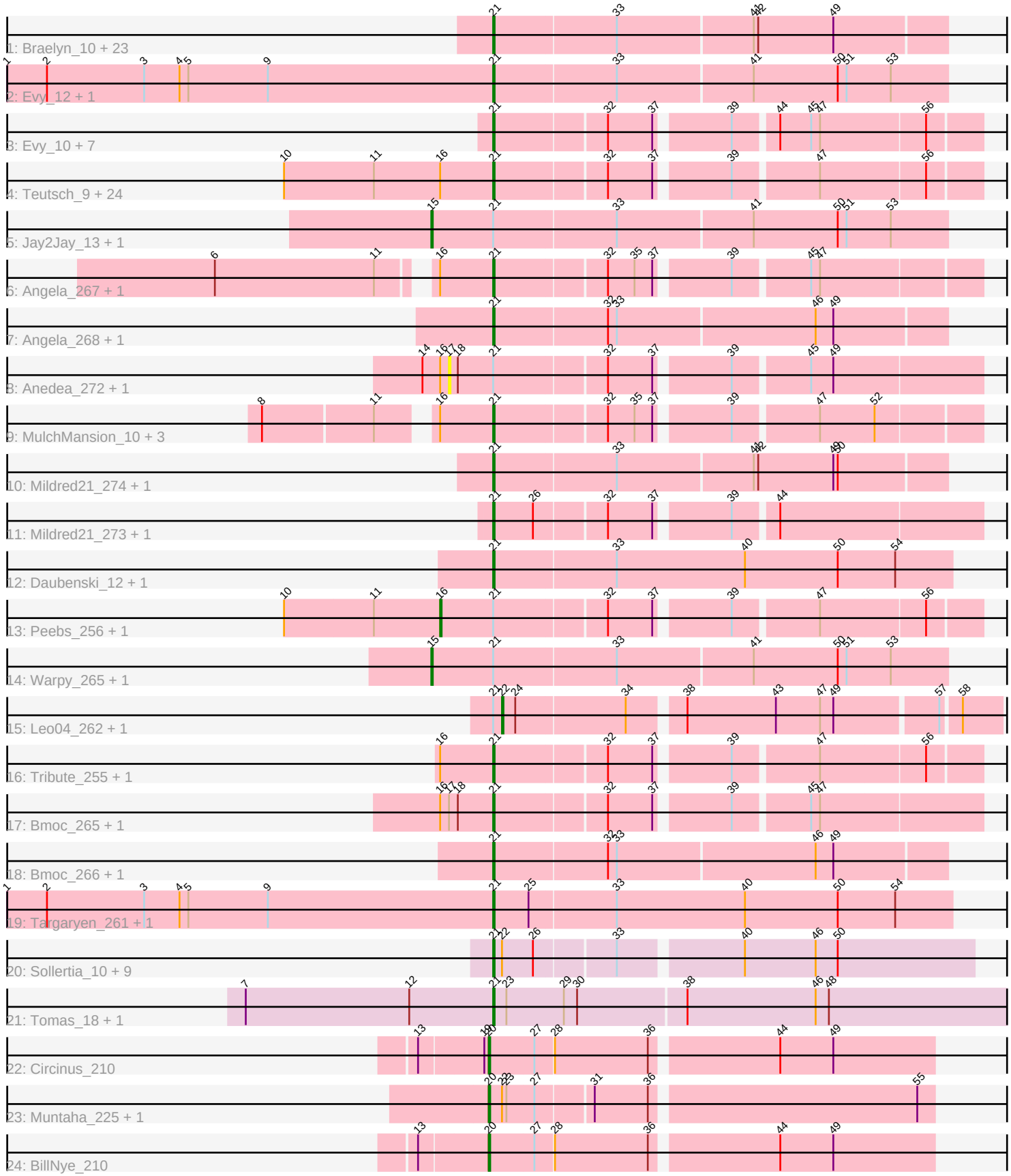
Pham 157746


1: Braelyn_10 + 23
2: Evy_12 + 1
3: Evy_10 + 7
4: Teutsch_9 + 24
5: Jay2Jay_13 + 1
6: Angela_267 + 1
7: Angela_268 + 1
8: Anedea_272 + 1
9: MulchMansion_10 + 3
10: Mildred21_274 + 1
11: Mildred21_273 + 1
12: Daubenski_12 + 1
13: Peebs_256 + 1
14: Warpy_265 + 1
15: Leo04_262 + 1
16: Tribute_255 + 1
17: Bmoc_265 + 1
18: Bmoc_266 + 1
19: Targaryen_261 + 1
20: Sollertia_10 + 9
21: Tomas_18 + 1
22: Circinus_210
23: Muntaha_225 + 1
24: BillNye_210

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 157746 Report

This analysis was run 04/28/24 on database version 559.

Pham number 157746 has 107 members, 16 are drafts.

