12, 8405), (15, 8387), (Start: 16 @8348 has 129 MA's), (18, 8267), (25, 8207), (31, 8150), (37, 8108),

Gene: MindFlayer\_15 Start: 7753, Stop: 7415, Start Num: 16

Candidate Starts for MindFlayer\_15:

(Start: 16 @7753 has 129 MA's), (17, 7741), (18, 7672), (40, 7486), (42, 7432),

Gene: MindFlayer\_267 Start: 125813, Stop: 125475, Start Num: 16

Candidate Starts for MindFlayer\_267:

(Start: 16 @125813 has 129 MA's), (17, 125801), (18, 125732), (40, 125546), (42, 125492),

Gene: Mugiwara\_281 Start: 128790, Stop: 128452, Start Num: 16

Candidate Starts for Mugiwara\_281:

(Start: 16 @128790 has 129 MA's), (17, 128778), (18, 128709), (25, 128652), (40, 128523), (42, 128469),

Gene: Mugiwara\_14 Start: 7405, Stop: 7067, Start Num: 16

Candidate Starts for Mugiwara\_14:

(Start: 16 @7405 has 129 MA's), (17, 7393), (18, 7324), (25, 7267), (40, 7138), (42, 7084),

Gene: Navo\_257 Start: 127583, Stop: 127242, Start Num: 16

Candidate Starts for Navo\_257:

(1, 127925), (2, 127880), (Start: 14 @127631 has 1 MA's), (Start: 16 @127583 has 129 MA's), (17, 127571), (21, 127472), (23, 127457), (25, 127442), (28, 127409), (31, 127382), (37, 127340),

Gene: Navo\_15 Start: 7958, Stop: 7617, Start Num: 16

Candidate Starts for Navo\_15:

(1, 8300), (2, 8255), (Start: 14 @8006 has 1 MA's), (Start: 16 @7958 has 129 MA's), (17, 7946), (21, 7847), (23, 7832), (25, 7817), (28, 7784), (31, 7757), (37, 7715),

Gene: NootNoot\_261 Start: 128469, Stop: 128128, Start Num: 16

Candidate Starts for NootNoot\_261:

(Start: 14 @128517 has 1 MA's), (Start: 16 @128469 has 129 MA's), (17, 128457), (21, 128358), (23, 128343), (25, 128328), (28, 128295), (31, 128268), (37, 128226),

Gene: NootNoot\_16 Start: 8170, Stop: 7829, Start Num: 16

Candidate Starts for NootNoot\_16:

(Start: 14 @8218 has 1 MA's), (Start: 16 @8170 has 129 MA's), (17, 8158), (21, 8059), (23, 8044), (25, 8029), (28, 7996), (31, 7969), (37, 7927),

Gene: PSonyx\_122 Start: 64546, Stop: 64157, Start Num: 13

Candidate Starts for PSonyx\_122:

(Start: 13 @64546 has 2 MA's), (19, 64390), (20, 64384),

Gene: PacManQ\_263 Start: 128726, Stop: 128400, Start Num: 16

Candidate Starts for PacManQ\_263:

(Start: 14 @128771 has 1 MA's), (15, 128765), (Start: 16 @128726 has 129 MA's), (18, 128645), (21, 128615), (25, 128585), (31, 128528),

Gene: PacManQ\_16 Start: 7834, Stop: 7508, Start Num: 16

Candidate Starts for PacManQ\_16:

(Start: 14 @7879 has 1 MA's), (15, 7873), (Start: 16 @7834 has 129 MA's), (18, 7753), (21, 7723), (25, 7693), (31, 7636),

Gene: Paradiddles\_16 Start: 8160, Stop: 7819, Start Num: 16

Candidate Starts for Paradiddles\_16:

(Start: 14 @8208 has 1 MA's), (Start: 16 @8160 has 129 MA's), (17, 8148), (21, 8049), (23, 8034), (25, 8019), (28, 7986), (31, 7959), (37, 7917),

Gene: Paradiddles\_257 Start: 130868, Stop: 130527, Start Num: 16

Candidate Starts for Paradiddles\_257:

(Start: 14 @130916 has 1 MA's), (Start: 16 @130868 has 129 MA's), (17, 130856), (21, 130757), (23, 130742), (25, 130727), (28, 130694), (31, 130667), (37, 130625),

