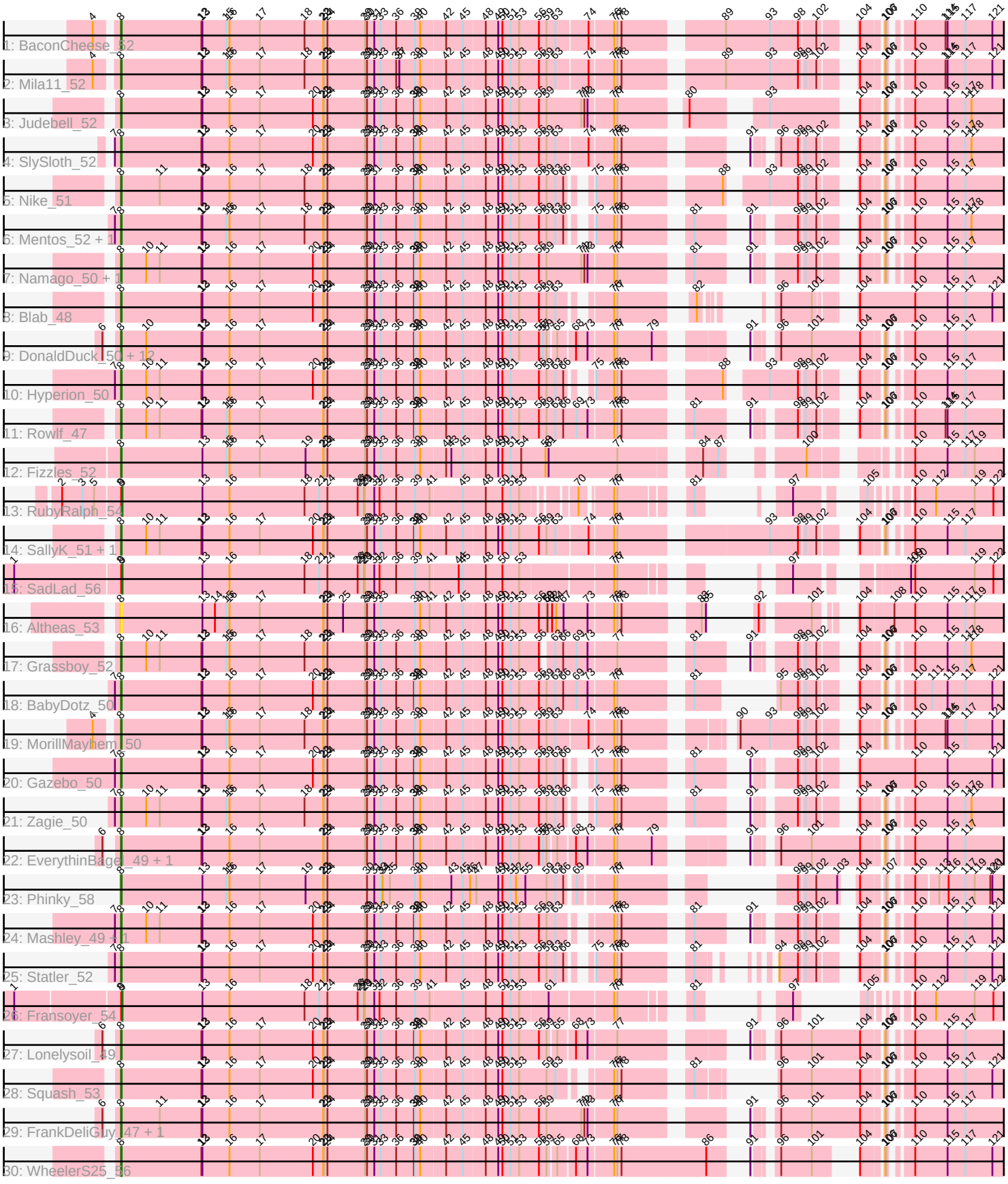
Pham 347734


1: BaconCheese_52
2: Mila11_52
3: Judebell_52
4: SlySloth_52
5: Nike_51
6: Mentos_52 + 1
7: Namago_50 + 1
8: Blab_48
9: DonaldDuck_50 + 12
10: Hyperion_50
11: Rowlf_47
12: Fizzles_52
13: RubyRalph_54
14: SallyK_51 + 1
15: SadLad_56
16: Altheas_53
17: Grassboy_52
18: BabyDotz_50
19: MorillMayhem_50
20: Gazebo_50
21: Zagie_50
22: EverythinBagel_49 + 1
23: Phinky_58
24: Mashley_49 + 1
25: Statler_52
26: Fransoyer_54
27: Lonelysoil_49
28: Squash_53
29: FrankDeliGuy_47 + 1
30: WheelerS25_56

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 347734 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347734 has 48 members, 3 are drafts.

Phages represented in each track:
• Track 1 : BaconCheese_52
• Track 2 : Mila11_52
• Track 3 : Judebell_52
• Track 4 : SlySloth_52
• Track 5 : Nike_51
• Track 6 : Mentos_52, StrawberryJamm_53
• Track 7 : Namago_50, Kyva_52
• Track 8 : Blab_48
• Track 9 : DonaldDuck_50, Llemily_50, Wheelie_50, Casend_51, Wayne3_52, Quammi_48, Rudy_48, Jehoshaphat_52, Viceroy_49, Zhafia_53, Teehee_51, Sillytadpoles_51, Phabia_50
• Track 10 : Hyperion_50
• Track 11 : Rowlf_47
• Track 12 : Fizzles_52
• Track 13 : RubyRalph_54
• Track 14 : SallyK_51, Tissue_51
• Track 15 : SadLad_56
• Track 16 : Altheas_53
• Track 17 : Grassboy_52
• Track 18 : BabyDotz_50