Phages represented in each track:
• Track 1 : Braelyn_10, Navo_260, Bartholomune_10, LilMartin_263, MulchMansion_11, PinkiePie_10, Persimmon_260, WhereRU_11, Paradiddles_10, Persimmon_9, LilMartin_11, Bartholomune_260, Liandry_259, MulchMansion_267, Liandry_10, NootNoot_255, WhereRU_267, Paradiddles_251, Navo_10, NootNoot_10, Braelyn_255, Squillium_10, PinkiePie_260, Squillium_262
• Track 2 : Evy_12, Evy_250
• Track 3 : Evy_10, Warpy_11, Jay2Jay_266, Evy_248, Jay2Jay_11, Targaryen_260, Warpy_263, Targaryen_9
• Track 4 : Teutsch_9, BlueOtter_9, Cursive_261, EGole_9, HangryHippo_9, Watermoore_9, Larnav_270, Watermoore_256, Larnav_11, HangryHippo_261, Lululemon_258, Pepperwood_10, BlueOtter_261, Leo04_260, PacManQ_259, Cross_9, Cursive_7, Lululemon_8, Cross_257, Sushi23_10, EGole_263, Leo04_9, Pepperwood_259, PacManQ_8, Teutsch_256
• Track 5 : Jay2Jay_13, Jay2Jay_268
• Track 6 : Angela_267, Angela_10
• Track 7 : Angela_268, Angela_11
• Track 8 : Anedea_272, Anedea_10
• Track 9 : MulchMansion_10, LilMartin_10, MulchMansion_266, LilMartin_262
• Track 10 : Mildred21_274, Mildred21_11
• Track 11 : Mildred21_273, Mildred21_10
• Track 12 : Daubenski_12, Daubenski_256
• Track 13 : Peebs_256, Peebs_9
• Track 14 : Warpy_265, Warpy_13
• Track 15 : Leo04_262, Leo04_11
• Track 16 : Tribute_255, Tribute_9
• Track 17 : Bmoc_265, Bmoc_9
• Track 18 : Bmoc_266, Bmoc_10
• Track 19 : Targaryen_261, Targaryen_10
• Track 20 : Sollertia_10, Yaboi_271, Genie2_10, BoomerJR_10, Stanimal_10, Stanimal_265, Genie2_265, BoomerJR_265, Yaboi_10, Sollertia_266
• Track 21 : Tomas_18, Tomas_274
• Track 22 : Circinus_210
• Track 23 : Muntaha_225, Wakanda_221
• Track 24 : BillNye_210

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

The start number called the most often in the published annotations is 21, it was called in 79 of the 91 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Angela_10, Angela_11, Angela_267, Angela_268, Bartholomune_10, Bartholomune_260, BlueOtter_261, BlueOtter_9, Bmoc_10, Bmoc_265, Bmoc_266, Bmoc_9, BoomerJR_10, BoomerJR_265, Braelyn_10, Braelyn_255, Cross_257, Cross_9, Cursive_261, Cursive_7, Daubenski_12, Daubenski_256, EGole_263, EGole_9, Evy_10, Evy_12, Evy_248, Evy_250, Genie2_10, Genie2_265, HangryHippo_261, HangryHippo_9, Jay2Jay_11, Jay2Jay_266, Larnav_11, Larnav_270, Leo04_260, Leo04_9, Liandry_10, Liandry_259, LilMartin_10, LilMartin_11, LilMartin_262, LilMartin_263, Lululemon_258, Lululemon_8, Mildred21_10, Mildred21_11, Mildred21_273, Mildred21_274, MulchMansion_10, MulchMansion_11, MulchMansion_266, MulchMansion_267, Navo_10, Navo_260, NootNoot_10, NootNoot_255, PacManQ_259, PacManQ_8, Paradiddles_10, Paradiddles_251, Pepperwood_10, Pepperwood_259, Persimmon_260, Persimmon_9, PinkiePie_10, PinkiePie_260, Sollertia_10, Sollertia_266, Squillium_10, Squillium_262, Stanimal_10, Stanimal_265, Sushi23_10, Targaryen_10, Targaryen_260, Targaryen_261, Targaryen_9, Teutsch_256, Teutsch_9, Tomas_18, Tomas_274, Tribute_255, Tribute_9, Warpy_11, Warpy_263, Watermoore_256, Watermoore_9, WhereRU_11, WhereRU_267, Yaboi_10, Yaboi_271,

Genes that have the "Most Annotated" start but do not call it:
• Anedea_10, Anedea_272, Jay2Jay_13, Jay2Jay_268, Leo04_11, Leo04_262, Peebs_256, Peebs_9, Warpy_13, Warpy_265,

Genes that do not have the "Most Annotated" start:
• BillNye_210, Circinus_210, Muntaha_225, Wakanda_221,

Summary by start number:

Start 15:
• Found in 4 of 107 (3.7%) of genes in pham
• Manual Annotations of this start: 4 of 91
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jay2Jay_13 (BE1), Jay2Jay_268 (BE1), Warpy_13 (BE1), Warpy_265 (BE1),

Start 16:
• Found in 39 of 107 (36.4%) of genes in pham
• Manual Annotations of this start: 2 of 91
• Called 5.1% of time when present
• Phage (with cluster) where this start called: Peebs_256 (BE1), Peebs_9 (BE1),

Start 17:
• Found in 4 of 107 (3.7%) of genes in pham
• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Anedea_10 (BE1), Anedea_272 (BE1),

Start 20:
• Found in 4 of 107 (3.7%) of genes in pham
• Manual Annotations of this start: 4 of 91
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BillNye_210 (BK2), Circinus_210 (BK2), Muntaha_225 (BK2), Wakanda_221 (BK2),

