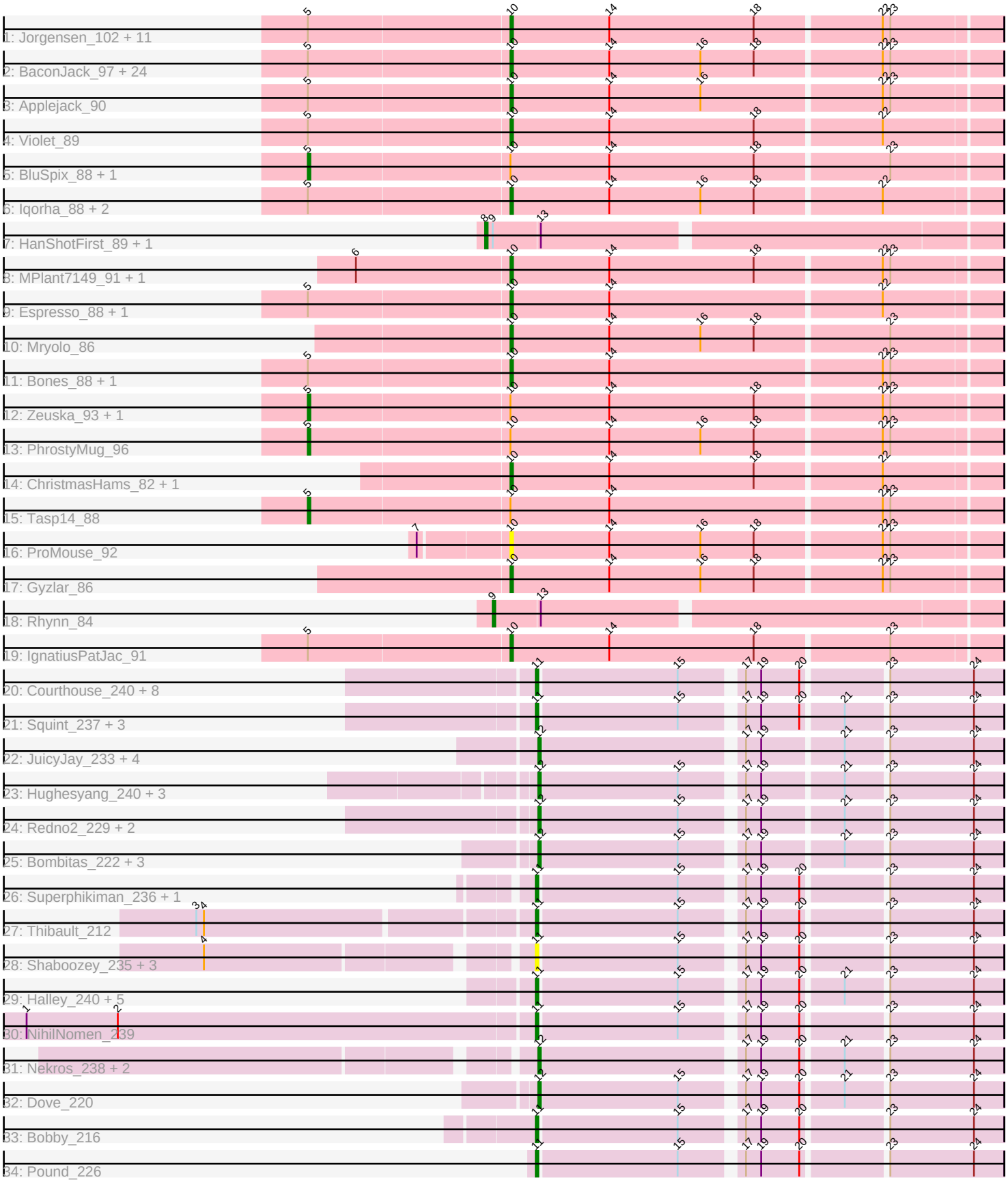
Pham 311399


1: Jorgensen_102 + 11
2: BaconJack_97 + 24
3: Applejack_90
4: Violet_89
5: BluSpix_88 + 1
6: Iqorha_88 + 2
7: HanShotFirst_89 + 1
8: MPlant7149_91 + 1
9: Espresso_88 + 1
10: Mryolo_86
11: Bones_88 + 1
12: Zeuska_93 + 1
13: PhrostyMug_96
14: ChristmasHams_82 + 1
15: Tasp14_88
16: ProMouse_92
17: Gyzlar_86
18: Rhynn_84
19: IgnatiusPatJac_91
20: Courthouse_240 + 8
21: Squint_237 + 3
22: JuicyJay_233 + 4
23: Hughesyang_240 + 3
24: Redno2_229 + 2
25: Bombitas_222 + 3
26: Superphikiman_236 + 1
27: Thibault_212
28: Shaboozey_235 + 3
29: Halley_240 + 5
30: NihilNomen_239
31: Nekros_238 + 2
32: Dove_220
33: Bobby_216
34: Pound_226

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 311399 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311399 has 112 members, 16 are drafts.