• Track 19 : MorillMayhem_50
• Track 20 : Gazebo_50
• Track 21 : Zagie_50
• Track 22 : EverythinBagel_49, LilCahh_49
• Track 23 : Phinky_58
• Track 24 : Mashley_49, AluminumJesus_48
• Track 25 : Statler_52
• Track 26 : Fransoyer_54
• Track 27 : Lonelysoil_49
• Track 28 : Squash_53
• Track 29 : FrankDeliGuy_47, ZestyBestie_48
• Track 30 : WheelerS25_56

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

The start number called the most often in the published annotations is 8, it was called in 42 of the 45 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Altheas_53, AluminumJesus_48, BabyDotz_50, BaconCheese_52, Blab_48, Casend_51, DonaldDuck_50, EverythinBagel_49, Fizzles_52, FrankDeliGuy_47, Gazebo_50, Grassboy_52, Hyperion_50, Jehoshaphat_52, Judebell_52, Kyva_52, LilCahh_49, Llemily_50, Lonelysoil_49, Mashley_49, Mentos_52, Mila11_52, MorillMayhem_50, Namago_50, Nike_51, Phabia_50, Phinky_58, Quammi_48, Rowlf_47, Rudy_48, SallyK_51, Sillytadpoles_51, SlySloth_52, Squash_53, Statler_52, StrawberryJamm_53, Teehee_51, Tissue_51, Viceroy_49, Wayne3_52, WheelerS25_56, Wheelie_50, Zagie_50, ZestyBestie_48, Zhafia_53,

Genes that have the "Most Annotated" start but do not call it:
• Fransoyer_54, RubyRalph_54, SadLad_56,

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

Summary by start number:

Start 8:
• Found in 48 of 48 (100.0%) of genes in pham
• Manual Annotations of this start: 42 of 45
• Called 93.8% of time when present
• Phage (with cluster) where this start called: Altheas_53 (EG), AluminumJesus_48 (EG), BabyDotz_50 (EG), BaconCheese_52 (EG), Blab_48 (EG), Casend_51 (EG), DonaldDuck_50 (EG), EverythinBagel_49 (EG), Fizzles_52 (EG), FrankDeliGuy_47 (EG), Gazebo_50 (EG), Grassboy_52 (EG), Hyperion_50 (EG), Jehoshaphat_52 (EG), Judebell_52 (EG), Kyva_52 (EG), LilCahh_49 (EG), Llemily_50 (EG), Lonelysoil_49 (EG), Mashley_49 (EG), Mentos_52 (EG), Mila11_52 (EG), MorillMayhem_50 (EG), Namago_50 (EG), Nike_51 (EG), Phabia_50 (EG), Phinky_58 (EG), Quammi_48 (EG), Rowlf_47 (EG), Rudy_48 (EG), SallyK_51 (EG), Sillytadpoles_51 (EG), SlySloth_52 (EG), Squash_53 (EG), Statler_52 (EG), StrawberryJamm_53 (EG), Teehee_51 (EG), Tissue_51 (EG), Viceroy_49 (EG), Wayne3_52 (EG), WheelerS25_56 (EG), Wheelie_50 (EG), Zagie_50 (EG), ZestyBestie_48 (EG), Zhafia_53 (EG),

Start 9:
• Found in 3 of 48 (6.2%) of genes in pham
• Manual Annotations of this start: 3 of 45
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Fransoyer_54 (EG), RubyRalph_54 (EG), SadLad_56 (EG),

Summary by clusters:

There is one cluster represented in this pham: EG

Info for manual annotations of cluster EG:
•Start number 8 was manually annotated 42 times for cluster EG.
•Start number 9 was manually annotated 3 times for cluster EG.

Gene Information:

Gene: Altheas_53 Start: 39964, Stop: 37784, Start Num: 8
Candidate Starts for Altheas_53:
(Start: 8 @39964 has 42 MA's), (13, 39730), (14, 39694), (15, 39661), (16, 39652), (17, 39568), (22, 39385), (23, 39382), (24, 39373), (25, 39331), (29, 39268), (30, 39262), (31, 39241), (33, 39223), (39, 39124), (40, 39109), (41, 39082), (42, 39034), (45, 38986), (48, 38926), (49, 38890), (50, 38878), (51, 38854), (53, 38830), (56, 38779), (59, 38758), (60, 38755), (62, 38746), (64, 38734), (67, 38716), (73, 38650), (76, 38581), (77, 38572), (78, 38560), (83, 38386), (85, 38374), (92, 38359), (101, 38248), (104, 38197), (108, 38104), (110, 38047), (115, 37954), (117, 37903), (119, 37876),

Gene: AluminumJesus_48 Start: 39011, Stop: 36867, Start Num: 8
Candidate Starts for AluminumJesus_48:
(7, 39029), (Start: 8 @39011 has 42 MA's), (10, 38939), (11, 38900), (12, 38780), (13, 38777), (16, 38699), (17, 38615), (20, 38462), (22, 38432), (23, 38429), (24, 38420), (29, 38315), (30, 38309), (31, 38288), (33, 38270), (36, 38225), (38, 38174), (39, 38171), (40, 38156), (42, 38087), (45, 38039), (48, 37979), (49, 37943), (50, 37931), (51, 37907), (53, 37883), (56, 37829), (59, 37808), (63, 37787), (76, 37679), (77, 37670), (78, 37658), (81, 37508), (91, 37418), (98, 37328), (99, 37313), (102, 37283), (104, 37229), (106, 37175), (107, 37172), (110, 37127), (115, 37034), (117, 36983), (121, 36905),

Gene: BabyDotz_50 Start: 40022, Stop: 37881, Start Num: 8
Candidate Starts for BabyDotz_50:
(7, 40040), (Start: 8 @40022 has 42 MA's), (12, 39791), (13, 39788), (16, 39710), (17, 39626), (20, 39473), (22, 39443), (23, 39440), (24, 39431), (29, 39326), (30, 39320), (31, 39299), (33, 39281), (36, 39236), (38, 39185), (39, 39182), (40, 39167), (42, 39098), (45, 39050), (48, 38990), (49, 38954), (50, 38942), (51, 38918), (53, 38894), (56, 38840), (59, 38819), (63, 38798), (66, 38777), (69, 38738), (73, 38708), (76, 38639), (77, 38630), (81, 38468), (95, 38390), (98, 38342), (99, 38327), (102, 38297), (104, 38243), (106, 38189), (107, 38186), (110, 38141), (111, 38093), (115, 38048), (117, 37997), (121, 37919),