Start 21:
• Found in 103 of 107 (96.3%) of genes in pham
• Manual Annotations of this start: 79 of 91
• Called 90.3% of time when present
• Phage (with cluster) where this start called: Angela_10 (BE1), Angela_11 (BE1), Angela_267 (BE1), Angela_268 (BE1), Bartholomune_10 (BE1), Bartholomune_260 (BE1), BlueOtter_261 (BE1), BlueOtter_9 (BE1), Bmoc_10 (BE1), Bmoc_265 (BE1), Bmoc_266 (BE1), Bmoc_9 (BE1), BoomerJR_10 (BE2), BoomerJR_265 (BE2), Braelyn_10 (BE1), Braelyn_255 (BE1), Cross_257 (BE1), Cross_9 (BE1), Cursive_261 (BE1), Cursive_7 (BE1), Daubenski_12 (BE1), Daubenski_256 (BE1), EGole_263 (BE1), EGole_9 (BE1), Evy_10 (BE1), Evy_12 (BE1), Evy_248 (BE1), Evy_250 (BE1), Genie2_10 (BE2), Genie2_265 (BE2), HangryHippo_261 (BE1), HangryHippo_9 (BE1), Jay2Jay_11 (BE1), Jay2Jay_266 (BE1), Larnav_11 (BE1), Larnav_270 (BE1), Leo04_260 (BE1), Leo04_9 (BE1), Liandry_10 (BE1), Liandry_259 (BE1), LilMartin_10 (BE1), LilMartin_11 (BE1), LilMartin_262 (BE1), LilMartin_263 (BE1), Lululemon_258 (BE1), Lululemon_8 (BE1), Mildred21_10 (BE1), Mildred21_11 (BE1), Mildred21_273 (BE1), Mildred21_274 (BE1), MulchMansion_10 (BE1), MulchMansion_11 (BE1), MulchMansion_266 (BE1), MulchMansion_267 (BE1), Navo_10 (BE1), Navo_260 (BE1), NootNoot_10 (BE1), NootNoot_255 (BE1), PacManQ_259 (BE1), PacManQ_8 (BE1), Paradiddles_10 (BE1), Paradiddles_251 (BE1), Pepperwood_10 (BE1), Pepperwood_259 (BE1), Persimmon_260 (BE1), Persimmon_9 (BE1), PinkiePie_10 (BE1), PinkiePie_260 (BE1), Sollertia_10 (BE2), Sollertia_266 (BE2), Squillium_10 (BE1), Squillium_262 (BE1), Stanimal_10 (BE2), Stanimal_265 (BE2), Sushi23_10 (BE1), Targaryen_10 (BE1), Targaryen_260 (BE1), Targaryen_261 (BE1), Targaryen_9 (BE1), Teutsch_256 (BE1), Teutsch_9 (BE1), Tomas_18 (BE2), Tomas_274 (BE2), Tribute_255 (BE1), Tribute_9 (BE1), Warpy_11 (BE1), Warpy_263 (BE1), Watermoore_256 (BE1), Watermoore_9 (BE1), WhereRU_11 (BE1), WhereRU_267 (BE1), Yaboi_10 (BE2), Yaboi_271 (BE2),

Start 22:
• Found in 14 of 107 (13.1%) of genes in pham
• Manual Annotations of this start: 2 of 91
• Called 14.3% of time when present
• Phage (with cluster) where this start called: Leo04_11 (BE1), Leo04_262 (BE1),

Summary by clusters:

There are 3 clusters represented in this pham: BE2, BE1, BK2,

Info for manual annotations of cluster BE1:
•Start number 15 was manually annotated 4 times for cluster BE1.
•Start number 16 was manually annotated 2 times for cluster BE1.
•Start number 21 was manually annotated 67 times for cluster BE1.
•Start number 22 was manually annotated 2 times for cluster BE1.

Info for manual annotations of cluster BE2:
•Start number 21 was manually annotated 12 times for cluster BE2.

Info for manual annotations of cluster BK2:
•Start number 20 was manually annotated 4 times for cluster BK2.

Gene Information:

Gene: Anedea_272 Start: 129021, Stop: 128683, Start Num: 17
Candidate Starts for Anedea_272:
(14, 129039), (Start: 16 @129027 has 2 MA's), (17, 129021), (18, 129015), (Start: 21 @128991 has 79 MA's), (32, 128919), (37, 128889), (39, 128844), (45, 128796), (49, 128781),

Gene: Anedea_10 Start: 5972, Stop: 5634, Start Num: 17
Candidate Starts for Anedea_10:
(14, 5990), (Start: 16 @5978 has 2 MA's), (17, 5972), (18, 5966), (Start: 21 @5942 has 79 MA's), (32, 5870), (37, 5840), (39, 5795), (45, 5747), (49, 5732),

Gene: Angela_267 Start: 128577, Stop: 128272, Start Num: 21
Candidate Starts for Angela_267:
(6, 128748), (11, 128640), (Start: 16 @128613 has 2 MA's), (Start: 21 @128577 has 79 MA's), (32, 128505), (35, 128487), (37, 128475), (39, 128430), (45, 128382), (47, 128376),

Gene: Angela_268 Start: 129119, Stop: 128820, Start Num: 21
Candidate Starts for Angela_268:
(Start: 21 @129119 has 79 MA's), (32, 129044), (33, 129038), (46, 128906), (49, 128894),

Gene: Angela_10 Start: 6174, Stop: 5869, Start Num: 21
Candidate Starts for Angela_10:
(6, 6345), (11, 6237), (Start: 16 @6210 has 2 MA's), (Start: 21 @6174 has 79 MA's), (32, 6102), (35, 6084), (37, 6072), (39, 6027), (45, 5979), (47, 5973),

Gene: Angela_11 Start: 6716, Stop: 6417, Start Num: 21
Candidate Starts for Angela_11:
(Start: 21 @6716 has 79 MA's), (32, 6641), (33, 6635), (46, 6503), (49, 6491),

Gene: Bartholomune_10 Start: 6043, Stop: 5744, Start Num: 21
Candidate Starts for Bartholomune_10:
(Start: 21 @6043 has 79 MA's), (33, 5962), (41, 5872), (42, 5869), (49, 5818),

Gene: Bartholomune_260 Start: 127142, Stop: 126843, Start Num: 21
Candidate Starts for Bartholomune_260:
(Start: 21 @127142 has 79 MA's), (33, 127061), (41, 126971), (42, 126968), (49, 126917),

Gene: BillNye_210 Start: 109627, Stop: 109917, Start Num: 20
Candidate Starts for BillNye_210:
(13, 109582), (Start: 20 @109627 has 4 MA's), (27, 109657), (28, 109669), (36, 109732), (44, 109813), (49, 109849),

Gene: BlueOtter_9 Start: 5793, Stop: 5488, Start Num: 21
Candidate Starts for BlueOtter_9:

(10, 5934), (11, 5874), (Start: 16 @5829 has 2 MA's), (Start: 21 @5793 has 79 MA's), (32, 5721), (37, 5691), (39, 5646), (47, 5592), (56, 5523),

Gene: BlueOtter_261 Start: 126880, Stop: 126575, Start Num: 21
Candidate Starts for BlueOtter_261:
(10, 127021), (11, 126961), (Start: 16 @126916 has 2 MA's), (Start: 21 @126880 has 79 MA's), (32, 126808), (37, 126778), (39, 126733), (47, 126679), (56, 126610),