Gene: Peebs\_264 Start: 130428, Stop: 130102, Start Num: 16

Candidate Starts for Peebs\_264:

(Start: 14 @130473 has 1 MA's), (15, 130467), (Start: 16 @130428 has 129 MA's), (18, 130347), (21, 130317), (25, 130287), (31, 130230),

Gene: Peebs\_17 Start: 8453, Stop: 8127, Start Num: 16

Candidate Starts for Peebs\_17:

(Start: 14 @8498 has 1 MA's), (15, 8492), (Start: 16 @8453 has 129 MA's), (18, 8372), (21, 8342), (25, 8312), (31, 8255),

Gene: Pepperwood\_18 Start: 8608, Stop: 8282, Start Num: 16

Candidate Starts for Pepperwood\_18:

(Start: 14 @8653 has 1 MA's), (15, 8647), (Start: 16 @8608 has 129 MA's), (18, 8527), (21, 8497), (25, 8467), (31, 8410),

Gene: Pepperwood\_267 Start: 130393, Stop: 130067, Start Num: 16

Candidate Starts for Pepperwood\_267:

(Start: 14 @130438 has 1 MA's), (15, 130432), (Start: 16 @130393 has 129 MA's), (18, 130312), (21, 130282), (25, 130252), (31, 130195),

Gene: Persimmon\_266 Start: 128800, Stop: 128459, Start Num: 16

Candidate Starts for Persimmon\_266:

(1, 129142), (2, 129097), (Start: 14 @128848 has 1 MA's), (Start: 16 @128800 has 129 MA's), (17, 128788), (21, 128689), (23, 128674), (25, 128659), (28, 128626), (31, 128599), (37, 128557),

Gene: Persimmon\_15 Start: 7989, Stop: 7648, Start Num: 16

Candidate Starts for Persimmon\_15:

(1, 8331), (2, 8286), (Start: 14 @8037 has 1 MA's), (Start: 16 @7989 has 129 MA's), (17, 7977), (21, 7878), (23, 7863), (25, 7848), (28, 7815), (31, 7788), (37, 7746),

Gene: PinkiePie\_16 Start: 8160, Stop: 7819, Start Num: 16

Candidate Starts for PinkiePie\_16:

(Start: 14 @8208 has 1 MA's), (Start: 16 @8160 has 129 MA's), (17, 8148), (21, 8049), (23, 8034), (25, 8019), (28, 7986), (31, 7959), (37, 7917),

Gene: PinkiePie\_266 Start: 129681, Stop: 129340, Start Num: 16

Candidate Starts for PinkiePie\_266:

(Start: 14 @129729 has 1 MA's), (Start: 16 @129681 has 129 MA's), (17, 129669), (21, 129570), (23, 129555), (25, 129540), (28, 129507), (31, 129480), (37, 129438),

Gene: PumpkinSpice\_280 Start: 128035, Stop: 127697, Start Num: 16

Candidate Starts for PumpkinSpice\_280:

(Start: 16 @128035 has 129 MA's), (17, 128023), (18, 127954), (40, 127768), (42, 127714),

Gene: PumpkinSpice\_16 Start: 8143, Stop: 7805, Start Num: 16

Candidate Starts for PumpkinSpice\_16:

(Start: 16 @8143 has 129 MA's), (17, 8131), (18, 8062), (40, 7876), (42, 7822),

Gene: Quaran19\_16 Start: 8143, Stop: 7805, Start Num: 16

Candidate Starts for Quaran19\_16:

(Start: 16 @8143 has 129 MA's), (17, 8131), (18, 8062), (40, 7876), (42, 7822),

Gene: Quaran19\_277 Start: 127325, Stop: 126987, Start Num: 16

Candidate Starts for Quaran19\_277:

(Start: 16 @127325 has 129 MA's), (17, 127313), (18, 127244), (40, 127058), (42, 127004),

Gene: Rikishi\_16 Start: 7754, Stop: 7416, Start Num: 16

Candidate Starts for Rikishi\_16:

(Start: 16 @7754 has 129 MA's), (17, 7742), (18, 7673), (40, 7487), (42, 7433),

Gene: Rikishi\_278 Start: 127827, Stop: 127489, Start Num: 16

Candidate Starts for Rikishi\_278:

(Start: 16 @127827 has 129 MA's), (17, 127815), (18, 127746), (40, 127560), (42, 127506),

Gene: SaltySpittoon\_276 Start: 126407, Stop: 126069, Start Num: 16

Candidate Starts for SaltySpittoon\_276:

(Start: 16 @126407 has 129 MA's), (17, 126395), (18, 126326), (40, 126140), (42, 126086),

Gene: SaltySpittoon\_16 Start: 8143, Stop: 7805, Start Num: 16

Candidate Starts for SaltySpittoon\_16:

(Start: 16 @8143 has 129 MA's), (17, 8131), (18, 8062), (40, 7876), (42, 7822),

Gene: Scheme\_18 Start: 8608, Stop: 8282, Start Num: 16

Candidate Starts for Scheme\_18:

(Start: 14 @8653 has 1 MA's), (15, 8647), (Start: 16 @8608 has 129 MA's), (18, 8527), (21, 8497), (25, 8467), (31, 8410),

Gene: Scheme\_271 Start: 131803, Stop: 131477, Start Num: 16

Candidate Starts for Scheme\_271:

(Start: 14 @131848 has 1 MA's), (15, 131842), (Start: 16 @131803 has 129 MA's), (18, 131722), (21, 131692), (25, 131662), (31, 131605),

Gene: Sollertia\_17 Start: 8112, Stop: 7777, Start Num: 16

Candidate Starts for Sollertia\_17:

(Start: 7 @8184 has 4 MA's), (Start: 14 @8157 has 1 MA's), (Start: 16 @8112 has 129 MA's), (17, 8100), (18, 8031), (26, 7947), (33, 7896), (39, 7857), (40, 7842), (42, 7788),

Gene: Sollertia\_273 Start: 127002, Stop: 126667, Start Num: 16

Candidate Starts for Sollertia\_273:

(Start: 7 @127074 has 4 MA's), (Start: 14 @127047 has 1 MA's), (Start: 16 @127002 has 129 MA's), (17, 126990), (18, 126921), (26, 126837), (33, 126786), (39, 126747), (40, 126732), (42, 126678),

Gene: Spelly\_16 Start: 8143, Stop: 7805, Start Num: 16

Candidate Starts for Spelly\_16:

(Start: 16 @8143 has 129 MA's), (17, 8131), (18, 8062), (40, 7876), (42, 7822),

Gene: Spelly\_282 Start: 126947, Stop: 126609, Start Num: 16

Candidate Starts for Spelly\_282:

(Start: 16 @126947 has 129 MA's), (17, 126935), (18, 126866), (40, 126680), (42, 126626),

Gene: Spilled\_15 Start: 7753, Stop: 7415, Start Num: 16

Candidate Starts for Spilled\_15:

(Start: 16 @7753 has 129 MA's), (17, 7741), (18, 7672), (40, 7486), (42, 7432),

Gene: Spilled\_283 Start: 128222, Stop: 127884, Start Num: 16

Candidate Starts for Spilled\_283:

(Start: 16 @128222 has 129 MA's), (17, 128210), (18, 128141), (40, 127955), (42, 127901),

Gene: Squillium\_268 Start: 129684, Stop: 129343, Start Num: 16

Candidate Starts for Squillium\_268:

(10, 129747), (11, 129744), (Start: 14 @129732 has 1 MA's), (Start: 16 @129684 has 129 MA's), (17, 129672), (21, 129573), (23, 129558), (25, 129543), (28, 129510), (31, 129483), (37, 129441),

Gene: Squillium\_16 Start: 8160, Stop: 7819, Start Num: 16

Candidate Starts for Squillium\_16:

(10, 8223), (11, 8220), (Start: 14 @8208 has 1 MA's), (Start: 16 @8160 has 129 MA's), (17, 8148), (21, 8049), (23, 8034), (25, 8019), (28, 7986), (31, 7959), (37, 7917),

Gene: Stanimal\_272 Start: 127386, Stop: 127051, Start Num: 16

Candidate Starts for Stanimal\_272:

(Start: 7 @127458 has 4 MA's), (Start: 14 @127431 has 1 MA's), (Start: 16 @127386 has 129 MA's), (17, 127374), (18, 127305), (26, 127221), (33, 127170), (39, 127131), (40, 127116), (42, 127062),

