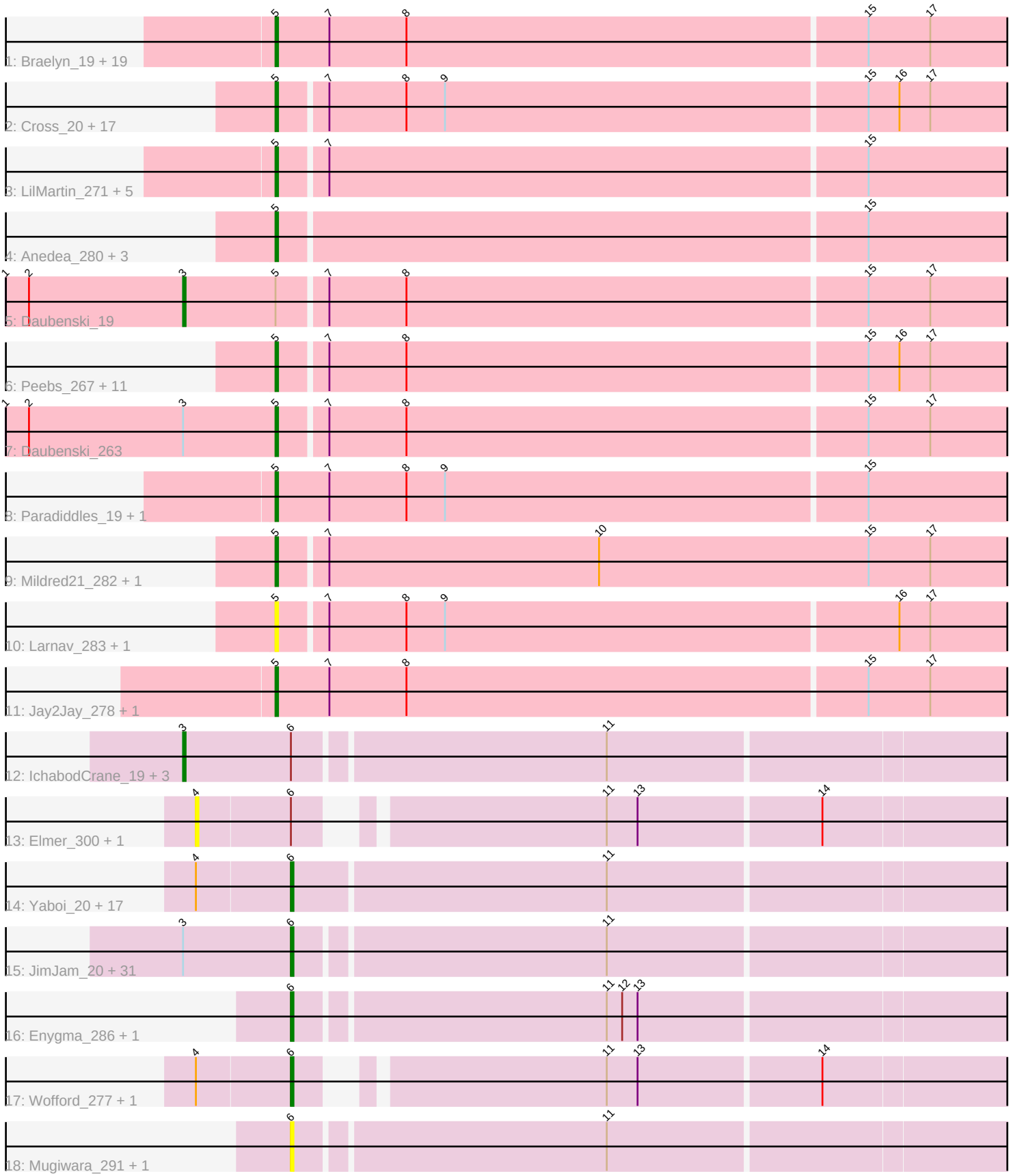
Pham 154551


1: Braelyn_19 + 19
2: Cross_20 + 17
3: LilMartin_271 + 5
4: Anedea_280 + 3
5: Daubenski_19
6: Peebs_267 + 11
7: Daubenski_263
8: Paradiddles_19 + 1
9: Mildred21_282 + 1
10: Larnav_283 + 1
11: Jay2Jay_278 + 1
12: IchabodCrane_19 + 3
13: Elmer_300 + 1
14: Yaboi_20 + 17
15: JimJam_20 + 31
16: Enygma_286 + 1
17: Wofford_277 + 1
18: Mugiwara_291 + 1

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 154551 Report

This analysis was run 04/12/24 on database version 558.

Pham number 154551 has 132 members, 24 are drafts.