Gene: Bmoc_265 Start: 127855, Stop: 127547, Start Num: 21
Candidate Starts for Bmoc_265:
(Start: 16 @127891 has 2 MA's), (17, 127885), (18, 127879), (Start: 21 @127855 has 79 MA's), (32, 127783), (37, 127753), (39, 127708), (45, 127660), (47, 127654),

Gene: Bmoc_266 Start: 128418, Stop: 128119, Start Num: 21
Candidate Starts for Bmoc_266:
(Start: 21 @128418 has 79 MA's), (32, 128343), (33, 128337), (46, 128205), (49, 128193),

Gene: Bmoc_9 Start: 6033, Stop: 5725, Start Num: 21
Candidate Starts for Bmoc_9:
(Start: 16 @6069 has 2 MA's), (17, 6063), (18, 6057), (Start: 21 @6033 has 79 MA's), (32, 5961), (37, 5931), (39, 5886), (45, 5838), (47, 5832),

Gene: Bmoc_10 Start: 6596, Stop: 6297, Start Num: 21
Candidate Starts for Bmoc_10:
(Start: 21 @6596 has 79 MA's), (32, 6521), (33, 6515), (46, 6383), (49, 6371),

Gene: BoomerJR_10 Start: 5615, Stop: 5304, Start Num: 21
Candidate Starts for BoomerJR_10:
(Start: 21 @5615 has 79 MA's), (Start: 22 @5609 has 2 MA's), (26, 5588), (33, 5537), (40, 5459), (46, 5411), (50, 5396),

Gene: BoomerJR_265 Start: 124403, Stop: 124092, Start Num: 21
Candidate Starts for BoomerJR_265:
(Start: 21 @124403 has 79 MA's), (Start: 22 @124397 has 2 MA's), (26, 124376), (33, 124325), (40, 124247), (46, 124199), (50, 124184),

Gene: Braelyn_10 Start: 6055, Stop: 5756, Start Num: 21
Candidate Starts for Braelyn_10:
(Start: 21 @6055 has 79 MA's), (33, 5974), (41, 5884), (42, 5881), (49, 5830),

Gene: Braelyn_255 Start: 126465, Stop: 126166, Start Num: 21
Candidate Starts for Braelyn_255:
(Start: 21 @126465 has 79 MA's), (33, 126384), (41, 126294), (42, 126291), (49, 126240),

Gene: Circinus_210 Start: 109217, Stop: 109507, Start Num: 20
Candidate Starts for Circinus_210:
(13, 109172), (19, 109214), (Start: 20 @109217 has 4 MA's), (27, 109247), (28, 109259), (36, 109322), (44, 109403), (49, 109439),

Gene: Cross_9 Start: 5793, Stop: 5488, Start Num: 21
Candidate Starts for Cross_9:
(10, 5934), (11, 5874), (Start: 16 @5829 has 2 MA's), (Start: 21 @5793 has 79 MA's), (32, 5721), (37, 5691), (39, 5646), (47, 5592), (56, 5523),

Gene: Cross_257 Start: 127525, Stop: 127220, Start Num: 21
Candidate Starts for Cross_257:
(10, 127666), (11, 127606), (Start: 16 @127561 has 2 MA's), (Start: 21 @127525 has 79 MA's), (32, 127453), (37, 127423), (39, 127378), (47, 127324), (56, 127255),

Gene: Cursive_261 Start: 126620, Stop: 126315, Start Num: 21
Candidate Starts for Cursive_261:
(10, 126761), (11, 126701), (Start: 16 @126656 has 2 MA's), (Start: 21 @126620 has 79 MA's), (32, 126548), (37, 126518), (39, 126473), (47, 126419), (56, 126350),

Gene: Cursive_7 Start: 4611, Stop: 4306, Start Num: 21
Candidate Starts for Cursive_7:
(10, 4752), (11, 4692), (Start: 16 @4647 has 2 MA's), (Start: 21 @4611 has 79 MA's), (32, 4539), (37, 4509), (39, 4464), (47, 4410), (56, 4341),

Gene: Daubenski_12 Start: 6584, Stop: 6276, Start Num: 21
Candidate Starts for Daubenski_12:
(Start: 21 @6584 has 79 MA's), (33, 6503), (40, 6416), (50, 6353), (54, 6314),

Gene: Daubenski_256 Start: 128960, Stop: 128652, Start Num: 21
Candidate Starts for Daubenski_256:
(Start: 21 @128960 has 79 MA's), (33, 128879), (40, 128792), (50, 128729), (54, 128690),

Gene: EGole_9 Start: 6213, Stop: 5908, Start Num: 21
Candidate Starts for EGole_9:
(10, 6354), (11, 6294), (Start: 16 @6249 has 2 MA's), (Start: 21 @6213 has 79 MA's), (32, 6141), (37, 6111), (39, 6066), (47, 6012), (56, 5943),

Gene: EGole_263 Start: 130525, Stop: 130220, Start Num: 21
Candidate Starts for EGole_263:
(10, 130666), (11, 130606), (Start: 16 @130561 has 2 MA's), (Start: 21 @130525 has 79 MA's), (32, 130453), (37, 130423), (39, 130378), (47, 130324), (56, 130255),

Gene: Evy_12 Start: 6669, Stop: 6367, Start Num: 21
Candidate Starts for Evy_12:
(1, 6999), (2, 6972), (3, 6906), (4, 6882), (5, 6876), (9, 6822), (Start: 21 @6669 has 79 MA's), (33, 6588), (41, 6498), (50, 6441), (51, 6435), (53, 6405),

Gene: Evy_10 Start: 6128, Stop: 5823, Start Num: 21
Candidate Starts for Evy_10:
(Start: 21 @6128 has 79 MA's), (32, 6056), (37, 6026), (39, 5981), (44, 5954), (45, 5933), (47, 5927), (56, 5858),