Gene: Stanimal\_17 Start: 8112, Stop: 7777, Start Num: 16

Candidate Starts for Stanimal\_17:

(Start: 7 @8184 has 4 MA's), (Start: 14 @8157 has 1 MA's), (Start: 16 @8112 has 129 MA's), (17, 8100), (18, 8031), (26, 7947), (33, 7896), (39, 7857), (40, 7842), (42, 7788),

Gene: StarPlatinum\_285 Start: 129523, Stop: 129185, Start Num: 16

Candidate Starts for StarPlatinum\_285:

(Start: 16 @129523 has 129 MA's), (17, 129511), (18, 129442), (41, 129223), (42, 129202),

Gene: StarPlatinum\_15 Start: 7836, Stop: 7498, Start Num: 16

Candidate Starts for StarPlatinum\_15:

(Start: 16 @7836 has 129 MA's), (17, 7824), (18, 7755), (41, 7536), (42, 7515),

Gene: Starbow\_16 Start: 8143, Stop: 7805, Start Num: 16

Candidate Starts for Starbow\_16:

(Start: 16 @8143 has 129 MA's), (17, 8131), (18, 8062), (40, 7876), (42, 7822),

Gene: Starbow\_273 Start: 126991, Stop: 126653, Start Num: 16

Candidate Starts for Starbow\_273:

(Start: 16 @126991 has 129 MA's), (17, 126979), (18, 126910), (40, 126724), (42, 126670),

Gene: Sushi23\_18 Start: 8499, Stop: 8128, Start Num: 14

Candidate Starts for Sushi23\_18:

(3, 8616), (Start: 14 @8499 has 1 MA's), (Start: 16 @8454 has 129 MA's), (18, 8373), (21, 8343), (25, 8313), (31, 8256),

Gene: Sushi23\_268 Start: 131297, Stop: 130971, Start Num: 16

Candidate Starts for Sushi23\_268:

(3, 131459), (Start: 14 @131342 has 1 MA's), (Start: 16 @131297 has 129 MA's), (18, 131216), (21, 131186), (25, 131156), (31, 131099),

Gene: Targaryen\_266 Start: 132305, Stop: 131979, Start Num: 16

Candidate Starts for Targaryen\_266:

(Start: 14 @132350 has 1 MA's), (Start: 16 @132305 has 129 MA's), (18, 132224), (25, 132164), (30, 132113), (31, 132107), (37, 132065),

Gene: Targaryen\_15 Start: 8629, Stop: 8303, Start Num: 16

Candidate Starts for Targaryen\_15:

(Start: 14 @8674 has 1 MA's), (Start: 16 @8629 has 129 MA's), (18, 8548), (25, 8488), (30, 8437), (31, 8431), (37, 8389),

Gene: TomSawyer\_281 Start: 129515, Stop: 129177, Start Num: 16

Candidate Starts for TomSawyer\_281:

(Start: 16 @129515 has 129 MA's), (17, 129503), (18, 129434), (40, 129248), (42, 129194),

Gene: TomSawyer\_16 Start: 7736, Stop: 7398, Start Num: 16

Candidate Starts for TomSawyer\_16:

(Start: 16 @7736 has 129 MA's), (17, 7724), (18, 7655), (40, 7469), (42, 7415),

Gene: Tomas\_9 Start: 5260, Stop: 4922, Start Num: 16

Candidate Starts for Tomas\_9:

(Start: 16 @5260 has 129 MA's), (22, 5146), (26, 5098), (39, 5008), (42, 4939),

Gene: Tomas\_265 Start: 126967, Stop: 126629, Start Num: 16  
Candidate Starts for Tomas\_265:  
(Start: 16 @126967 has 129 MA's), (22, 126853), (26, 126805), (39, 126715), (42, 126646),

Gene: Tribute\_17 Start: 8454, Stop: 8128, Start Num: 16  
Candidate Starts for Tribute\_17:  
(3, 8616), (Start: 14 @8499 has 1 MA's), (Start: 16 @8454 has 129 MA's), (18, 8373), (21, 8343), (25, 8313), (31, 8256),