Phages represented in each track:
• Track 1 : Jorgensen_102, Abrogate_900, Sagefire_87, SkiPole_101, Marsha_95, RidgeCB_92, Jerm2_91, BigMau_92, Marge_88, PinkPlastic_84, Paraselene_89, Solon_85
• Track 2 : BaconJack_97, Monet_95, Marchy_88, Levia_86, Bob3_93, Nerujay_95, Mule_94, Edtherson_90, Lamina13_95, Homines_86, Bxb1_86, Smairt_99, Trouble_92, Gandalf20_93, Payneful_84, Parliament_92, Perseus_92, Fushigi_86, Sumter_89, Aeneas_98, JackSparrow_93, Hami1_88, PhineBark_86, Ashballer_94, Crispicous1_88
• Track 3 : Applejack_90
• Track 4 : Violet_89
• Track 5 : BluSpix_88, Alsfro_98
• Track 6 : Iqorha_88, JC27_96, Inyanga_88
• Track 7 : HanShotFirst_89, Froghopper_78
• Track 8 : MPlant7149_91, Sunshine924_95
• Track 9 : Espresso_88, StewieG_89
• Track 10 : Mryolo_86
• Track 11 : Bones_88, HarryOW_93
• Track 12 : Zeuska_93, HermioneGrange_95
• Track 13 : PhrostyMug_96
• Track 14 : ChristmasHams_82, KBG_89
• Track 15 : Tasp14_88
• Track 16 : ProMouse_92
• Track 17 : Gyzlar_86
• Track 18 : Rhynn_84
• Track 19 : IgnatiusPatJac_91
• Track 20 : Courthouse_240, Optimus_229, Hidrated_223, Kalah2_227, Marleymoo_218, Constella_227, LittleE_227, DmpstrDiver_237, Xiaokay_224
• Track 21 : Squint_237, Minerva_236, Odette_237, Duke13_238
• Track 22 : JuicyJay_233, Klein_246, Wanda_238, Beem_241, Zelink_231
• Track 23 : Hughesyang_240, Schatzie_230, Yeet_232, Phoebus_236
• Track 24 : Redno2_229, ThreeRngTarjay_237, EricMillard_235
• Track 25 : Bombitas_222, Bagrid_243, Ejimix_229, HokkenD_230
• Track 26 : Superphikiman_236, Ariel_244
• Track 27 : Thibault_212
• Track 28 : Shaboozey_235, Nibley_228, BronnyJames_229, Rearden_238
• Track 29 : Halley_240, Lucky2013_236, Gonephishing_235, Dallas_236, MiaZeal_249, Porcelain_240

• Track 30 : NihilNomen_239
• Track 31 : Nekros_238, Hannaconda_228, KashFlow_230
• Track 32 : Dove_220
• Track 33 : Bobby_216
• Track 34 : Pound_226

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

The start number called the most often in the published annotations is 10, it was called in 49 of the 96 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abrogate_900, Aeneas_98, Applejack_90, Ashballer_94, BaconJack_97, BigMau_92, Bob3_93, Bones_88, Bxb1_86, ChristmasHams_82, Crispicous1_88, Edtherson_90, Espresso_88, Fushigi_86, Gandalf20_93, Gyzlar_86, Hami1_88, HarryOW_93, Homines_86, IgnatiusPatJac_91, Inyanga_88, Iqorha_88, JC27_96, JackSparrow_93, Jerm2_91, Jorgensen_102, KBG_89, Lamina13_95, Levia_86, MPlant7149_91, Marchy_88, Marge_88, Marsha_95, Monet_95, Mryolo_86, Mule_94, Nerujay_95, Paraselene_89, Parliament_92, Payneful_84, Perseus_92, PhineBark_86, PinkPlastic_84, ProMouse_92, RidgeCB_92, Sagefire_87, SkiPole_101, Smairt_99, Solon_85, StewieG_89, Sumter_89, Sunshine924_95, Trouble_92, Violet_89,

Genes that have the "Most Annotated" start but do not call it:
• Alsfro_98, BluSpix_88, HermioneGrange_95, PhrostyMug_96, Tasp14_88, Zeuska_93,

Genes that do not have the "Most Annotated" start:
• Ariel_244, Bagrid_243, Beem_241, Bobby_216, Bombitas_222, BronnyJames_229, Constella_227, Courthouse_240, Dallas_236, DmpstrDiver_237, Dove_220, Duke13_238, Ejimix_229, EricMillard_235, Froghopper_78, Gonephishing_235, Halley_240, HanShotFirst_89, Hannaconda_228, Hidrated_223, HokkenD_230, Hughesyang_240, JuicyJay_233, Kalah2_227, KashFlow_230, Klein_246, LittleE_227, Lucky2013_236, Marleymoo_218, MiaZeal_249, Minerva_236, Nekros_238, Nibley_228, NihilNomen_239, Odette_237, Optimus_229, Phoebus_236, Porcelain_240, Pound_226, Rearden_238, Redno2_229, Rhynn_84, Schatzie_230, Shaboozey_235, Squint_237, Superphikiman_236, Thibault_212, ThreeRngTarjay_237, Wanda_238, Xiaokay_224, Yeet_232, Zelink_231,

Summary by start number:

Start 5:
• Found in 53 of 112 (47.3%) of genes in pham
• Manual Annotations of this start: 6 of 96
• Called 11.3% of time when present
• Phage (with cluster) where this start called: Alsfro_98 (A1), BluSpix_88 (A1), HermioneGrange_95 (A1), PhrostyMug_96 (A1), Tasp14_88 (A1), Zeuska_93 (A1),

Start 8:
• Found in 2 of 112 (1.8%) of genes in pham

• Manual Annotations of this start: 2 of 96
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Froghopper_78 (A1), HanShotFirst_89 (A1),

Start 9:
• Found in 3 of 112 (2.7%) of genes in pham
• Manual Annotations of this start: 1 of 96
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Rhynn_84 (A1),

Start 10:
• Found in 60 of 112 (53.6%) of genes in pham
• Manual Annotations of this start: 49 of 96
• Called 90.0% of time when present
• Phage (with cluster) where this start called: Abrogate_900 (A1), Aeneas_98 (A1), Applejack_90 (A1), Ashballer_94 (A1), BaconJack_97 (A1), BigMau_92 (A1), Bob3_93 (A1), Bones_88 (A1), Bxb1_86 (A1), ChristmasHams_82 (A1), Crispicous1_88 (A1), Edtherson_90 (A1), Espresso_88 (A1), Fushigi_86 (A1), Gandalf20_93 (A1), Gyzlar_86 (A1), Hami1_88 (A1), HarryOW_93 (A1), Homines_86 (A1), IgnatiusPatJac_91 (A1), Inyanga_88 (A1), Iqorha_88 (A1), JC27_96 (A1), JackSparrow_93 (A1), Jerm2_91 (A1), Jorgensen_102 (A1), KBG_89 (A1), Lamina13_95 (A1), Levia_86 (A1), MPlant7149_91 (A1), Marchy_88 (A1), Marge_88 (A1), Marsha_95 (A1), Monet_95 (A1), Mryolo_86 (A1), Mule_94 (A1), Nerujay_95 (A1), Paraselene_89 (A1), Parliament_92 (A1), Payneful_84 (A1), Perseus_92 (A1), PhineBark_86 (A1), PinkPlastic_84 (A1), ProMouse_92 (A1), RidgeCB_92 (A1), Sagefire_87 (A1), SkiPole_101 (A1), Smairt_99 (A1), Solon_85 (A1), StewieG_89 (A1), Sumter_89 (A1), Sunshine924_95 (A1), Trouble_92 (A1), Violet_89 (A1),