Gene: Evy_250 Start: 128398, Stop: 128096, Start Num: 21
Candidate Starts for Evy_250:
(1, 128728), (2, 128701), (3, 128635), (4, 128611), (5, 128605), (9, 128551), (Start: 21 @128398 has 79 MA's), (33, 128317), (41, 128227), (50, 128170), (51, 128164), (53, 128134),

Gene: Evy_248 Start: 127857, Stop: 127552, Start Num: 21
Candidate Starts for Evy_248:
(Start: 21 @127857 has 79 MA's), (32, 127785), (37, 127755), (39, 127710), (44, 127683), (45, 127662), (47, 127656), (56, 127587),

Gene: Genie2_10 Start: 5615, Stop: 5304, Start Num: 21
Candidate Starts for Genie2_10:
(Start: 21 @5615 has 79 MA's), (Start: 22 @5609 has 2 MA's), (26, 5588), (33, 5537), (40, 5459), (46, 5411), (50, 5396),

Gene: Genie2_265 Start: 124516, Stop: 124205, Start Num: 21
Candidate Starts for Genie2_265:
(Start: 21 @124516 has 79 MA's), (Start: 22 @124510 has 2 MA's), (26, 124489), (33, 124438), (40, 124360), (46, 124312), (50, 124297),

Gene: HangryHippo_9 Start: 5793, Stop: 5488, Start Num: 21
Candidate Starts for HangryHippo_9:
(10, 5934), (11, 5874), (Start: 16 @5829 has 2 MA's), (Start: 21 @5793 has 79 MA's), (32, 5721), (37, 5691), (39, 5646), (47, 5592), (56, 5523),

Gene: HangryHippo_261 Start: 126880, Stop: 126575, Start Num: 21
Candidate Starts for HangryHippo_261:
(10, 127021), (11, 126961), (Start: 16 @126916 has 2 MA's), (Start: 21 @126880 has 79 MA's), (32, 126808), (37, 126778), (39, 126733), (47, 126679), (56, 126610),

Gene: Jay2Jay_13 Start: 6415, Stop: 6071, Start Num: 15
Candidate Starts for Jay2Jay_13:
(Start: 15 @6415 has 4 MA's), (Start: 21 @6373 has 79 MA's), (33, 6292), (41, 6202), (50, 6145), (51, 6139), (53, 6109),

Gene: Jay2Jay_266 Start: 127925, Stop: 127620, Start Num: 21
Candidate Starts for Jay2Jay_266:
(Start: 21 @127925 has 79 MA's), (32, 127853), (37, 127823), (39, 127778), (44, 127751), (45, 127730), (47, 127724), (56, 127655),

Gene: Jay2Jay_268 Start: 128508, Stop: 128164, Start Num: 15
Candidate Starts for Jay2Jay_268:
(Start: 15 @128508 has 4 MA's), (Start: 21 @128466 has 79 MA's), (33, 128385), (41, 128295), (50, 128238), (51, 128232), (53, 128202),

Gene: Jay2Jay_11 Start: 5832, Stop: 5527, Start Num: 21
Candidate Starts for Jay2Jay_11:
(Start: 21 @5832 has 79 MA's), (32, 5760), (37, 5730), (39, 5685), (44, 5658), (45, 5637), (47, 5631), (56, 5562),

Gene: Larnav_270 Start: 127798, Stop: 127493, Start Num: 21
Candidate Starts for Larnav_270:
(10, 127939), (11, 127879), (Start: 16 @127834 has 2 MA's), (Start: 21 @127798 has 79 MA's), (32, 127726), (37, 127696), (39, 127651), (47, 127597), (56, 127528),

Gene: Larnav_11 Start: 5793, Stop: 5488, Start Num: 21
Candidate Starts for Larnav_11:
(10, 5934), (11, 5874), (Start: 16 @5829 has 2 MA's), (Start: 21 @5793 has 79 MA's), (32, 5721), (37, 5691), (39, 5646), (47, 5592), (56, 5523),

Gene: Leo04_260 Start: 127910, Stop: 127605, Start Num: 21
Candidate Starts for Leo04_260:

(10, 128051), (11, 127991), (Start: 16 @127946 has 2 MA's), (Start: 21 @127910 has 79 MA's), (32, 127838), (37, 127808), (39, 127763), (47, 127709), (56, 127640),

Gene: Leo04_262 Start: 128472, Stop: 128155, Start Num: 22
Candidate Starts for Leo04_262:
(Start: 21 @128478 has 79 MA's), (Start: 22 @128472 has 2 MA's), (24, 128463), (34, 128391), (38, 128358), (43, 128298), (47, 128268), (49, 128259), (57, 128193), (58, 128181),

Gene: Leo04_11 Start: 6354, Stop: 6037, Start Num: 22
Candidate Starts for Leo04_11:
(Start: 21 @6360 has 79 MA's), (Start: 22 @6354 has 2 MA's), (24, 6345), (34, 6273), (38, 6240), (43, 6180), (47, 6150), (49, 6141), (57, 6075), (58, 6063),

Gene: Leo04_9 Start: 5792, Stop: 5487, Start Num: 21
Candidate Starts for Leo04_9:
(10, 5933), (11, 5873), (Start: 16 @5828 has 2 MA's), (Start: 21 @5792 has 79 MA's), (32, 5720), (37, 5690), (39, 5645), (47, 5591), (56, 5522),

Gene: Liandry_259 Start: 127564, Stop: 127265, Start Num: 21
Candidate Starts for Liandry_259:
(Start: 21 @127564 has 79 MA's), (33, 127483), (41, 127393), (42, 127390), (49, 127339),

Gene: Liandry_10 Start: 6043, Stop: 5744, Start Num: 21
Candidate Starts for Liandry_10:
(Start: 21 @6043 has 79 MA's), (33, 5962), (41, 5872), (42, 5869), (49, 5818),