Phages represented in each track:
• Track 1 : Braelyn_19, Bartholomune_19, Bartholomune_269, PinkiePie_19, Warpy_275, Persimmon_269, Squillium_271, Braelyn_264, Liandry_268, Warpy_23, Liandry_19, PinkiePie_269, Evy_20, Evy_258, NootNoot_264, Squillium_19, NootNoot_19, Targaryen_269, Targaryen_18, Persimmon_18
• Track 2 : Cross_20, Leo04_271, Cross_268, Watermoore_267, BlueOtter_274, Lululemon_21, Leo04_20, Cursive_18, Cursive_272, HangryHippo_274, BlueOtter_22, Watermoore_20, HangryHippo_22, EGole_273, PacManQ_272, Lululemon_271, PacManQ_21, EGole_19
• Track 3 : LilMartin_271, MulchMansion_19, Angela_276, LilMartin_19, MulchMansion_275, Angela_19
• Track 4 : Anedea_280, Anedea_18, Bmoc_274, Bmoc_18
• Track 5 : Daubenski_19
• Track 6 : Peebs_267, Pepperwood_21, Peebs_20, Tribute_19, Pepperwood_270, Samisti12_269, Teutsch_266, Sushi23_21, Teutsch_19, Sushi23_271, Tribute_265, Samisti12_18
• Track 7 : Daubenski_263
• Track 8 : Paradiddles_19, Paradiddles_260
• Track 9 : Mildred21_282, Mildred21_19
• Track 10 : Larnav_283, Larnav_24
• Track 11 : Jay2Jay_278, Jay2Jay_23
• Track 12 : IchabodCrane_19, MindFlayer_271, IchabodCrane_272, JimJam_288
• Track 13 : Elmer_300, Elmer_24
• Track 14 : Yaboi_20, Yaboi_281, KentuckyRacer_21, CeilingFan_295, Stanimal_276, BoomerJR_21, KentuckyRacer_295, CeilingFan_21, LukeCage_282, StarPlatinum_19, LukeCage_19, Genie2_21, Sollertia_277, Stanimal_21, Sollertia_21, StarPlatinum_289, BoomerJR_276, Genie2_276
• Track 15 : JimJam_20, PumpkinSpice_20, Wipeout_273, Battuta_277, Spelly_286, MindFlayer_19, Jollison_23, PumpkinSpice_284, Quaran19_281, Spilled_19, Starbow_20, Quaran19_20, Wipeout_19, SaltySpitoon_20, Birchlyn_277, SaltySpitoon_280, TomSawyer_285, Jollison_287, Karimac_278, Bordeaux_20, Battuta_20, Starbow_277, Karimac_20, Amabiko_285, Birchlyn_17, Amabiko_21, Bordeaux_277, Gibbi_293, Spilled_287, TomSawyer_20, Gibbi_22, Spelly_20
• Track 16 : Enygma_286, Enygma_18
• Track 17 : Wofford_277, Wofford_19
• Track 18 : Mugiwara_291, Mugiwara_19

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

The start number called the most often in the published annotations is 5, it was called in 57 of the 108 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Anedea_18, Anedea_280, Angela_19, Angela_276, Bartholomune_19, Bartholomune_269, BlueOtter_22, BlueOtter_274, Bmoc_18, Bmoc_274, Braelyn_19, Braelyn_264, Cross_20, Cross_268, Cursive_18, Cursive_272, Daubenski_263, EGole_19, EGole_273, Evy_20, Evy_258, HangryHippo_22, HangryHippo_274, Jay2Jay_23, Jay2Jay_278, Larnav_24, Larnav_283, Leo04_20, Leo04_271, Liandry_19, Liandry_268, LilMartin_19, LilMartin_271, Lululemon_21, Lululemon_271, Mildred21_19, Mildred21_282, MulchMansion_19, MulchMansion_275, NootNoot_19, NootNoot_264, PacManQ_21, PacManQ_272, Paradiddles_19, Paradiddles_260, Peebs_20, Peebs_267, Pepperwood_21, Pepperwood_270, Persimmon_18, Persimmon_269, PinkiePie_19, PinkiePie_269, Samisti12_18, Samisti12_269, Squillium_19, Squillium_271, Sushi23_21, Sushi23_271, Targaryen_18, Targaryen_269, Teutsch_19, Teutsch_266, Tribute_19, Tribute_265, Warpy_23, Warpy_275, Watermoore_20, Watermoore_267,

Genes that have the "Most Annotated" start but do not call it:
• Daubenski_19,

Genes that do not have the "Most Annotated" start:
• Amabiko_21, Amabiko_285, Battuta_20, Battuta_277, Birchlyn_17, Birchlyn_277, BoomerJR_21, BoomerJR_276, Bordeaux_20, Bordeaux_277, CeilingFan_21, CeilingFan_295, Elmer_24, Elmer_300, Enygma_18, Enygma_286, Genie2_21, Genie2_276, Gibbi_22, Gibbi_293, IchabodCrane_19, IchabodCrane_272, JimJam_20, JimJam_288, Jollison_23, Jollison_287, Karimac_20, Karimac_278, KentuckyRacer_21, KentuckyRacer_295, LukeCage_19, LukeCage_282, MindFlayer_19, MindFlayer_271, Mugiwara_19, Mugiwara_291, PumpkinSpice_20, PumpkinSpice_284, Quaran19_20, Quaran19_281, SaltySpitoon_20, SaltySpitoon_280, Sollertia_21, Sollertia_277, Spelly_20, Spelly_286, Spilled_19, Spilled_287, Stanimal_21, Stanimal_276, StarPlatinum_19, StarPlatinum_289, Starbow_20, Starbow_277, TomSawyer_20, TomSawyer_285, Wipeout_19, Wipeout_273, Wofford_19, Wofford_277, Yaboi_20, Yaboi_281,

Summary by start number:

Start 3:
• Found in 38 of 132 (28.8%) of genes in pham
• Manual Annotations of this start: 5 of 108
• Called 13.2% of time when present
• Phage (with cluster) where this start called: Daubenski_19 (BE1), IchabodCrane_19 (BE2), IchabodCrane_272 (BE2), JimJam_288 (BE2), MindFlayer_271 (BE2),

Start 4:
• Found in 22 of 132 (16.7%) of genes in pham
• No Manual Annotations of this start.
• Called 9.1% of time when present
• Phage (with cluster) where this start called: Elmer_24 (BE2), Elmer_300 (BE2),