Start 11:
• Found in 29 of 112 (25.9%) of genes in pham
• Manual Annotations of this start: 20 of 96
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Ariel_244 (J), Bobby_216 (J), BronnyJames_229 (J), Constella_227 (J), Courthouse_240 (J), Dallas_236 (J), DmpstrDiver_237 (J), Duke13_238 (J), Gonephishing_235 (J), Halley_240 (J), Hidrated_223 (J), Kalah2_227 (J), LittleE_227 (J), Lucky2013_236 (J), Marleymoo_218 (J), MiaZeal_249 (J), Minerva_236 (J), Nibley_228 (J), NihilNomen_239 (J), Odette_237 (J), Optimus_229 (J), Porcelain_240 (J), Pound_226 (J), Rearden_238 (J), Shaboozey_235 (J), Squint_237 (J), Superphikiman_236 (J), Thibault_212 (J), Xiaokay_224 (J),

Start 12:
• Found in 20 of 112 (17.9%) of genes in pham
• Manual Annotations of this start: 18 of 96
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Bagrid_243 (J), Beem_241 (J), Bombitas_222 (J), Dove_220 (J), Ejimix_229 (J), EricMillard_235 (J), Hannaconda_228 (J), HokkenD_230 (J), Hughesyang_240 (J), JuicyJay_233 (J), KashFlow_230 (J), Klein_246 (J), Nekros_238 (J), Phoebus_236 (J), Redno2_229 (J), Schatzie_230 (J), ThreeRngTarjay_237 (J), Wanda_238 (J), Yeet_232 (J), Zelink_231 (J),

Summary by clusters:

There are 2 clusters represented in this pham: A1, J,

Info for manual annotations of cluster A1:
•Start number 5 was manually annotated 6 times for cluster A1.
•Start number 8 was manually annotated 2 times for cluster A1.
•Start number 9 was manually annotated 1 time for cluster A1.
•Start number 10 was manually annotated 49 times for cluster A1.

Info for manual annotations of cluster J:
•Start number 11 was manually annotated 20 times for cluster J.
•Start number 12 was manually annotated 18 times for cluster J.

Gene Information:

Gene: Abrogate_900 Start: 51556, Stop: 51744, Start Num: 10
Candidate Starts for Abrogate_900:
(Start: 5 @51478 has 6 MA's), (Start: 10 @51556 has 49 MA's), (14, 51595), (18, 51652), (22, 51700), (23, 51703),

Gene: Aeneas_98 Start: 52710, Stop: 52898, Start Num: 10
Candidate Starts for Aeneas_98:
(Start: 5 @52632 has 6 MA's), (Start: 10 @52710 has 49 MA's), (14, 52749), (16, 52785), (18, 52806), (22, 52854), (23, 52857),

Gene: Alsfro_98 Start: 50848, Stop: 51114, Start Num: 5
Candidate Starts for Alsfro_98:
(Start: 5 @50848 has 6 MA's), (Start: 10 @50926 has 49 MA's), (14, 50965), (18, 51022), (23, 51073),

Gene: Applejack_90 Start: 48809, Stop: 48997, Start Num: 10
Candidate Starts for Applejack_90:
(Start: 5 @48731 has 6 MA's), (Start: 10 @48809 has 49 MA's), (14, 48848), (16, 48884), (22, 48953), (23, 48956),

Gene: Ariel_244 Start: 108574, Stop: 108404, Start Num: 11
Candidate Starts for Ariel_244:
(Start: 11 @108574 has 20 MA's), (15, 108520), (17, 108499), (19, 108493), (20, 108478), (23, 108448), (24, 108415),

Gene: Ashballer_94 Start: 51247, Stop: 51435, Start Num: 10
Candidate Starts for Ashballer_94:
(Start: 5 @51169 has 6 MA's), (Start: 10 @51247 has 49 MA's), (14, 51286), (16, 51322), (18, 51343), (22, 51391), (23, 51394),

Gene: BaconJack_97 Start: 52821, Stop: 53009, Start Num: 10
Candidate Starts for BaconJack_97:
(Start: 5 @52743 has 6 MA's), (Start: 10 @52821 has 49 MA's), (14, 52860), (16, 52896), (18, 52917), (22, 52965), (23, 52968),

Gene: Bagrid_243 Start: 112655, Stop: 112485, Start Num: 12

Candidate Starts for Bagrid_243:
(Start: 12 @112655 has 18 MA's), (15, 112601), (17, 112580), (19, 112574), (21, 112544), (23, 112529), (24, 112496),

Gene: Beem_241 Start: 111780, Stop: 111610, Start Num: 12
Candidate Starts for Beem_241:
(Start: 12 @111780 has 18 MA's), (17, 111705), (19, 111699), (21, 111669), (23, 111654), (24, 111621),

Gene: BigMau_92 Start: 51680, Stop: 51868, Start Num: 10
Candidate Starts for BigMau_92:
(Start: 5 @51602 has 6 MA's), (Start: 10 @51680 has 49 MA's), (14, 51719), (18, 51776), (22, 51824), (23, 51827),