Gene: LilMartin_263 Start: 128036, Stop: 127737, Start Num: 21
Candidate Starts for LilMartin_263:
(Start: 21 @128036 has 79 MA's), (33, 127955), (41, 127865), (42, 127862), (49, 127811),

Gene: LilMartin_11 Start: 6692, Stop: 6393, Start Num: 21
Candidate Starts for LilMartin_11:
(Start: 21 @6692 has 79 MA's), (33, 6611), (41, 6521), (42, 6518), (49, 6467),

Gene: LilMartin_10 Start: 6160, Stop: 5855, Start Num: 21
Candidate Starts for LilMartin_10:
(8, 6298), (11, 6226), (Start: 16 @6196 has 2 MA's), (Start: 21 @6160 has 79 MA's), (32, 6088), (35, 6070), (37, 6058), (39, 6013), (47, 5959), (52, 5923),

Gene: LilMartin_262 Start: 127504, Stop: 127199, Start Num: 21
Candidate Starts for LilMartin_262:
(8, 127642), (11, 127570), (Start: 16 @127540 has 2 MA's), (Start: 21 @127504 has 79 MA's), (32, 127432), (35, 127414), (37, 127402), (39, 127357), (47, 127303), (52, 127267),

Gene: Lululemon_258 Start: 126065, Stop: 125760, Start Num: 21
Candidate Starts for Lululemon_258:
(10, 126206), (11, 126146), (Start: 16 @126101 has 2 MA's), (Start: 21 @126065 has 79 MA's), (32, 125993), (37, 125963), (39, 125918), (47, 125864), (56, 125795),

Gene: Lululemon_8 Start: 5173, Stop: 4868, Start Num: 21
Candidate Starts for Lululemon_8:
(10, 5314), (11, 5254), (Start: 16 @5209 has 2 MA's), (Start: 21 @5173 has 79 MA's), (32, 5101), (37, 5071), (39, 5026), (47, 4972), (56, 4903),

Gene: Mildred21_274 Start: 127436, Stop: 127137, Start Num: 21
Candidate Starts for Mildred21_274:
(Start: 21 @127436 has 79 MA's), (33, 127355), (41, 127265), (42, 127262), (49, 127211), (50, 127208),

Gene: Mildred21_273 Start: 126906, Stop: 126598, Start Num: 21
Candidate Starts for Mildred21_273:
(Start: 21 @126906 has 79 MA's), (26, 126879), (32, 126834), (37, 126804), (39, 126759), (44, 126732),

Gene: Mildred21_11 Start: 6278, Stop: 5979, Start Num: 21
Candidate Starts for Mildred21_11:
(Start: 21 @6278 has 79 MA's), (33, 6197), (41, 6107), (42, 6104), (49, 6053), (50, 6050),

Gene: Mildred21_10 Start: 5748, Stop: 5440, Start Num: 21
Candidate Starts for Mildred21_10:
(Start: 21 @5748 has 79 MA's), (26, 5721), (32, 5676), (37, 5646), (39, 5601), (44, 5574),

Gene: MulchMansion_10 Start: 6160, Stop: 5855, Start Num: 21
Candidate Starts for MulchMansion_10:
(8, 6298), (11, 6226), (Start: 16 @6196 has 2 MA's), (Start: 21 @6160 has 79 MA's), (32, 6088), (35, 6070), (37, 6058), (39, 6013), (47, 5959), (52, 5923),

Gene: MulchMansion_11 Start: 6692, Stop: 6393, Start Num: 21
Candidate Starts for MulchMansion_11:
(Start: 21 @6692 has 79 MA's), (33, 6611), (41, 6521), (42, 6518), (49, 6467),

Gene: MulchMansion_266 Start: 129138, Stop: 128833, Start Num: 21
Candidate Starts for MulchMansion_266:
(8, 129276), (11, 129204), (Start: 16 @129174 has 2 MA's), (Start: 21 @129138 has 79 MA's), (32, 129066), (35, 129048), (37, 129036), (39, 128991), (47, 128937), (52, 128901),

Gene: MulchMansion_267 Start: 129670, Stop: 129371, Start Num: 21
Candidate Starts for MulchMansion_267:
(Start: 21 @129670 has 79 MA's), (33, 129589), (41, 129499), (42, 129496), (49, 129445),

Gene: Muntaha_225 Start: 109742, Stop: 110029, Start Num: 20
Candidate Starts for Muntaha_225:
(Start: 20 @109742 has 4 MA's), (Start: 22 @109751 has 2 MA's), (23, 109754), (27, 109772), (31, 109808), (36, 109844), (55, 110018),

Gene: Navo_260 Start: 125466, Stop: 125167, Start Num: 21
Candidate Starts for Navo_260:
(Start: 21 @125466 has 79 MA's), (33, 125385), (41, 125295), (42, 125292), (49, 125241),

Gene: Navo_10 Start: 5841, Stop: 5542, Start Num: 21
Candidate Starts for Navo_10:
(Start: 21 @5841 has 79 MA's), (33, 5760), (41, 5670), (42, 5667), (49, 5616),

Gene: NootNoot_255 Start: 126352, Stop: 126053, Start Num: 21
Candidate Starts for NootNoot_255:
(Start: 21 @126352 has 79 MA's), (33, 126271), (41, 126181), (42, 126178), (49, 126127),

Gene: NootNoot_10 Start: 6053, Stop: 5754, Start Num: 21
Candidate Starts for NootNoot_10:
(Start: 21 @6053 has 79 MA's), (33, 5972), (41, 5882), (42, 5879), (49, 5828),

Gene: PacManQ_259 Start: 126065, Stop: 125760, Start Num: 21
Candidate Starts for PacManQ_259:
(10, 126206), (11, 126146), (Start: 16 @126101 has 2 MA's), (Start: 21 @126065 has 79 MA's), (32, 125993), (37, 125963), (39, 125918), (47, 125864), (56, 125795),