Gene: Tribute\_263 Start: 130998, Stop: 130672, Start Num: 16  
Candidate Starts for Tribute\_263:  
(3, 131160), (Start: 14 @131043 has 1 MA's), (Start: 16 @130998 has 129 MA's), (18, 130917), (21, 130887), (25, 130857), (31, 130800),

Gene: Warpy\_272 Start: 130454, Stop: 130056, Start Num: 7  
Candidate Starts for Warpy\_272:  
(Start: 7 @130454 has 4 MA's), (Start: 14 @130427 has 1 MA's), (Start: 16 @130382 has 129 MA's), (18, 130301), (25, 130241), (30, 130190), (31, 130184), (37, 130142),

Gene: Warpy\_20 Start: 8916, Stop: 8518, Start Num: 7  
Candidate Starts for Warpy\_20:  
(Start: 7 @8916 has 4 MA's), (Start: 14 @8889 has 1 MA's), (Start: 16 @8844 has 129 MA's), (18, 8763), (25, 8703), (30, 8652), (31, 8646), (37, 8604),

Gene: Watermoore\_264 Start: 131051, Stop: 130725, Start Num: 16  
Candidate Starts for Watermoore\_264:  
(Start: 14 @131096 has 1 MA's), (Start: 16 @131051 has 129 MA's), (18, 130970), (21, 130940), (25, 130910), (31, 130853),

Gene: Watermoore\_17 Start: 8455, Stop: 8129, Start Num: 16  
Candidate Starts for Watermoore\_17:  
(Start: 14 @8500 has 1 MA's), (Start: 16 @8455 has 129 MA's), (18, 8374), (21, 8344), (25, 8314), (31, 8257),

Gene: WhereRU\_15 Start: 7989, Stop: 7648, Start Num: 16  
Candidate Starts for WhereRU\_15:  
(1, 8331), (2, 8286), (Start: 14 @8037 has 1 MA's), (Start: 16 @7989 has 129 MA's), (17, 7977), (21, 7878), (23, 7863), (25, 7848), (28, 7815), (31, 7788), (37, 7746),

Gene: WhereRU\_264 Start: 129134, Stop: 128793, Start Num: 16  
Candidate Starts for WhereRU\_264:  
(1, 129476), (2, 129431), (Start: 14 @129182 has 1 MA's), (Start: 16 @129134 has 129 MA's), (17, 129122), (21, 129023), (23, 129008), (25, 128993), (28, 128960), (31, 128933), (37, 128891),

Gene: Wipeout\_269 Start: 128489, Stop: 128151, Start Num: 16  
Candidate Starts for Wipeout\_269:  
(Start: 16 @128489 has 129 MA's), (17, 128477), (18, 128408), (40, 128222), (42, 128168),

Gene: Wipeout\_15 Start: 7758, Stop: 7420, Start Num: 16  
Candidate Starts for Wipeout\_15:  
(Start: 16 @7758 has 129 MA's), (17, 7746), (18, 7677), (40, 7491), (42, 7437),

Gene: Wofford\_273 Start: 129042, Stop: 128707, Start Num: 16

Candidate Starts for Wofford\_273:

(Start: 16 @129042 has 129 MA's), (17, 129030), (18, 128961), (26, 128877), (33, 128826), (36, 128805), (39, 128787), (42, 128718),

Gene: Wofford\_15 Start: 7249, Stop: 6914, Start Num: 16

Candidate Starts for Wofford\_15:

(Start: 16 @7249 has 129 MA's), (17, 7237), (18, 7168), (26, 7084), (33, 7033), (36, 7012), (39, 6994), (42, 6925),

Gene: Yaboi\_278 Start: 126930, Stop: 126595, Start Num: 16

Candidate Starts for Yaboi\_278:

(Start: 7 @127002 has 4 MA's), (Start: 14 @126975 has 1 MA's), (Start: 16 @126930 has 129 MA's), (17, 126918), (18, 126849), (26, 126765), (33, 126714), (39, 126675), (40, 126660), (42, 126606),

Gene: Yaboi\_17 Start: 8112, Stop: 7777, Start Num: 16

Candidate Starts for Yaboi\_17:

(Start: 7 @8184 has 4 MA's), (Start: 14 @8157 has 1 MA's), (Start: 16 @8112 has 129 MA's), (17, 8100), (18, 8031), (26, 7947), (33, 7896), (39, 7857), (40, 7842), (42, 7788),