Start 5:
• Found in 70 of 132 (53.0%) of genes in pham
• Manual Annotations of this start: 57 of 108
• Called 98.6% of time when present
• Phage (with cluster) where this start called: Anedea_18 (BE1), Anedea_280 (BE1), Angela_19 (BE1), Angela_276 (BE1), Bartholomune_19 (BE1), Bartholomune_269 (BE1), BlueOtter_22 (BE1), BlueOtter_274 (BE1), Bmoc_18 (BE1), Bmoc_274 (BE1), Braelyn_19 (BE1), Braelyn_264 (BE1), Cross_20 (BE1), Cross_268 (BE1), Cursive_18 (BE1), Cursive_272 (BE1), Daubenski_263 (BE1), EGole_19 (BE1), EGole_273 (BE1), Evy_20 (BE1), Evy_258 (BE1), HangryHippo_22 (BE1), HangryHippo_274 (BE1), Jay2Jay_23 (BE1), Jay2Jay_278 (BE1), Larnav_24 (BE1), Larnav_283 (BE1), Leo04_20 (BE1), Leo04_271 (BE1), Liandry_19 (BE1), Liandry_268 (BE1), LilMartin_19 (BE1), LilMartin_271 (BE1), Lululemon_21 (BE1), Lululemon_271 (BE1), Mildred21_19 (BE1), Mildred21_282 (BE1), MulchMansion_19 (BE1), MulchMansion_275 (BE1), NootNoot_19 (BE1), NootNoot_264 (BE1), PacManQ_21 (BE1), PacManQ_272 (BE1), Paradiddles_19 (BE1), Paradiddles_260 (BE1), Peebs_20 (BE1), Peebs_267 (BE1), Pepperwood_21 (BE1), Pepperwood_270 (BE1), Persimmon_18 (BE1), Persimmon_269 (BE1), PinkiePie_19 (BE1), PinkiePie_269 (BE1), Samisti12_18 (BE1), Samisti12_269 (BE1), Squillium_19 (BE1), Squillium_271 (BE1), Sushi23_21 (BE1), Sushi23_271 (BE1), Targaryen_18 (BE1), Targaryen_269 (BE1), Teutsch_19 (BE1), Teutsch_266 (BE1), Tribute_19 (BE1), Tribute_265 (BE1), Warpy_23 (BE1), Warpy_275 (BE1), Watermoore_20 (BE1), Watermoore_267 (BE1),

Start 6:
• Found in 62 of 132 (47.0%) of genes in pham
• Manual Annotations of this start: 46 of 108
• Called 90.3% of time when present
• Phage (with cluster) where this start called: Amabiko_21 (BE2), Amabiko_285 (BE2), Battuta_20 (BE2), Battuta_277 (BE2), Birchlyn_17 (BE2), Birchlyn_277 (BE2), BoomerJR_21 (BE2), BoomerJR_276 (BE2), Bordeaux_20 (BE2), Bordeaux_277 (BE2), CeilingFan_21 (BE2), CeilingFan_295 (BE2), Enygma_18 (BE2), Enygma_286 (BE2), Genie2_21 (BE2), Genie2_276 (BE2), Gibbi_22 (BE2), Gibbi_293 (BE2), JimJam_20 (BE2), Jollison_23 (BE2), Jollison_287 (BE2), Karimac_20 (BE2), Karimac_278 (BE2), KentuckyRacer_21 (BE2), KentuckyRacer_295 (BE2), LukeCage_19 (BE2), LukeCage_282 (BE2), MindFlayer_19 (BE2), Mugiwara_19 (BE2), Mugiwara_291 (BE2), PumpkinSpice_20 (BE2), PumpkinSpice_284 (BE2), Quaran19_20 (BE2), Quaran19_281 (BE2), SaltySpitoon_20 (BE2), SaltySpitoon_280 (BE2), Sollertia_21 (BE2), Sollertia_277 (BE2), Spelly_20 (BE2), Spelly_286 (BE2), Spilled_19 (BE2), Spilled_287 (BE2), Stanimal_21 (BE2), Stanimal_276 (BE2), StarPlatinum_19 (BE2), StarPlatinum_289 (BE2), Starbow_20 (BE2), Starbow_277 (BE2), TomSawyer_20 (BE2), TomSawyer_285 (BE2), Wipeout_19 (BE2), Wipeout_273 (BE2), Wofford_19 (BE2), Wofford_277 (BE2), Yaboi_20 (BE2), Yaboi_281 (BE2),

Summary by clusters:

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

Info for manual annotations of cluster BE1:
•Start number 3 was manually annotated 1 time for cluster BE1.
•Start number 5 was manually annotated 57 times for cluster BE1.

Info for manual annotations of cluster BE2:
•Start number 3 was manually annotated 4 times for cluster BE2.
•Start number 6 was manually annotated 46 times for cluster BE2.

Gene Information:

Gene: Amabiko_285 Start: 128855, Stop: 128559, Start Num: 6
Candidate Starts for Amabiko_285:
(Start: 3 @128897 has 5 MA's), (Start: 6 @128855 has 46 MA's), (11, 128738),

Gene: Amabiko_21 Start: 10029, Stop: 9733, Start Num: 6
Candidate Starts for Amabiko_21:
(Start: 3 @10071 has 5 MA's), (Start: 6 @10029 has 46 MA's), (11, 9912),

Gene: Anedea_280 Start: 131812, Stop: 131501, Start Num: 5
Candidate Starts for Anedea_280:
(Start: 5 @131812 has 57 MA's), (15, 131587),

Gene: Anedea_18 Start: 8763, Stop: 8452, Start Num: 5
Candidate Starts for Anedea_18:
(Start: 5 @8763 has 57 MA's), (15, 8538),

Gene: Angela_276 Start: 132020, Stop: 131709, Start Num: 5
Candidate Starts for Angela_276:
(Start: 5 @132020 has 57 MA's), (7, 132002), (15, 131795),

Gene: Angela_19 Start: 9617, Stop: 9306, Start Num: 5
Candidate Starts for Angela_19:
(Start: 5 @9617 has 57 MA's), (7, 9599), (15, 9392),

Gene: Bartholomune_19 Start: 9197, Stop: 8883, Start Num: 5
Candidate Starts for Bartholomune_19:
(Start: 5 @9197 has 57 MA's), (7, 9176), (8, 9146), (15, 8969), (17, 8945),

Gene: Bartholomune_269 Start: 130296, Stop: 129982, Start Num: 5
Candidate Starts for Bartholomune_269:
(Start: 5 @130296 has 57 MA's), (7, 130275), (8, 130245), (15, 130068), (17, 130044),

Gene: Battuta_277 Start: 128184, Stop: 127888, Start Num: 6
Candidate Starts for Battuta_277:
(Start: 3 @128226 has 5 MA's), (Start: 6 @128184 has 46 MA's), (11, 128067),

Gene: Battuta_20 Start: 10029, Stop: 9733, Start Num: 6
Candidate Starts for Battuta_20:
(Start: 3 @10071 has 5 MA's), (Start: 6 @10029 has 46 MA's), (11, 9912),