Gene: BaconCheese_52 Start: 40707, Stop: 38407, Start Num: 8
Candidate Starts for BaconCheese_52:
(4, 40761), (Start: 8 @40707 has 42 MA's), (12, 40479), (13, 40476), (15, 40407), (16, 40398), (17, 40314), (18, 40185), (22, 40131), (23, 40128), (24, 40119), (29, 40014), (30, 40008), (31, 39987), (33, 39969), (36, 39924), (39, 39870), (40, 39855), (42, 39786), (45, 39738), (48, 39678), (49, 39642), (50, 39630), (51, 39606), (53, 39582), (56, 39528), (59, 39507), (63, 39486), (74, 39402), (76, 39336), (77, 39327), (78, 39315), (89, 39075), (93, 38949), (98, 38868), (102, 38823), (104, 38769), (106, 38715), (107, 38712), (110, 38667), (114, 38580), (115, 38574), (117, 38523), (121, 38445),

Gene: Blab_48 Start: 38894, Stop: 36780, Start Num: 8
Candidate Starts for Blab_48:
(Start: 8 @38894 has 42 MA's), (12, 38663), (13, 38660), (16, 38582), (17, 38498), (20, 38345), (22, 38315), (23, 38312), (24, 38303), (29, 38198), (30, 38192), (31, 38171), (33, 38153), (36, 38108), (38, 38057), (39, 38054), (40, 38039), (42, 37970), (45, 37922), (48, 37862), (49, 37826), (50, 37814), (51, 37790), (53, 37766), (56, 37712), (59, 37691), (63, 37670), (76, 37562), (77, 37553), (82, 37394), (96, 37334), (101, 37250), (104, 37199), (110, 37040), (115, 36947), (117, 36896), (121, 36818),

Gene: Casend_51 Start: 39802, Stop: 37565, Start Num: 8
Candidate Starts for Casend_51:

(6, 39820), (Start: 8 @39802 has 42 MA's), (10, 39730), (12, 39571), (13, 39568), (16, 39490), (17, 39406), (22, 39223), (23, 39220), (24, 39211), (29, 39106), (30, 39100), (31, 39079), (33, 39061), (36, 39016), (38, 38965), (39, 38962), (40, 38947), (42, 38878), (45, 38830), (48, 38770), (49, 38734), (50, 38722), (51, 38698), (53, 38674), (56, 38620), (57, 38608), (59, 38599), (65, 38578), (68, 38539), (73, 38509), (76, 38440), (77, 38431), (79, 38332), (91, 38185), (96, 38143), (101, 38059), (104, 37927), (106, 37873), (107, 37870), (110, 37825), (115, 37732), (117, 37681),

Gene: DonaldDuck_50 Start: 39151, Stop: 36914, Start Num: 8
Candidate Starts for DonaldDuck_50:
(6, 39169), (Start: 8 @39151 has 42 MA's), (10, 39079), (12, 38920), (13, 38917), (16, 38839), (17, 38755), (22, 38572), (23, 38569), (24, 38560), (29, 38455), (30, 38449), (31, 38428), (33, 38410), (36, 38365), (38, 38314), (39, 38311), (40, 38296), (42, 38227), (45, 38179), (48, 38119), (49, 38083), (50, 38071), (51, 38047), (53, 38023), (56, 37969), (57, 37957), (59, 37948), (65, 37927), (68, 37888), (73, 37858), (76, 37789), (77, 37780), (79, 37681), (91, 37534), (96, 37492), (101, 37408), (104, 37276), (106, 37222), (107, 37219), (110, 37174), (115, 37081), (117, 37030),