Gene: PacManQ_8 Start: 5173, Stop: 4868, Start Num: 21
Candidate Starts for PacManQ_8:
(10, 5314), (11, 5254), (Start: 16 @5209 has 2 MA's), (Start: 21 @5173 has 79 MA's), (32, 5101), (37, 5071), (39, 5026), (47, 4972), (56, 4903),

Gene: Paradiddles_10 Start: 6043, Stop: 5744, Start Num: 21
Candidate Starts for Paradiddles_10:
(Start: 21 @6043 has 79 MA's), (33, 5962), (41, 5872), (42, 5869), (49, 5818),

Gene: Paradiddles_251 Start: 128751, Stop: 128452, Start Num: 21
Candidate Starts for Paradiddles_251:
(Start: 21 @128751 has 79 MA's), (33, 128670), (41, 128580), (42, 128577), (49, 128526),

Gene: Peebs_256 Start: 127803, Stop: 127462, Start Num: 16
Candidate Starts for Peebs_256:
(10, 127908), (11, 127848), (Start: 16 @127803 has 2 MA's), (Start: 21 @127767 has 79 MA's), (32, 127695), (37, 127665), (39, 127620), (47, 127566), (56, 127497),

Gene: Peebs_9 Start: 5828, Stop: 5487, Start Num: 16
Candidate Starts for Peebs_9:
(10, 5933), (11, 5873), (Start: 16 @5828 has 2 MA's), (Start: 21 @5792 has 79 MA's), (32, 5720), (37, 5690), (39, 5645), (47, 5591), (56, 5522),

Gene: Pepperwood_10 Start: 5947, Stop: 5642, Start Num: 21
Candidate Starts for Pepperwood_10:
(10, 6088), (11, 6028), (Start: 16 @5983 has 2 MA's), (Start: 21 @5947 has 79 MA's), (32, 5875), (37, 5845), (39, 5800), (47, 5746), (56, 5677),

Gene: Pepperwood_259 Start: 127732, Stop: 127427, Start Num: 21
Candidate Starts for Pepperwood_259:
(10, 127873), (11, 127813), (Start: 16 @127768 has 2 MA's), (Start: 21 @127732 has 79 MA's), (32, 127660), (37, 127630), (39, 127585), (47, 127531), (56, 127462),

Gene: Persimmon_260 Start: 126652, Stop: 126353, Start Num: 21
Candidate Starts for Persimmon_260:
(Start: 21 @126652 has 79 MA's), (33, 126571), (41, 126481), (42, 126478), (49, 126427),

Gene: Persimmon_9 Start: 5841, Stop: 5542, Start Num: 21
Candidate Starts for Persimmon_9:
(Start: 21 @5841 has 79 MA's), (33, 5760), (41, 5670), (42, 5667), (49, 5616),

Gene: PinkiePie_10 Start: 6043, Stop: 5744, Start Num: 21
Candidate Starts for PinkiePie_10:

(Start: 21 @6043 has 79 MA's), (33, 5962), (41, 5872), (42, 5869), (49, 5818),

Gene: PinkiePie_260 Start: 127564, Stop: 127265, Start Num: 21
Candidate Starts for PinkiePie_260:
(Start: 21 @127564 has 79 MA's), (33, 127483), (41, 127393), (42, 127390), (49, 127339),

Gene: Sollertia_10 Start: 5615, Stop: 5304, Start Num: 21
Candidate Starts for Sollertia_10:
(Start: 21 @5615 has 79 MA's), (Start: 22 @5609 has 2 MA's), (26, 5588), (33, 5537), (40, 5459), (46, 5411), (50, 5396),

Gene: Sollertia_266 Start: 124505, Stop: 124194, Start Num: 21
Candidate Starts for Sollertia_266:
(Start: 21 @124505 has 79 MA's), (Start: 22 @124499 has 2 MA's), (26, 124478), (33, 124427), (40, 124349), (46, 124301), (50, 124286),

Gene: Squillium_10 Start: 6043, Stop: 5744, Start Num: 21
Candidate Starts for Squillium_10:
(Start: 21 @6043 has 79 MA's), (33, 5962), (41, 5872), (42, 5869), (49, 5818),

Gene: Squillium_262 Start: 127567, Stop: 127268, Start Num: 21
Candidate Starts for Squillium_262:
(Start: 21 @127567 has 79 MA's), (33, 127486), (41, 127396), (42, 127393), (49, 127342),

Gene: Stanimal_10 Start: 5615, Stop: 5304, Start Num: 21
Candidate Starts for Stanimal_10:
(Start: 21 @5615 has 79 MA's), (Start: 22 @5609 has 2 MA's), (26, 5588), (33, 5537), (40, 5459), (46, 5411), (50, 5396),

Gene: Stanimal_265 Start: 124889, Stop: 124578, Start Num: 21
Candidate Starts for Stanimal_265:
(Start: 21 @124889 has 79 MA's), (Start: 22 @124883 has 2 MA's), (26, 124862), (33, 124811), (40, 124733), (46, 124685), (50, 124670),

Gene: Sushi23_10 Start: 5793, Stop: 5488, Start Num: 21
Candidate Starts for Sushi23_10:
(10, 5934), (11, 5874), (Start: 16 @5829 has 2 MA's), (Start: 21 @5793 has 79 MA's), (32, 5721), (37, 5691), (39, 5646), (47, 5592), (56, 5523),

Gene: Targaryen_261 Start: 130341, Stop: 130033, Start Num: 21
Candidate Starts for Targaryen_261:
(1, 130671), (2, 130644), (3, 130578), (4, 130554), (5, 130548), (9, 130494), (Start: 21 @130341 has 79 MA's), (25, 130317), (33, 130260), (40, 130173), (50, 130110), (54, 130071),

Gene: Targaryen_260 Start: 129804, Stop: 129499, Start Num: 21
Candidate Starts for Targaryen_260:
(Start: 21 @129804 has 79 MA's), (32, 129732), (37, 129702), (39, 129657), (44, 129630), (45, 129609), (47, 129603), (56, 129534),