Gene: Birchlyn_277 Start: 123973, Stop: 123677, Start Num: 6
Candidate Starts for Birchlyn_277:
(Start: 3 @124015 has 5 MA's), (Start: 6 @123973 has 46 MA's), (11, 123856),

Gene: Birchlyn_17 Start: 7882, Stop: 7586, Start Num: 6

Candidate Starts for Birchlyn_17:
(Start: 3 @7924 has 5 MA's), (Start: 6 @7882 has 46 MA's), (11, 7765),

Gene: BlueOtter_274 Start: 130554, Stop: 130243, Start Num: 5
Candidate Starts for BlueOtter_274:
(Start: 5 @130554 has 57 MA's), (7, 130536), (8, 130506), (9, 130491), (15, 130329), (16, 130317), (17, 130305),

Gene: BlueOtter_22 Start: 9467, Stop: 9156, Start Num: 5
Candidate Starts for BlueOtter_22:
(Start: 5 @9467 has 57 MA's), (7, 9449), (8, 9419), (9, 9404), (15, 9242), (16, 9230), (17, 9218),

Gene: Bmoc_274 Start: 131246, Stop: 130935, Start Num: 5
Candidate Starts for Bmoc_274:
(Start: 5 @131246 has 57 MA's), (15, 131021),

Gene: Bmoc_18 Start: 9424, Stop: 9113, Start Num: 5
Candidate Starts for Bmoc_18:
(Start: 5 @9424 has 57 MA's), (15, 9199),

Gene: BoomerJR_21 Start: 9929, Stop: 9630, Start Num: 6
Candidate Starts for BoomerJR_21:
(4, 9965), (Start: 6 @9929 has 46 MA's), (11, 9809),

Gene: BoomerJR_276 Start: 128717, Stop: 128418, Start Num: 6
Candidate Starts for BoomerJR_276:
(4, 128753), (Start: 6 @128717 has 46 MA's), (11, 128597),

Gene: Bordeaux_20 Start: 10029, Stop: 9733, Start Num: 6
Candidate Starts for Bordeaux_20:
(Start: 3 @10071 has 5 MA's), (Start: 6 @10029 has 46 MA's), (11, 9912),

Gene: Bordeaux_277 Start: 128767, Stop: 128471, Start Num: 6
Candidate Starts for Bordeaux_277:
(Start: 3 @128809 has 5 MA's), (Start: 6 @128767 has 46 MA's), (11, 128650),

Gene: Braelyn_19 Start: 9240, Stop: 8926, Start Num: 5
Candidate Starts for Braelyn_19:
(Start: 5 @9240 has 57 MA's), (7, 9219), (8, 9189), (15, 9012), (17, 8988),

Gene: Braelyn_264 Start: 129650, Stop: 129336, Start Num: 5
Candidate Starts for Braelyn_264:
(Start: 5 @129650 has 57 MA's), (7, 129629), (8, 129599), (15, 129422), (17, 129398),

Gene: CeilingFan_295 Start: 130247, Stop: 129951, Start Num: 6
Candidate Starts for CeilingFan_295:
(4, 130283), (Start: 6 @130247 has 46 MA's), (11, 130130),

Gene: CeilingFan_21 Start: 9640, Stop: 9344, Start Num: 6
Candidate Starts for CeilingFan_21:
(4, 9676), (Start: 6 @9640 has 46 MA's), (11, 9523),

Gene: Cross_20 Start: 9468, Stop: 9157, Start Num: 5

Candidate Starts for Cross_20:
(Start: 5 @9468 has 57 MA's), (7, 9450), (8, 9420), (9, 9405), (15, 9243), (16, 9231), (17, 9219),

Gene: Cross_268 Start: 131200, Stop: 130889, Start Num: 5
Candidate Starts for Cross_268:
(Start: 5 @131200 has 57 MA's), (7, 131182), (8, 131152), (9, 131137), (15, 130975), (16, 130963), (17, 130951),

Gene: Cursive_18 Start: 8285, Stop: 7974, Start Num: 5
Candidate Starts for Cursive_18:
(Start: 5 @8285 has 57 MA's), (7, 8267), (8, 8237), (9, 8222), (15, 8060), (16, 8048), (17, 8036),

Gene: Cursive_272 Start: 130294, Stop: 129983, Start Num: 5
Candidate Starts for Cursive_272:
(Start: 5 @130294 has 57 MA's), (7, 130276), (8, 130246), (9, 130231), (15, 130069), (16, 130057), (17, 130045),

Gene: Daubenski_19 Start: 9153, Stop: 8806, Start Num: 3
Candidate Starts for Daubenski_19:
(1, 9222), (2, 9213), (Start: 3 @9153 has 5 MA's), (Start: 5 @9117 has 57 MA's), (7, 9099), (8, 9069), (15, 8892), (17, 8868),

Gene: Daubenski_263 Start: 131493, Stop: 131182, Start Num: 5
Candidate Starts for Daubenski_263:
(1, 131598), (2, 131589), (Start: 3 @131529 has 5 MA's), (Start: 5 @131493 has 57 MA's), (7, 131475), (8, 131445), (15, 131268), (17, 131244),

Gene: EGole_273 Start: 134070, Stop: 133759, Start Num: 5
Candidate Starts for EGole_273:
(Start: 5 @134070 has 57 MA's), (7, 134052), (8, 134022), (9, 134007), (15, 133845), (16, 133833), (17, 133821),

Gene: EGole_19 Start: 9758, Stop: 9447, Start Num: 5
Candidate Starts for EGole_19:
(Start: 5 @9758 has 57 MA's), (7, 9740), (8, 9710), (9, 9695), (15, 9533), (16, 9521), (17, 9509),

Gene: Elmer_300 Start: 131388, Stop: 131071, Start Num: 4
Candidate Starts for Elmer_300:
(4, 131388), (Start: 6 @131352 has 46 MA's), (11, 131250), (13, 131238), (14, 131169),

Gene: Elmer_24 Start: 9020, Stop: 8703, Start Num: 4
Candidate Starts for Elmer_24:
(4, 9020), (Start: 6 @8984 has 46 MA's), (11, 8882), (13, 8870), (14, 8801),