Gene: EverythinBagel_49 Start: 39539, Stop: 37302, Start Num: 8
Candidate Starts for EverythinBagel_49:
(6, 39557), (Start: 8 @39539 has 42 MA's), (12, 39308), (13, 39305), (16, 39227), (17, 39143), (22, 38960), (23, 38957), (24, 38948), (29, 38843), (30, 38837), (31, 38816), (33, 38798), (36, 38753), (38, 38702), (39, 38699), (40, 38684), (42, 38615), (45, 38567), (48, 38507), (49, 38471), (50, 38459), (51, 38435), (53, 38411), (56, 38357), (57, 38345), (59, 38336), (65, 38315), (68, 38276), (73, 38246), (76, 38177), (77, 38168), (79, 38069), (91, 37922), (96, 37880), (101, 37796), (104, 37664), (106, 37610), (107, 37607), (110, 37562), (115, 37469), (117, 37418),

Gene: Fizzles_52 Start: 39934, Stop: 37724, Start Num: 8
Candidate Starts for Fizzles_52:
(Start: 8 @39934 has 42 MA's), (13, 39700), (15, 39631), (16, 39622), (17, 39538), (19, 39406), (22, 39355), (23, 39352), (24, 39343), (29, 39238), (30, 39232), (31, 39211), (33, 39193), (36, 39148), (39, 39094), (40, 39079), (42, 39010), (43, 38995), (45, 38962), (48, 38902), (49, 38866), (50, 38854), (51, 38830), (54, 38800), (58, 38731), (61, 38722), (77, 38527), (84, 38344), (87, 38305), (100, 38173), (110, 37987), (115, 37894), (117, 37843), (119, 37816),

Gene: FrankDeliGuy_47 Start: 39162, Stop: 36895, Start Num: 8
Candidate Starts for FrankDeliGuy_47:
(6, 39180), (Start: 8 @39162 has 42 MA's), (11, 39051), (12, 38931), (13, 38928), (16, 38850), (17, 38766), (22, 38583), (23, 38580), (24, 38571), (29, 38466), (30, 38460), (31, 38439), (33, 38421), (36, 38376), (38, 38325), (39, 38322), (40, 38307), (42, 38238), (45, 38190), (48, 38130), (49, 38094), (50, 38082), (51, 38058), (53, 38034), (56, 37980), (59, 37959), (71, 37863), (72, 37854), (73, 37845), (76, 37776), (77, 37767), (91, 37515), (96, 37473), (101, 37389), (104, 37257), (106, 37203), (107, 37200), (110, 37155), (115, 37062), (117, 37011),

Gene: Fransoyer_54 Start: 41748, Stop: 39766, Start Num: 9
Candidate Starts for Fransoyer_54:
(1, 42033), (Start: 8 @41751 has 42 MA's), (Start: 9 @41748 has 3 MA's), (13, 41520), (16, 41442), (18, 41226), (21, 41184), (24, 41160), (26, 41073), (27, 41067), (28, 41055), (29, 41052), (31, 41025), (32, 41010), (36, 40965), (39, 40911), (41, 40869), (45, 40779), (48, 40713), (50, 40665), (51, 40641), (53, 40617), (61, 40539), (76, 40368), (77, 40359), (81, 40221), (97, 40143), (105, 40104), (110, 40041), (112, 39981), (119, 39873), (122, 39819),

Gene: Gazebo_50 Start: 39682, Stop: 37481, Start Num: 8
Candidate Starts for Gazebo_50:

(7, 39700), (Start: 8 @39682 has 42 MA's), (12, 39451), (13, 39448), (16, 39370), (17, 39286), (20, 39133), (22, 39103), (23, 39100), (24, 39091), (29, 38986), (30, 38980), (31, 38959), (33, 38941), (36, 38896), (38, 38845), (39, 38842), (40, 38827), (42, 38758), (45, 38710), (48, 38650), (49, 38614), (50, 38602), (51, 38578), (53, 38554), (56, 38500), (59, 38479), (63, 38458), (66, 38437), (75, 38401), (76, 38350), (77, 38341), (78, 38329), (81, 38179), (91, 38089), (98, 37999), (99, 37984), (102, 37954), (104, 37900), (110, 37741), (115, 37648), (121, 37519),