Gene: BluSpix_88 Start: 46184, Stop: 46450, Start Num: 5
Candidate Starts for BluSpix_88:
(Start: 5 @46184 has 6 MA's), (Start: 10 @46262 has 49 MA's), (14, 46301), (18, 46358), (23, 46409),

Gene: Bob3_93 Start: 51264, Stop: 51452, Start Num: 10
Candidate Starts for Bob3_93:
(Start: 5 @51186 has 6 MA's), (Start: 10 @51264 has 49 MA's), (14, 51303), (16, 51339), (18, 51360), (22, 51408), (23, 51411),

Gene: Bobby_216 Start: 109229, Stop: 109059, Start Num: 11
Candidate Starts for Bobby_216:
(Start: 11 @109229 has 20 MA's), (15, 109175), (17, 109154), (19, 109148), (20, 109133), (23, 109103), (24, 109070),

Gene: Bombitas_222 Start: 108057, Stop: 107887, Start Num: 12
Candidate Starts for Bombitas_222:
(Start: 12 @108057 has 18 MA's), (15, 108003), (17, 107982), (19, 107976), (21, 107946), (23, 107931), (24, 107898),

Gene: Bones_88 Start: 51556, Stop: 51744, Start Num: 10
Candidate Starts for Bones_88:
(Start: 5 @51478 has 6 MA's), (Start: 10 @51556 has 49 MA's), (14, 51595), (22, 51700), (23, 51703),

Gene: BronnyJames_229 Start: 106436, Stop: 106266, Start Num: 11
Candidate Starts for BronnyJames_229:
(4, 106553), (Start: 11 @106436 has 20 MA's), (15, 106382), (17, 106361), (19, 106355), (20, 106340), (23, 106310), (24, 106277),

Gene: Bxb1_86 Start: 49573, Stop: 49761, Start Num: 10
Candidate Starts for Bxb1_86:
(Start: 5 @49495 has 6 MA's), (Start: 10 @49573 has 49 MA's), (14, 49612), (16, 49648), (18, 49669), (22, 49717), (23, 49720),

Gene: ChristmasHams_82 Start: 48264, Stop: 48452, Start Num: 10
Candidate Starts for ChristmasHams_82:
(Start: 10 @48264 has 49 MA's), (14, 48303), (18, 48360), (22, 48408),

Gene: Constella_227 Start: 109142, Stop: 108972, Start Num: 11
Candidate Starts for Constella_227:

(Start: 11 @109142 has 20 MA's), (15, 109088), (17, 109067), (19, 109061), (20, 109046), (23, 109016), (24, 108983),

Gene: Courthouse_240 Start: 109338, Stop: 109168, Start Num: 11
Candidate Starts for Courthouse_240:
(Start: 11 @109338 has 20 MA's), (15, 109284), (17, 109263), (19, 109257), (20, 109242), (23, 109212), (24, 109179),

Gene: Crispicous1_88 Start: 49851, Stop: 50039, Start Num: 10
Candidate Starts for Crispicous1_88:
(Start: 5 @49773 has 6 MA's), (Start: 10 @49851 has 49 MA's), (14, 49890), (16, 49926), (18, 49947), (22, 49995), (23, 49998),

Gene: Dallas_236 Start: 109912, Stop: 109742, Start Num: 11
Candidate Starts for Dallas_236:
(Start: 11 @109912 has 20 MA's), (15, 109858), (17, 109837), (19, 109831), (20, 109816), (21, 109801), (23, 109786), (24, 109753),

Gene: DmpstrDiver_237 Start: 110235, Stop: 110065, Start Num: 11
Candidate Starts for DmpstrDiver_237:
(Start: 11 @110235 has 20 MA's), (15, 110181), (17, 110160), (19, 110154), (20, 110139), (23, 110109), (24, 110076),

Gene: Dove_220 Start: 106531, Stop: 106361, Start Num: 12
Candidate Starts for Dove_220:
(Start: 12 @106531 has 18 MA's), (15, 106477), (17, 106456), (19, 106450), (20, 106435), (21, 106420), (23, 106405), (24, 106372),

Gene: Duke13_238 Start: 110743, Stop: 110573, Start Num: 11
Candidate Starts for Duke13_238:
(Start: 11 @110743 has 20 MA's), (15, 110689), (17, 110668), (19, 110662), (20, 110647), (21, 110632), (23, 110617), (24, 110584),

Gene: Edtherson_90 Start: 50521, Stop: 50709, Start Num: 10
Candidate Starts for Edtherson_90:
(Start: 5 @50443 has 6 MA's), (Start: 10 @50521 has 49 MA's), (14, 50560), (16, 50596), (18, 50617), (22, 50665), (23, 50668),

Gene: Ejimix_229 Start: 110016, Stop: 109846, Start Num: 12
Candidate Starts for Ejimix_229:
(Start: 12 @110016 has 18 MA's), (15, 109962), (17, 109941), (19, 109935), (21, 109905), (23, 109890), (24, 109857),

Gene: EricMillard_235 Start: 111867, Stop: 111697, Start Num: 12
Candidate Starts for EricMillard_235:
(Start: 12 @111867 has 18 MA's), (15, 111813), (17, 111792), (19, 111786), (21, 111756), (23, 111741), (24, 111708),

Gene: Espresso_88 Start: 50872, Stop: 51060, Start Num: 10
Candidate Starts for Espresso_88:
(Start: 5 @50794 has 6 MA's), (Start: 10 @50872 has 49 MA's), (14, 50911), (22, 51016),

Gene: Froghopper_78 Start: 46994, Stop: 47188, Start Num: 8

Candidate Starts for Froghopper_78:
(Start: 8 @46994 has 2 MA's), (Start: 9 @46997 has 1 MA's), (13, 47015),

Gene: Fushigi_86 Start: 49426, Stop: 49614, Start Num: 10
Candidate Starts for Fushigi_86:
(Start: 5 @49348 has 6 MA's), (Start: 10 @49426 has 49 MA's), (14, 49465), (16, 49501), (18, 49522), (22, 49570), (23, 49573),