Gene: Targaryen_9 Start: 6128, Stop: 5823, Start Num: 21
Candidate Starts for Targaryen_9:
(Start: 21 @6128 has 79 MA's), (32, 6056), (37, 6026), (39, 5981), (44, 5954), (45, 5933), (47, 5927), (56, 5858),

Gene: Targaryen_10 Start: 6665, Stop: 6357, Start Num: 21
Candidate Starts for Targaryen_10:
(1, 6995), (2, 6968), (3, 6902), (4, 6878), (5, 6872), (9, 6818), (Start: 21 @6665 has 79 MA's), (25, 6641), (33, 6584), (40, 6497), (50, 6434), (54, 6395),

Gene: Teutsch_9 Start: 5794, Stop: 5489, Start Num: 21
Candidate Starts for Teutsch_9:
(10, 5935), (11, 5875), (Start: 16 @5830 has 2 MA's), (Start: 21 @5794 has 79 MA's), (32, 5722), (37, 5692), (39, 5647), (47, 5593), (56, 5524),

Gene: Teutsch_256 Start: 128003, Stop: 127698, Start Num: 21
Candidate Starts for Teutsch_256:
(10, 128144), (11, 128084), (Start: 16 @128039 has 2 MA's), (Start: 21 @128003 has 79 MA's), (32, 127931), (37, 127901), (39, 127856), (47, 127802), (56, 127733),

Gene: Tomas_18 Start: 8698, Stop: 8333, Start Num: 21
Candidate Starts for Tomas_18:
(7, 8866), (12, 8755), (Start: 21 @8698 has 79 MA's), (23, 8689), (29, 8650), (30, 8641), (38, 8569), (46, 8482), (48, 8473),

Gene: Tomas_274 Start: 130405, Stop: 130040, Start Num: 21
Candidate Starts for Tomas_274:
(7, 130573), (12, 130462), (Start: 21 @130405 has 79 MA's), (23, 130396), (29, 130357), (30, 130348), (38, 130276), (46, 130189), (48, 130180),

Gene: Tribute_255 Start: 128337, Stop: 128032, Start Num: 21
Candidate Starts for Tribute_255:
(Start: 16 @128373 has 2 MA's), (Start: 21 @128337 has 79 MA's), (32, 128265), (37, 128235), (39, 128190), (47, 128136), (56, 128067),

Gene: Tribute_9 Start: 5793, Stop: 5488, Start Num: 21
Candidate Starts for Tribute_9:
(Start: 16 @5829 has 2 MA's), (Start: 21 @5793 has 79 MA's), (32, 5721), (37, 5691), (39, 5646), (47, 5592), (56, 5523),

Gene: Wakanda_221 Start: 108728, Stop: 109015, Start Num: 20
Candidate Starts for Wakanda_221:
(Start: 20 @108728 has 4 MA's), (Start: 22 @108737 has 2 MA's), (23, 108740), (27, 108758), (31, 108794), (36, 108830), (55, 109004),

Gene: Warpy_11 Start: 5853, Stop: 5548, Start Num: 21
Candidate Starts for Warpy_11:
(Start: 21 @5853 has 79 MA's), (32, 5781), (37, 5751), (39, 5706), (44, 5679), (45, 5658), (47, 5652), (56, 5583),

Gene: Warpy_265 Start: 127974, Stop: 127630, Start Num: 15
Candidate Starts for Warpy_265:
(Start: 15 @127974 has 4 MA's), (Start: 21 @127932 has 79 MA's), (33, 127851), (41, 127761), (50, 127704), (51, 127698), (53, 127668),

Gene: Warpy_13 Start: 6436, Stop: 6092, Start Num: 15
Candidate Starts for Warpy_13:

(Start: 15 @6436 has 4 MA's), (Start: 21 @6394 has 79 MA's), (33, 6313), (41, 6223), (50, 6166), (51, 6160), (53, 6130),

Gene: Warpy_263 Start: 127391, Stop: 127086, Start Num: 21
Candidate Starts for Warpy_263:
(Start: 21 @127391 has 79 MA's), (32, 127319), (37, 127289), (39, 127244), (44, 127217), (45, 127196), (47, 127190), (56, 127121),

Gene: Watermoore_9 Start: 5794, Stop: 5489, Start Num: 21
Candidate Starts for Watermoore_9:
(10, 5935), (11, 5875), (Start: 16 @5830 has 2 MA's), (Start: 21 @5794 has 79 MA's), (32, 5722), (37, 5692), (39, 5647), (47, 5593), (56, 5524),

Gene: Watermoore_256 Start: 128390, Stop: 128085, Start Num: 21
Candidate Starts for Watermoore_256:
(10, 128531), (11, 128471), (Start: 16 @128426 has 2 MA's), (Start: 21 @128390 has 79 MA's), (32, 128318), (37, 128288), (39, 128243), (47, 128189), (56, 128120),

Gene: WhereRU_11 Start: 5841, Stop: 5542, Start Num: 21
Candidate Starts for WhereRU_11:
(Start: 21 @5841 has 79 MA's), (33, 5760), (41, 5670), (42, 5667), (49, 5616),

Gene: WhereRU_267 Start: 126986, Stop: 126687, Start Num: 21
Candidate Starts for WhereRU_267:
(Start: 21 @126986 has 79 MA's), (33, 126905), (41, 126815), (42, 126812), (49, 126761),

Gene: Yaboi_271 Start: 124433, Stop: 124122, Start Num: 21
Candidate Starts for Yaboi_271:
(Start: 21 @124433 has 79 MA's), (Start: 22 @124427 has 2 MA's), (26, 124406), (33, 124355), (40, 124277), (46, 124229), (50, 124214),

Gene: Yaboi_10 Start: 5615, Stop: 5304, Start Num: 21
Candidate Starts for Yaboi_10:
(Start: 21 @5615 has 79 MA's), (Start: 22 @5609 has 2 MA's), (26, 5588), (33, 5537), (40, 5459), (46, 5411), (50, 5396),