Gene: Enygma_286 Start: 131635, Stop: 131339, Start Num: 6
Candidate Starts for Enygma_286:
(Start: 6 @131635 has 46 MA's), (11, 131518), (12, 131512), (13, 131506),

Gene: Enygma_18 Start: 9211, Stop: 8915, Start Num: 6
Candidate Starts for Enygma_18:
(Start: 6 @9211 has 46 MA's), (11, 9094), (12, 9088), (13, 9082),

Gene: Evy_20 Start: 9664, Stop: 9350, Start Num: 5

Candidate Starts for Evy_20:
(Start: 5 @9664 has 57 MA's), (7, 9643), (8, 9613), (15, 9436), (17, 9412),

Gene: Evy_258 Start: 131393, Stop: 131079, Start Num: 5
Candidate Starts for Evy_258:
(Start: 5 @131393 has 57 MA's), (7, 131372), (8, 131342), (15, 131165), (17, 131141),

Gene: Genie2_21 Start: 9929, Stop: 9630, Start Num: 6
Candidate Starts for Genie2_21:
(4, 9965), (Start: 6 @9929 has 46 MA's), (11, 9809),

Gene: Genie2_276 Start: 128830, Stop: 128531, Start Num: 6
Candidate Starts for Genie2_276:
(4, 128866), (Start: 6 @128830 has 46 MA's), (11, 128710),

Gene: Gibbi_293 Start: 129740, Stop: 129444, Start Num: 6
Candidate Starts for Gibbi_293:
(Start: 3 @129782 has 5 MA's), (Start: 6 @129740 has 46 MA's), (11, 129623),

Gene: Gibbi_22 Start: 9640, Stop: 9344, Start Num: 6
Candidate Starts for Gibbi_22:
(Start: 3 @9682 has 5 MA's), (Start: 6 @9640 has 46 MA's), (11, 9523),

Gene: HangryHippo_274 Start: 130554, Stop: 130243, Start Num: 5
Candidate Starts for HangryHippo_274:
(Start: 5 @130554 has 57 MA's), (7, 130536), (8, 130506), (9, 130491), (15, 130329), (16, 130317), (17, 130305),

Gene: HangryHippo_22 Start: 9467, Stop: 9156, Start Num: 5
Candidate Starts for HangryHippo_22:
(Start: 5 @9467 has 57 MA's), (7, 9449), (8, 9419), (9, 9404), (15, 9242), (16, 9230), (17, 9218),

Gene: IchabodCrane_19 Start: 9679, Stop: 9341, Start Num: 3
Candidate Starts for IchabodCrane_19:
(Start: 3 @9679 has 5 MA's), (Start: 6 @9637 has 46 MA's), (11, 9520),

Gene: IchabodCrane_272 Start: 128222, Stop: 127884, Start Num: 3
Candidate Starts for IchabodCrane_272:
(Start: 3 @128222 has 5 MA's), (Start: 6 @128180 has 46 MA's), (11, 128063),

Gene: Jay2Jay_278 Start: 131946, Stop: 131632, Start Num: 5
Candidate Starts for Jay2Jay_278:
(Start: 5 @131946 has 57 MA's), (7, 131925), (8, 131895), (15, 131718), (17, 131694),

Gene: Jay2Jay_23 Start: 9853, Stop: 9539, Start Num: 5
Candidate Starts for Jay2Jay_23:
(Start: 5 @9853 has 57 MA's), (7, 9832), (8, 9802), (15, 9625), (17, 9601),

Gene: JimJam_20 Start: 10028, Stop: 9732, Start Num: 6
Candidate Starts for JimJam_20:
(Start: 3 @10070 has 5 MA's), (Start: 6 @10028 has 46 MA's), (11, 9911),

Gene: JimJam_288 Start: 131606, Stop: 131268, Start Num: 3

Candidate Starts for JimJam_288:
(Start: 3 @131606 has 5 MA's), (Start: 6 @131564 has 46 MA's), (11, 131447),

Gene: Jollison_23 Start: 10029, Stop: 9733, Start Num: 6
Candidate Starts for Jollison_23:
(Start: 3 @10071 has 5 MA's), (Start: 6 @10029 has 46 MA's), (11, 9912),

Gene: Jollison_287 Start: 128704, Stop: 128408, Start Num: 6
Candidate Starts for Jollison_287:
(Start: 3 @128746 has 5 MA's), (Start: 6 @128704 has 46 MA's), (11, 128587),

Gene: Karimac_278 Start: 129350, Stop: 129054, Start Num: 6
Candidate Starts for Karimac_278:
(Start: 3 @129392 has 5 MA's), (Start: 6 @129350 has 46 MA's), (11, 129233),

Gene: Karimac_20 Start: 10031, Stop: 9735, Start Num: 6
Candidate Starts for Karimac_20:
(Start: 3 @10073 has 5 MA's), (Start: 6 @10031 has 46 MA's), (11, 9914),

Gene: KentuckyRacer_21 Start: 9641, Stop: 9345, Start Num: 6
Candidate Starts for KentuckyRacer_21:
(4, 9677), (Start: 6 @9641 has 46 MA's), (11, 9524),

Gene: KentuckyRacer_295 Start: 131092, Stop: 130796, Start Num: 6
Candidate Starts for KentuckyRacer_295:
(4, 131128), (Start: 6 @131092 has 46 MA's), (11, 130975),

Gene: Larnav_283 Start: 131472, Stop: 131161, Start Num: 5
Candidate Starts for Larnav_283:
(Start: 5 @131472 has 57 MA's), (7, 131454), (8, 131424), (9, 131409), (16, 131235), (17, 131223),

Gene: Larnav_24 Start: 9467, Stop: 9156, Start Num: 5
Candidate Starts for Larnav_24:
(Start: 5 @9467 has 57 MA's), (7, 9449), (8, 9419), (9, 9404), (16, 9230), (17, 9218),