Gene: Gandalf20_93 Start: 50762, Stop: 50950, Start Num: 10
Candidate Starts for Gandalf20_93:
(Start: 5 @50684 has 6 MA's), (Start: 10 @50762 has 49 MA's), (14, 50801), (16, 50837), (18, 50858), (22, 50906), (23, 50909),

Gene: Gonephishing_235 Start: 109462, Stop: 109292, Start Num: 11
Candidate Starts for Gonephishing_235:
(Start: 11 @109462 has 20 MA's), (15, 109408), (17, 109387), (19, 109381), (20, 109366), (21, 109351), (23, 109336), (24, 109303),

Gene: Gyzlar_86 Start: 48081, Stop: 48269, Start Num: 10
Candidate Starts for Gyzlar_86:
(Start: 10 @48081 has 49 MA's), (14, 48120), (16, 48156), (18, 48177), (22, 48225), (23, 48228),

Gene: Halley_240 Start: 110399, Stop: 110229, Start Num: 11
Candidate Starts for Halley_240:
(Start: 11 @110399 has 20 MA's), (15, 110345), (17, 110324), (19, 110318), (20, 110303), (21, 110288), (23, 110273), (24, 110240),

Gene: Hami1_88 Start: 46730, Stop: 46918, Start Num: 10
Candidate Starts for Hami1_88:
(Start: 5 @46652 has 6 MA's), (Start: 10 @46730 has 49 MA's), (14, 46769), (16, 46805), (18, 46826), (22, 46874), (23, 46877),

Gene: HanShotFirst_89 Start: 51158, Stop: 51352, Start Num: 8
Candidate Starts for HanShotFirst_89:
(Start: 8 @51158 has 2 MA's), (Start: 9 @51161 has 1 MA's), (13, 51179),

Gene: Hannaconda_228 Start: 110059, Stop: 109889, Start Num: 12
Candidate Starts for Hannaconda_228:
(Start: 12 @110059 has 18 MA's), (17, 109984), (19, 109978), (20, 109963), (21, 109948), (23, 109933), (24, 109900),

Gene: HarryOW_93 Start: 51952, Stop: 52140, Start Num: 10
Candidate Starts for HarryOW_93:
(Start: 5 @51874 has 6 MA's), (Start: 10 @51952 has 49 MA's), (14, 51991), (22, 52096), (23, 52099),

Gene: HermioneGrange_95 Start: 52097, Stop: 52363, Start Num: 5
Candidate Starts for HermioneGrange_95:
(Start: 5 @52097 has 6 MA's), (Start: 10 @52175 has 49 MA's), (14, 52214), (18, 52271), (22, 52319), (23, 52322),

Gene: Hidrated_223 Start: 110649, Stop: 110479, Start Num: 11
Candidate Starts for Hidrated_223:

(Start: 11 @110649 has 20 MA's), (15, 110595), (17, 110574), (19, 110568), (20, 110553), (23, 110523), (24, 110490),

Gene: HokkenD_230 Start: 111715, Stop: 111545, Start Num: 12
Candidate Starts for HokkenD_230:
(Start: 12 @111715 has 18 MA's), (15, 111661), (17, 111640), (19, 111634), (21, 111604), (23, 111589), (24, 111556),

Gene: Homines_86 Start: 47514, Stop: 47702, Start Num: 10
Candidate Starts for Homines_86:
(Start: 5 @47436 has 6 MA's), (Start: 10 @47514 has 49 MA's), (14, 47553), (16, 47589), (18, 47610), (22, 47658), (23, 47661),

Gene: Hughesyang_240 Start: 111748, Stop: 111578, Start Num: 12
Candidate Starts for Hughesyang_240:
(Start: 12 @111748 has 18 MA's), (15, 111694), (17, 111673), (19, 111667), (21, 111637), (23, 111622), (24, 111589),

Gene: IgnatiusPatJac_91 Start: 50207, Stop: 50395, Start Num: 10
Candidate Starts for IgnatiusPatJac_91:
(Start: 5 @50129 has 6 MA's), (Start: 10 @50207 has 49 MA's), (14, 50246), (18, 50303), (23, 50354),

Gene: Inyanga_88 Start: 50763, Stop: 50951, Start Num: 10
Candidate Starts for Inyanga_88:
(Start: 5 @50685 has 6 MA's), (Start: 10 @50763 has 49 MA's), (14, 50802), (16, 50838), (18, 50859), (22, 50907),

Gene: Iqorha_88 Start: 50762, Stop: 50950, Start Num: 10
Candidate Starts for Iqorha_88:
(Start: 5 @50684 has 6 MA's), (Start: 10 @50762 has 49 MA's), (14, 50801), (16, 50837), (18, 50858), (22, 50906),

Gene: JC27_96 Start: 51183, Stop: 51371, Start Num: 10
Candidate Starts for JC27_96:
(Start: 5 @51105 has 6 MA's), (Start: 10 @51183 has 49 MA's), (14, 51222), (16, 51258), (18, 51279), (22, 51327),

Gene: JackSparrow_93 Start: 50623, Stop: 50811, Start Num: 10
Candidate Starts for JackSparrow_93:
(Start: 5 @50545 has 6 MA's), (Start: 10 @50623 has 49 MA's), (14, 50662), (16, 50698), (18, 50719), (22, 50767), (23, 50770),

Gene: Jerm2_91 Start: 52244, Stop: 52432, Start Num: 10
Candidate Starts for Jerm2_91:
(Start: 5 @52166 has 6 MA's), (Start: 10 @52244 has 49 MA's), (14, 52283), (18, 52340), (22, 52388), (23, 52391),

Gene: Jorgensen_102 Start: 52791, Stop: 52979, Start Num: 10
Candidate Starts for Jorgensen_102:
(Start: 5 @52713 has 6 MA's), (Start: 10 @52791 has 49 MA's), (14, 52830), (18, 52887), (22, 52935), (23, 52938),