Gene: Grassboy_52 Start: 39706, Stop: 37532, Start Num: 8
Candidate Starts for Grassboy_52:
(Start: 8 @39706 has 42 MA's), (10, 39634), (11, 39595), (12, 39475), (13, 39472), (15, 39403), (16, 39394), (17, 39310), (18, 39181), (22, 39127), (23, 39124), (24, 39115), (29, 39010), (30, 39004), (31, 38983), (33, 38965), (36, 38920), (39, 38866), (40, 38851), (42, 38782), (45, 38734), (48, 38674), (49, 38638), (50, 38626), (51, 38602), (53, 38578), (56, 38524), (63, 38503), (66, 38482), (69, 38443), (73, 38413), (77, 38335), (81, 38173), (91, 38083), (98, 37993), (99, 37978), (102, 37948), (104, 37894), (106, 37840), (107, 37837), (110, 37792), (115, 37699), (117, 37648), (118, 37630),

Gene: Hyperion_50 Start: 39486, Stop: 37282, Start Num: 8
Candidate Starts for Hyperion_50:
(7, 39504), (Start: 8 @39486 has 42 MA's), (10, 39414), (11, 39375), (12, 39255), (13, 39252), (16, 39174), (17, 39090), (20, 38937), (22, 38907), (23, 38904), (24, 38895), (29, 38790), (30, 38784), (31, 38763), (33, 38745), (36, 38700), (38, 38649), (39, 38646), (40, 38631), (42, 38562), (45, 38514), (48, 38454), (49, 38418), (50, 38406), (51, 38382), (56, 38307), (59, 38286), (63, 38265), (66, 38244), (75, 38208), (76, 38157), (77, 38148), (78, 38136), (88, 37908), (93, 37824), (98, 37743), (99, 37728), (102, 37698), (104, 37644), (106, 37590), (107, 37587), (110, 37542), (115, 37449), (117, 37398),

Gene: Jehoshaphat_52 Start: 40070, Stop: 37833, Start Num: 8
Candidate Starts for Jehoshaphat_52:
(6, 40088), (Start: 8 @40070 has 42 MA's), (10, 39998), (12, 39839), (13, 39836), (16, 39758), (17, 39674), (22, 39491), (23, 39488), (24, 39479), (29, 39374), (30, 39368), (31, 39347), (33, 39329), (36, 39284), (38, 39233), (39, 39230), (40, 39215), (42, 39146), (45, 39098), (48, 39038), (49, 39002), (50, 38990), (51, 38966), (53, 38942), (56, 38888), (57, 38876), (59, 38867), (65, 38846), (68, 38807), (73, 38777), (76, 38708), (77, 38699), (79, 38600), (91, 38453), (96, 38411), (101, 38327), (104, 38195), (106, 38141), (107, 38138), (110, 38093), (115, 38000), (117, 37949),

Gene: Judebell_52 Start: 39579, Stop: 37330, Start Num: 8
Candidate Starts for Judebell_52:
(Start: 8 @39579 has 42 MA's), (12, 39348), (13, 39345), (16, 39267), (17, 39183), (20, 39030), (22, 39000), (23, 38997), (24, 38988), (29, 38883), (30, 38877), (31, 38856), (33, 38838), (36, 38793), (38, 38742), (39, 38739), (40, 38724), (42, 38655), (45, 38607), (48, 38547), (49, 38511), (50, 38499), (51, 38475), (53, 38451), (56, 38397), (59, 38376), (71, 38280), (72, 38271), (73, 38262), (76, 38193), (77, 38184), (80, 38028), (93, 37884), (104, 37692), (106, 37638), (107, 37635), (110, 37590), (115, 37497), (117, 37446), (118, 37428),