Gene: Leo04_271 Start: 131584, Stop: 131273, Start Num: 5
Candidate Starts for Leo04_271:
(Start: 5 @131584 has 57 MA's), (7, 131566), (8, 131536), (9, 131521), (15, 131359), (16, 131347), (17, 131335),

Gene: Leo04_20 Start: 9466, Stop: 9155, Start Num: 5
Candidate Starts for Leo04_20:
(Start: 5 @9466 has 57 MA's), (7, 9448), (8, 9418), (9, 9403), (15, 9241), (16, 9229), (17, 9217),

Gene: Liandry_268 Start: 130717, Stop: 130403, Start Num: 5
Candidate Starts for Liandry_268:
(Start: 5 @130717 has 57 MA's), (7, 130696), (8, 130666), (15, 130489), (17, 130465),

Gene: Liandry_19 Start: 9196, Stop: 8882, Start Num: 5
Candidate Starts for Liandry_19:
(Start: 5 @9196 has 57 MA's), (7, 9175), (8, 9145), (15, 8968), (17, 8944),

Gene: LilMartin_271 Start: 130909, Stop: 130598, Start Num: 5

Candidate Starts for LilMartin_271:
(Start: 5 @130909 has 57 MA's), (7, 130891), (15, 130684),

Gene: LilMartin_19 Start: 9565, Stop: 9254, Start Num: 5
Candidate Starts for LilMartin_19:
(Start: 5 @9565 has 57 MA's), (7, 9547), (15, 9340),

Gene: LukeCage_282 Start: 130497, Stop: 130201, Start Num: 6
Candidate Starts for LukeCage_282:
(4, 130533), (Start: 6 @130497 has 46 MA's), (11, 130380),

Gene: LukeCage_19 Start: 9593, Stop: 9297, Start Num: 6
Candidate Starts for LukeCage_19:
(4, 9629), (Start: 6 @9593 has 46 MA's), (11, 9476),

Gene: Lululemon_21 Start: 8847, Stop: 8536, Start Num: 5
Candidate Starts for Lululemon_21:
(Start: 5 @8847 has 57 MA's), (7, 8829), (8, 8799), (9, 8784), (15, 8622), (16, 8610), (17, 8598),

Gene: Lululemon_271 Start: 129739, Stop: 129428, Start Num: 5
Candidate Starts for Lululemon_271:
(Start: 5 @129739 has 57 MA's), (7, 129721), (8, 129691), (9, 129676), (15, 129514), (16, 129502), (17, 129490),

Gene: Mildred21_282 Start: 130401, Stop: 130087, Start Num: 5
Candidate Starts for Mildred21_282:
(Start: 5 @130401 has 57 MA's), (7, 130383), (10, 130278), (15, 130173), (17, 130149),

Gene: Mildred21_19 Start: 9243, Stop: 8929, Start Num: 5
Candidate Starts for Mildred21_19:
(Start: 5 @9243 has 57 MA's), (7, 9225), (10, 9120), (15, 9015), (17, 8991),

Gene: MindFlayer_19 Start: 9639, Stop: 9343, Start Num: 6
Candidate Starts for MindFlayer_19:
(Start: 3 @9681 has 5 MA's), (Start: 6 @9639 has 46 MA's), (11, 9522),

Gene: MindFlayer_271 Start: 127741, Stop: 127403, Start Num: 3
Candidate Starts for MindFlayer_271:
(Start: 3 @127741 has 5 MA's), (Start: 6 @127699 has 46 MA's), (11, 127582),

Gene: Mugiwara_291 Start: 130623, Stop: 130327, Start Num: 6
Candidate Starts for Mugiwara_291:
(Start: 6 @130623 has 46 MA's), (11, 130506),

Gene: Mugiwara_19 Start: 9238, Stop: 8942, Start Num: 6
Candidate Starts for Mugiwara_19:
(Start: 6 @9238 has 46 MA's), (11, 9121),

Gene: MulchMansion_19 Start: 9565, Stop: 9254, Start Num: 5
Candidate Starts for MulchMansion_19:
(Start: 5 @9565 has 57 MA's), (7, 9547), (15, 9340),

Gene: MulchMansion_275 Start: 132543, Stop: 132232, Start Num: 5

Candidate Starts for MulchMansion_275:
(Start: 5 @132543 has 57 MA's), (7, 132525), (15, 132318),

Gene: NootNoot_264 Start: 129506, Stop: 129192, Start Num: 5
Candidate Starts for NootNoot_264:
(Start: 5 @129506 has 57 MA's), (7, 129485), (8, 129455), (15, 129278), (17, 129254),

Gene: NootNoot_19 Start: 9207, Stop: 8893, Start Num: 5
Candidate Starts for NootNoot_19:
(Start: 5 @9207 has 57 MA's), (7, 9186), (8, 9156), (15, 8979), (17, 8955),

Gene: PacManQ_272 Start: 129739, Stop: 129428, Start Num: 5
Candidate Starts for PacManQ_272:
(Start: 5 @129739 has 57 MA's), (7, 129721), (8, 129691), (9, 129676), (15, 129514), (16, 129502), (17, 129490),

Gene: PacManQ_21 Start: 8847, Stop: 8536, Start Num: 5
Candidate Starts for PacManQ_21:
(Start: 5 @8847 has 57 MA's), (7, 8829), (8, 8799), (9, 8784), (15, 8622), (16, 8610), (17, 8598),

Gene: Paradiddles_19 Start: 9195, Stop: 8881, Start Num: 5
Candidate Starts for Paradiddles_19:
(Start: 5 @9195 has 57 MA's), (7, 9174), (8, 9144), (9, 9129), (15, 8967),

Gene: Paradiddles_260 Start: 131903, Stop: 131589, Start Num: 5
Candidate Starts for Paradiddles_260:
(Start: 5 @131903 has 57 MA's), (7, 131882), (8, 131852), (9, 131837), (15, 131675),

Gene: Peebs_267 Start: 131440, Stop: 131129, Start Num: 5
Candidate Starts for Peebs_267:
(Start: 5 @131440 has 57 MA's), (7, 131422), (8, 131392), (15, 131215), (16, 131203), (17, 131191),