Gene: JuicyJay_233 Start: 111729, Stop: 111559, Start Num: 12

Candidate Starts for JuicyJay_233:
(Start: 12 @111729 has 18 MA's), (17, 111654), (19, 111648), (21, 111618), (23, 111603), (24, 111570),

Gene: KBG_89 Start: 52596, Stop: 52784, Start Num: 10
Candidate Starts for KBG_89:
(Start: 10 @52596 has 49 MA's), (14, 52635), (18, 52692), (22, 52740),

Gene: Kalah2_227 Start: 109290, Stop: 109120, Start Num: 11
Candidate Starts for Kalah2_227:
(Start: 11 @109290 has 20 MA's), (15, 109236), (17, 109215), (19, 109209), (20, 109194), (23, 109164), (24, 109131),

Gene: KashFlow_230 Start: 109952, Stop: 109782, Start Num: 12
Candidate Starts for KashFlow_230:
(Start: 12 @109952 has 18 MA's), (17, 109877), (19, 109871), (20, 109856), (21, 109841), (23, 109826), (24, 109793),

Gene: Klein_246 Start: 110960, Stop: 110790, Start Num: 12
Candidate Starts for Klein_246:
(Start: 12 @110960 has 18 MA's), (17, 110885), (19, 110879), (21, 110849), (23, 110834), (24, 110801),

Gene: Lamina13_95 Start: 52275, Stop: 52463, Start Num: 10
Candidate Starts for Lamina13_95:
(Start: 5 @52197 has 6 MA's), (Start: 10 @52275 has 49 MA's), (14, 52314), (16, 52350), (18, 52371), (22, 52419), (23, 52422),

Gene: Levia_86 Start: 48809, Stop: 48997, Start Num: 10
Candidate Starts for Levia_86:
(Start: 5 @48731 has 6 MA's), (Start: 10 @48809 has 49 MA's), (14, 48848), (16, 48884), (18, 48905), (22, 48953), (23, 48956),

Gene: LittleE_227 Start: 107654, Stop: 107484, Start Num: 11
Candidate Starts for LittleE_227:
(Start: 11 @107654 has 20 MA's), (15, 107600), (17, 107579), (19, 107573), (20, 107558), (23, 107528), (24, 107495),

Gene: Lucky2013_236 Start: 107449, Stop: 107279, Start Num: 11
Candidate Starts for Lucky2013_236:
(Start: 11 @107449 has 20 MA's), (15, 107395), (17, 107374), (19, 107368), (20, 107353), (21, 107338), (23, 107323), (24, 107290),

Gene: MPlant7149_91 Start: 50406, Stop: 50594, Start Num: 10
Candidate Starts for MPlant7149_91:
(6, 50346), (Start: 10 @50406 has 49 MA's), (14, 50445), (18, 50502), (22, 50550), (23, 50553),

Gene: Marchy_88 Start: 49213, Stop: 49401, Start Num: 10
Candidate Starts for Marchy_88:
(Start: 5 @49135 has 6 MA's), (Start: 10 @49213 has 49 MA's), (14, 49252), (16, 49288), (18, 49309), (22, 49357), (23, 49360),

Gene: Marge_88 Start: 50288, Stop: 50476, Start Num: 10

Candidate Starts for Marge_88:
(Start: 5 @50210 has 6 MA's), (Start: 10 @50288 has 49 MA's), (14, 50327), (18, 50384), (22, 50432), (23, 50435),

Gene: Marleymoo_218 Start: 107330, Stop: 107160, Start Num: 11
Candidate Starts for Marleymoo_218:
(Start: 11 @107330 has 20 MA's), (15, 107276), (17, 107255), (19, 107249), (20, 107234), (23, 107204), (24, 107171),

Gene: Marsha_95 Start: 53472, Stop: 53660, Start Num: 10
Candidate Starts for Marsha_95:
(Start: 5 @53394 has 6 MA's), (Start: 10 @53472 has 49 MA's), (14, 53511), (18, 53568), (22, 53616), (23, 53619),

Gene: MiaZeal_249 Start: 109586, Stop: 109416, Start Num: 11
Candidate Starts for MiaZeal_249:
(Start: 11 @109586 has 20 MA's), (15, 109532), (17, 109511), (19, 109505), (20, 109490), (21, 109475), (23, 109460), (24, 109427),

Gene: Minerva_236 Start: 108644, Stop: 108474, Start Num: 11
Candidate Starts for Minerva_236:
(Start: 11 @108644 has 20 MA's), (15, 108590), (17, 108569), (19, 108563), (20, 108548), (21, 108533), (23, 108518), (24, 108485),

Gene: Monet_95 Start: 52421, Stop: 52609, Start Num: 10
Candidate Starts for Monet_95:
(Start: 5 @52343 has 6 MA's), (Start: 10 @52421 has 49 MA's), (14, 52460), (16, 52496), (18, 52517), (22, 52565), (23, 52568),

Gene: Mryolo_86 Start: 49530, Stop: 49718, Start Num: 10
Candidate Starts for Mryolo_86:
(Start: 10 @49530 has 49 MA's), (14, 49569), (16, 49605), (18, 49626), (23, 49677),

Gene: Mule_94 Start: 50492, Stop: 50680, Start Num: 10
Candidate Starts for Mule_94:
(Start: 5 @50414 has 6 MA's), (Start: 10 @50492 has 49 MA's), (14, 50531), (16, 50567), (18, 50588), (22, 50636), (23, 50639),

Gene: Nekros_238 Start: 110720, Stop: 110550, Start Num: 12
Candidate Starts for Nekros_238:
(Start: 12 @110720 has 18 MA's), (17, 110645), (19, 110639), (20, 110624), (21, 110609), (23, 110594), (24, 110561),

Gene: Nerujay_95 Start: 52483, Stop: 52671, Start Num: 10
Candidate Starts for Nerujay_95:
(Start: 5 @52405 has 6 MA's), (Start: 10 @52483 has 49 MA's), (14, 52522), (16, 52558), (18, 52579), (22, 52627), (23, 52630),

Gene: Nibley_228 Start: 106013, Stop: 105843, Start Num: 11
Candidate Starts for Nibley_228:
(4, 106130), (Start: 11 @106013 has 20 MA's), (15, 105959), (17, 105938), (19, 105932), (20, 105917), (23, 105887), (24, 105854),

Gene: NihilNomen_239 Start: 109469, Stop: 109299, Start Num: 11
Candidate Starts for NihilNomen_239:
(1, 109667), (2, 109631), (Start: 11 @109469 has 20 MA's), (15, 109415), (17, 109394), (19, 109388), (20, 109373), (23, 109343), (24, 109310),

Gene: Odette_237 Start: 110839, Stop: 110669, Start Num: 11
Candidate Starts for Odette_237:
(Start: 11 @110839 has 20 MA's), (15, 110785), (17, 110764), (19, 110758), (20, 110743), (21, 110728), (23, 110713), (24, 110680),

Gene: Optimus_229 Start: 108240, Stop: 108070, Start Num: 11
Candidate Starts for Optimus_229:
(Start: 11 @108240 has 20 MA's), (15, 108186), (17, 108165), (19, 108159), (20, 108144), (23, 108114), (24, 108081),

Gene: Paraselene_89 Start: 50197, Stop: 50385, Start Num: 10
Candidate Starts for Paraselene_89:
(Start: 5 @50119 has 6 MA's), (Start: 10 @50197 has 49 MA's), (14, 50236), (18, 50293), (22, 50341), (23, 50344),

Gene: Parliament_92 Start: 52757, Stop: 52945, Start Num: 10
Candidate Starts for Parliament_92:
(Start: 5 @52679 has 6 MA's), (Start: 10 @52757 has 49 MA's), (14, 52796), (16, 52832), (18, 52853), (22, 52901), (23, 52904),

Gene: Payneful_84 Start: 48305, Stop: 48493, Start Num: 10
Candidate Starts for Payneful_84:
(Start: 5 @48227 has 6 MA's), (Start: 10 @48305 has 49 MA's), (14, 48344), (16, 48380), (18, 48401), (22, 48449), (23, 48452),

Gene: Perseus_92 Start: 52288, Stop: 52476, Start Num: 10
Candidate Starts for Perseus_92:
(Start: 5 @52210 has 6 MA's), (Start: 10 @52288 has 49 MA's), (14, 52327), (16, 52363), (18, 52384), (22, 52432), (23, 52435),

Gene: PhineBark_86 Start: 49827, Stop: 50015, Start Num: 10
Candidate Starts for PhineBark_86:
(Start: 5 @49749 has 6 MA's), (Start: 10 @49827 has 49 MA's), (14, 49866), (16, 49902), (18, 49923), (22, 49971), (23, 49974),

Gene: Phoebus_236 Start: 112956, Stop: 112786, Start Num: 12
Candidate Starts for Phoebus_236:
(Start: 12 @112956 has 18 MA's), (15, 112902), (17, 112881), (19, 112875), (21, 112845), (23, 112830), (24, 112797),

Gene: PhrostyMug_96 Start: 52584, Stop: 52850, Start Num: 5
Candidate Starts for PhrostyMug_96:
(Start: 5 @52584 has 6 MA's), (Start: 10 @52662 has 49 MA's), (14, 52701), (16, 52737), (18, 52758), (22, 52806), (23, 52809),

Gene: PinkPlastic_84 Start: 48627, Stop: 48815, Start Num: 10
Candidate Starts for PinkPlastic_84:

(Start: 5 @48549 has 6 MA's), (Start: 10 @48627 has 49 MA's), (14, 48666), (18, 48723), (22, 48771), (23, 48774),

Gene: Porcelain_240 Start: 108396, Stop: 108226, Start Num: 11
Candidate Starts for Porcelain_240:
(Start: 11 @108396 has 20 MA's), (15, 108342), (17, 108321), (19, 108315), (20, 108300), (21, 108285), (23, 108270), (24, 108237),

Gene: Pound_226 Start: 108635, Stop: 108465, Start Num: 11
Candidate Starts for Pound_226:
(Start: 11 @108635 has 20 MA's), (15, 108581), (17, 108560), (19, 108554), (20, 108539), (23, 108509), (24, 108476),

Gene: ProMouse_92 Start: 49817, Stop: 50005, Start Num: 10
Candidate Starts for ProMouse_92:
(7, 49784), (Start: 10 @49817 has 49 MA's), (14, 49856), (16, 49892), (18, 49913), (22, 49961), (23, 49964),

Gene: Rearden_238 Start: 108749, Stop: 108579, Start Num: 11
Candidate Starts for Rearden_238:
(4, 108866), (Start: 11 @108749 has 20 MA's), (15, 108695), (17, 108674), (19, 108668), (20, 108653), (23, 108623), (24, 108590),

Gene: Redno2_229 Start: 107065, Stop: 106895, Start Num: 12
Candidate Starts for Redno2_229:
(Start: 12 @107065 has 18 MA's), (15, 107011), (17, 106990), (19, 106984), (21, 106954), (23, 106939), (24, 106906),

Gene: Rhynn_84 Start: 50499, Stop: 50690, Start Num: 9
Candidate Starts for Rhynn_84:
(Start: 9 @50499 has 1 MA's), (13, 50517),

Gene: RidgeCB_92 Start: 49870, Stop: 50058, Start Num: 10
Candidate Starts for RidgeCB_92:
(Start: 5 @49792 has 6 MA's), (Start: 10 @49870 has 49 MA's), (14, 49909), (18, 49966), (22, 50014), (23, 50017),

Gene: Sagefire_87 Start: 50489, Stop: 50677, Start Num: 10
Candidate Starts for Sagefire_87:
(Start: 5 @50411 has 6 MA's), (Start: 10 @50489 has 49 MA's), (14, 50528), (18, 50585), (22, 50633), (23, 50636),