Gene: Peebs_20 Start: 9465, Stop: 9154, Start Num: 5
Candidate Starts for Peebs_20:
(Start: 5 @9465 has 57 MA's), (7, 9447), (8, 9417), (15, 9240), (16, 9228), (17, 9216),

Gene: Pepperwood_21 Start: 9620, Stop: 9309, Start Num: 5
Candidate Starts for Pepperwood_21:
(Start: 5 @9620 has 57 MA's), (7, 9602), (8, 9572), (15, 9395), (16, 9383), (17, 9371),

Gene: Pepperwood_270 Start: 131405, Stop: 131094, Start Num: 5
Candidate Starts for Pepperwood_270:
(Start: 5 @131405 has 57 MA's), (7, 131387), (8, 131357), (15, 131180), (16, 131168), (17, 131156),

Gene: Persimmon_269 Start: 129837, Stop: 129523, Start Num: 5
Candidate Starts for Persimmon_269:
(Start: 5 @129837 has 57 MA's), (7, 129816), (8, 129786), (15, 129609), (17, 129585),

Gene: Persimmon_18 Start: 9026, Stop: 8712, Start Num: 5
Candidate Starts for Persimmon_18:
(Start: 5 @9026 has 57 MA's), (7, 9005), (8, 8975), (15, 8798), (17, 8774),

Gene: PinkiePie_19 Start: 9197, Stop: 8883, Start Num: 5

Candidate Starts for PinkiePie_19:
(Start: 5 @9197 has 57 MA's), (7, 9176), (8, 9146), (15, 8969), (17, 8945),

Gene: PinkiePie_269 Start: 130718, Stop: 130404, Start Num: 5
Candidate Starts for PinkiePie_269:
(Start: 5 @130718 has 57 MA's), (7, 130697), (8, 130667), (15, 130490), (17, 130466),

Gene: PumpkinSpice_20 Start: 10029, Stop: 9733, Start Num: 6
Candidate Starts for PumpkinSpice_20:
(Start: 3 @10071 has 5 MA's), (Start: 6 @10029 has 46 MA's), (11, 9912),

Gene: PumpkinSpice_284 Start: 129921, Stop: 129625, Start Num: 6
Candidate Starts for PumpkinSpice_284:
(Start: 3 @129963 has 5 MA's), (Start: 6 @129921 has 46 MA's), (11, 129804),

Gene: Quaran19_281 Start: 129211, Stop: 128915, Start Num: 6
Candidate Starts for Quaran19_281:
(Start: 3 @129253 has 5 MA's), (Start: 6 @129211 has 46 MA's), (11, 129094),

Gene: Quaran19_20 Start: 10029, Stop: 9733, Start Num: 6
Candidate Starts for Quaran19_20:
(Start: 3 @10071 has 5 MA's), (Start: 6 @10029 has 46 MA's), (11, 9912),

Gene: SaltySpitoon_20 Start: 10029, Stop: 9733, Start Num: 6
Candidate Starts for SaltySpitoon_20:
(Start: 3 @10071 has 5 MA's), (Start: 6 @10029 has 46 MA's), (11, 9912),

Gene: SaltySpitoon_280 Start: 128293, Stop: 127997, Start Num: 6
Candidate Starts for SaltySpitoon_280:
(Start: 3 @128335 has 5 MA's), (Start: 6 @128293 has 46 MA's), (11, 128176),

Gene: Samisti12_269 Start: 132112, Stop: 131801, Start Num: 5
Candidate Starts for Samisti12_269:
(Start: 5 @132112 has 57 MA's), (7, 132094), (8, 132064), (15, 131887), (16, 131875), (17, 131863),

Gene: Samisti12_18 Start: 9068, Stop: 8757, Start Num: 5
Candidate Starts for Samisti12_18:
(Start: 5 @9068 has 57 MA's), (7, 9050), (8, 9020), (15, 8843), (16, 8831), (17, 8819),

Gene: Sollertia_277 Start: 128819, Stop: 128520, Start Num: 6
Candidate Starts for Sollertia_277:
(4, 128855), (Start: 6 @128819 has 46 MA's), (11, 128699),

Gene: Sollertia_21 Start: 9929, Stop: 9630, Start Num: 6
Candidate Starts for Sollertia_21:
(4, 9965), (Start: 6 @9929 has 46 MA's), (11, 9809),

Gene: Spelly_286 Start: 128833, Stop: 128537, Start Num: 6
Candidate Starts for Spelly_286:
(Start: 3 @128875 has 5 MA's), (Start: 6 @128833 has 46 MA's), (11, 128716),

Gene: Spelly_20 Start: 10029, Stop: 9733, Start Num: 6
Candidate Starts for Spelly_20:

(Start: 3 @10071 has 5 MA's), (Start: 6 @10029 has 46 MA's), (11, 9912),

Gene: Spilled_19 Start: 9639, Stop: 9343, Start Num: 6
Candidate Starts for Spilled_19:
(Start: 3 @9681 has 5 MA's), (Start: 6 @9639 has 46 MA's), (11, 9522),

Gene: Spilled_287 Start: 130108, Stop: 129812, Start Num: 6
Candidate Starts for Spilled_287:
(Start: 3 @130150 has 5 MA's), (Start: 6 @130108 has 46 MA's), (11, 129991),

Gene: Squillium_271 Start: 130720, Stop: 130406, Start Num: 5
Candidate Starts for Squillium_271:
(Start: 5 @130720 has 57 MA's), (7, 130699), (8, 130669), (15, 130492), (17, 130468),

Gene: Squillium_19 Start: 9196, Stop: 8882, Start Num: 5
Candidate Starts for Squillium_19:
(Start: 5 @9196 has 57 MA's), (7, 9175), (8, 9145), (15, 8968), (17, 8944),

Gene: Stanimal_276 Start: 129203, Stop: 128904, Start Num: 6
Candidate Starts for Stanimal_276:
(4, 129239), (Start: 6 @129203 has 46 MA's), (11, 129083),

Gene: Stanimal_21 Start: 9929, Stop: 9630, Start Num: 6
Candidate Starts for Stanimal_21:
(4, 9965), (Start: 6 @9929 has 46 MA's), (11, 9809),