Gene: Schatzie_230 Start: 109981, Stop: 109811, Start Num: 12
Candidate Starts for Schatzie_230:
(Start: 12 @109981 has 18 MA's), (15, 109927), (17, 109906), (19, 109900), (21, 109870), (23, 109855), (24, 109822),

Gene: Shaboozey_235 Start: 107285, Stop: 107115, Start Num: 11
Candidate Starts for Shaboozey_235:
(4, 107402), (Start: 11 @107285 has 20 MA's), (15, 107231), (17, 107210), (19, 107204), (20, 107189), (23, 107159), (24, 107126),

Gene: SkiPole_101 Start: 52158, Stop: 52346, Start Num: 10

Candidate Starts for SkiPole_101:
(Start: 5 @52080 has 6 MA's), (Start: 10 @52158 has 49 MA's), (14, 52197), (18, 52254), (22, 52302), (23, 52305),

Gene: Smairt_99 Start: 53679, Stop: 53867, Start Num: 10
Candidate Starts for Smairt_99:
(Start: 5 @53601 has 6 MA's), (Start: 10 @53679 has 49 MA's), (14, 53718), (16, 53754), (18, 53775), (22, 53823), (23, 53826),

Gene: Solon_85 Start: 48499, Stop: 48687, Start Num: 10
Candidate Starts for Solon_85:
(Start: 5 @48421 has 6 MA's), (Start: 10 @48499 has 49 MA's), (14, 48538), (18, 48595), (22, 48643), (23, 48646),

Gene: Squint_237 Start: 109202, Stop: 109032, Start Num: 11
Candidate Starts for Squint_237:
(Start: 11 @109202 has 20 MA's), (15, 109148), (17, 109127), (19, 109121), (20, 109106), (21, 109091), (23, 109076), (24, 109043),

Gene: StewieG_89 Start: 48436, Stop: 48624, Start Num: 10
Candidate Starts for StewieG_89:
(Start: 5 @48358 has 6 MA's), (Start: 10 @48436 has 49 MA's), (14, 48475), (22, 48580),

Gene: Sumter_89 Start: 51678, Stop: 51866, Start Num: 10
Candidate Starts for Sumter_89:
(Start: 5 @51600 has 6 MA's), (Start: 10 @51678 has 49 MA's), (14, 51717), (16, 51753), (18, 51774), (22, 51822), (23, 51825),

Gene: Sunshine924_95 Start: 50380, Stop: 50568, Start Num: 10
Candidate Starts for Sunshine924_95:
(6, 50320), (Start: 10 @50380 has 49 MA's), (14, 50419), (18, 50476), (22, 50524), (23, 50527),

Gene: Superphikiman_236 Start: 108134, Stop: 107964, Start Num: 11
Candidate Starts for Superphikiman_236:
(Start: 11 @108134 has 20 MA's), (15, 108080), (17, 108059), (19, 108053), (20, 108038), (23, 108008), (24, 107975),

Gene: Tasp14_88 Start: 50361, Stop: 50627, Start Num: 5
Candidate Starts for Tasp14_88:
(Start: 5 @50361 has 6 MA's), (Start: 10 @50439 has 49 MA's), (14, 50478), (22, 50583), (23, 50586),

Gene: Thibault_212 Start: 104920, Stop: 104750, Start Num: 11
Candidate Starts for Thibault_212:
(3, 105046), (4, 105043), (Start: 11 @104920 has 20 MA's), (15, 104866), (17, 104845), (19, 104839), (20, 104824), (23, 104794), (24, 104761),

Gene: ThreeRngTarjay_237 Start: 112169, Stop: 111999, Start Num: 12
Candidate Starts for ThreeRngTarjay_237:
(Start: 12 @112169 has 18 MA's), (15, 112115), (17, 112094), (19, 112088), (21, 112058), (23, 112043), (24, 112010),

Gene: Trouble_92 Start: 51117, Stop: 51305, Start Num: 10
Candidate Starts for Trouble_92:

(Start: 5 @51039 has 6 MA's), (Start: 10 @51117 has 49 MA's), (14, 51156), (16, 51192), (18, 51213), (22, 51261), (23, 51264),

Gene: Violet_89 Start: 51521, Stop: 51709, Start Num: 10
Candidate Starts for Violet_89:
(Start: 5 @51443 has 6 MA's), (Start: 10 @51521 has 49 MA's), (14, 51560), (18, 51617), (22, 51665),

Gene: Wanda_238 Start: 108590, Stop: 108420, Start Num: 12
Candidate Starts for Wanda_238:
(Start: 12 @108590 has 18 MA's), (17, 108515), (19, 108509), (21, 108479), (23, 108464), (24, 108431),

Gene: Xiaokay_224 Start: 109243, Stop: 109073, Start Num: 11
Candidate Starts for Xiaokay_224:
(Start: 11 @109243 has 20 MA's), (15, 109189), (17, 109168), (19, 109162), (20, 109147), (23, 109117), (24, 109084),

Gene: Yeet_232 Start: 110085, Stop: 109915, Start Num: 12
Candidate Starts for Yeet_232:
(Start: 12 @110085 has 18 MA's), (15, 110031), (17, 110010), (19, 110004), (21, 109974), (23, 109959), (24, 109926),

Gene: Zelink_231 Start: 109673, Stop: 109503, Start Num: 12
Candidate Starts for Zelink_231:
(Start: 12 @109673 has 18 MA's), (17, 109598), (19, 109592), (21, 109562), (23, 109547), (24, 109514),

Gene: Zeuska_93 Start: 52658, Stop: 52924, Start Num: 5
Candidate Starts for Zeuska_93:
(Start: 5 @52658 has 6 MA's), (Start: 10 @52736 has 49 MA's), (14, 52775), (18, 52832), (22, 52880), (23, 52883),