Gene: StarPlatinum_19 Start: 9656, Stop: 9360, Start Num: 6
Candidate Starts for StarPlatinum_19:
(4, 9692), (Start: 6 @9656 has 46 MA's), (11, 9539),

Gene: StarPlatinum_289 Start: 131343, Stop: 131047, Start Num: 6
Candidate Starts for StarPlatinum_289:
(4, 131379), (Start: 6 @131343 has 46 MA's), (11, 131226),

Gene: Starbow_20 Start: 10029, Stop: 9733, Start Num: 6
Candidate Starts for Starbow_20:
(Start: 3 @10071 has 5 MA's), (Start: 6 @10029 has 46 MA's), (11, 9912),

Gene: Starbow_277 Start: 128877, Stop: 128581, Start Num: 6
Candidate Starts for Starbow_277:
(Start: 3 @128919 has 5 MA's), (Start: 6 @128877 has 46 MA's), (11, 128760),

Gene: Sushi23_21 Start: 9467, Stop: 9156, Start Num: 5
Candidate Starts for Sushi23_21:
(Start: 5 @9467 has 57 MA's), (7, 9449), (8, 9419), (15, 9242), (16, 9230), (17, 9218),

Gene: Sushi23_271 Start: 132310, Stop: 131999, Start Num: 5
Candidate Starts for Sushi23_271:
(Start: 5 @132310 has 57 MA's), (7, 132292), (8, 132262), (15, 132085), (16, 132073), (17, 132061),

Gene: Targaryen_269 Start: 133336, Stop: 133022, Start Num: 5
Candidate Starts for Targaryen_269:
(Start: 5 @133336 has 57 MA's), (7, 133315), (8, 133285), (15, 133108), (17, 133084),

Gene: Targaryen_18 Start: 9660, Stop: 9346, Start Num: 5
Candidate Starts for Targaryen_18:
(Start: 5 @9660 has 57 MA's), (7, 9639), (8, 9609), (15, 9432), (17, 9408),

Gene: Teutsch_266 Start: 131278, Stop: 130967, Start Num: 5
Candidate Starts for Teutsch_266:
(Start: 5 @131278 has 57 MA's), (7, 131260), (8, 131230), (15, 131053), (16, 131041), (17, 131029),

Gene: Teutsch_19 Start: 9069, Stop: 8758, Start Num: 5
Candidate Starts for Teutsch_19:
(Start: 5 @9069 has 57 MA's), (7, 9051), (8, 9021), (15, 8844), (16, 8832), (17, 8820),

Gene: TomSawyer_285 Start: 131401, Stop: 131105, Start Num: 6
Candidate Starts for TomSawyer_285:
(Start: 3 @131443 has 5 MA's), (Start: 6 @131401 has 46 MA's), (11, 131284),

Gene: TomSawyer_20 Start: 9622, Stop: 9326, Start Num: 6
Candidate Starts for TomSawyer_20:
(Start: 3 @9664 has 5 MA's), (Start: 6 @9622 has 46 MA's), (11, 9505),

Gene: Tribute_19 Start: 9320, Stop: 9009, Start Num: 5
Candidate Starts for Tribute_19:
(Start: 5 @9320 has 57 MA's), (7, 9302), (8, 9272), (15, 9095), (16, 9083), (17, 9071),

Gene: Tribute_265 Start: 131864, Stop: 131553, Start Num: 5
Candidate Starts for Tribute_265:
(Start: 5 @131864 has 57 MA's), (7, 131846), (8, 131816), (15, 131639), (16, 131627), (17, 131615),

Gene: Warpy_275 Start: 131412, Stop: 131098, Start Num: 5
Candidate Starts for Warpy_275:
(Start: 5 @131412 has 57 MA's), (7, 131391), (8, 131361), (15, 131184), (17, 131160),

Gene: Warpy_23 Start: 9874, Stop: 9560, Start Num: 5
Candidate Starts for Warpy_23:
(Start: 5 @9874 has 57 MA's), (7, 9853), (8, 9823), (15, 9646), (17, 9622),

Gene: Watermoore_267 Start: 132064, Stop: 131753, Start Num: 5
Candidate Starts for Watermoore_267:
(Start: 5 @132064 has 57 MA's), (7, 132046), (8, 132016), (9, 132001), (15, 131839), (16, 131827), (17, 131815),

Gene: Watermoore_20 Start: 9468, Stop: 9157, Start Num: 5
Candidate Starts for Watermoore_20:
(Start: 5 @9468 has 57 MA's), (7, 9450), (8, 9420), (9, 9405), (15, 9243), (16, 9231), (17, 9219),

Gene: Wipeout_273 Start: 130375, Stop: 130079, Start Num: 6
Candidate Starts for Wipeout_273:
(Start: 3 @130417 has 5 MA's), (Start: 6 @130375 has 46 MA's), (11, 130258),

Gene: Wipeout_19 Start: 9644, Stop: 9348, Start Num: 6
Candidate Starts for Wipeout_19:
(Start: 3 @9686 has 5 MA's), (Start: 6 @9644 has 46 MA's), (11, 9527),

Gene: Wofford_277 Start: 130782, Stop: 130501, Start Num: 6
Candidate Starts for Wofford_277:
(4, 130818), (Start: 6 @130782 has 46 MA's), (11, 130680), (13, 130668), (14, 130599),

Gene: Wofford_19 Start: 8989, Stop: 8708, Start Num: 6
Candidate Starts for Wofford_19:
(4, 9025), (Start: 6 @8989 has 46 MA's), (11, 8887), (13, 8875), (14, 8806),

Gene: Yaboi_20 Start: 9929, Stop: 9630, Start Num: 6
Candidate Starts for Yaboi_20:
(4, 9965), (Start: 6 @9929 has 46 MA's), (11, 9809),

Gene: Yaboi_281 Start: 128747, Stop: 128448, Start Num: 6
Candidate Starts for Yaboi_281:
(4, 128783), (Start: 6 @128747 has 46 MA's), (11, 128627),