Gene: Kyva_52 Start: 39730, Stop: 37532, Start Num: 8
Candidate Starts for Kyva_52:
(Start: 8 @39730 has 42 MA's), (10, 39658), (11, 39619), (12, 39499), (13, 39496), (16, 39418), (17, 39334), (20, 39181), (22, 39151), (23, 39148), (24, 39139), (29, 39034), (30, 39028), (31, 39007), (33, 38989), (36, 38944), (38, 38893), (39, 38890), (40, 38875), (42, 38806), (45, 38758), (48, 38698), (49, 38662), (50, 38650), (51, 38626), (53, 38602), (56, 38548), (59, 38527), (71, 38431), (72, 38422), (73, 38413), (76, 38344), (77, 38335), (81, 38173), (91, 38083), (98, 37993), (99, 37978), (102, 37948), (104, 37894), (106, 37840), (107, 37837), (110, 37792), (115, 37699), (117, 37648),

Gene: LilCahh_49 Start: 39167, Stop: 36930, Start Num: 8

Candidate Starts for LilCahh_49:
(6, 39185), (Start: 8 @39167 has 42 MA's), (12, 38936), (13, 38933), (16, 38855), (17, 38771), (22, 38588), (23, 38585), (24, 38576), (29, 38471), (30, 38465), (31, 38444), (33, 38426), (36, 38381), (38, 38330), (39, 38327), (40, 38312), (42, 38243), (45, 38195), (48, 38135), (49, 38099), (50, 38087), (51, 38063), (53, 38039), (56, 37985), (57, 37973), (59, 37964), (65, 37943), (68, 37904), (73, 37874), (76, 37805), (77, 37796), (79, 37697), (91, 37550), (96, 37508), (101, 37424), (104, 37292), (106, 37238), (107, 37235), (110, 37190), (115, 37097), (117, 37046),

Gene: Llemily_50 Start: 38846, Stop: 36609, Start Num: 8
Candidate Starts for Llemily_50:
(6, 38864), (Start: 8 @38846 has 42 MA's), (10, 38774), (12, 38615), (13, 38612), (16, 38534), (17, 38450), (22, 38267), (23, 38264), (24, 38255), (29, 38150), (30, 38144), (31, 38123), (33, 38105), (36, 38060), (38, 38009), (39, 38006), (40, 37991), (42, 37922), (45, 37874), (48, 37814), (49, 37778), (50, 37766), (51, 37742), (53, 37718), (56, 37664), (57, 37652), (59, 37643), (65, 37622), (68, 37583), (73, 37553), (76, 37484), (77, 37475), (79, 37376), (91, 37229), (96, 37187), (101, 37103), (104, 36971), (106, 36917), (107, 36914), (110, 36869), (115, 36776), (117, 36725),

Gene: Lonelysoil_49 Start: 39088, Stop: 36851, Start Num: 8
Candidate Starts for Lonelysoil_49:
(6, 39106), (Start: 8 @39088 has 42 MA's), (12, 38857), (13, 38854), (16, 38776), (17, 38692), (20, 38539), (22, 38509), (23, 38506), (24, 38497), (29, 38392), (30, 38386), (31, 38365), (33, 38347), (36, 38302), (38, 38251), (39, 38248), (40, 38233), (42, 38164), (45, 38116), (48, 38056), (49, 38020), (50, 38008), (51, 37984), (53, 37960), (56, 37906), (59, 37885), (65, 37864), (68, 37825), (73, 37795), (77, 37717), (91, 37471), (96, 37429), (101, 37345), (104, 37213), (106, 37159), (107, 37156), (110, 37111), (115, 37018), (117, 36967),

Gene: Mashley_49 Start: 39265, Stop: 37121, Start Num: 8
Candidate Starts for Mashley_49:
(7, 39283), (Start: 8 @39265 has 42 MA's), (10, 39193), (11, 39154), (12, 39034), (13, 39031), (16, 38953), (17, 38869), (20, 38716), (22, 38686), (23, 38683), (24, 38674), (29, 38569), (30, 38563), (31, 38542), (33, 38524), (36, 38479), (38, 38428), (39, 38425), (40, 38410), (42, 38341), (45, 38293), (48, 38233), (49, 38197), (50, 38185), (51, 38161), (53, 38137), (56, 38083), (59, 38062), (63, 38041), (76, 37933), (77, 37924), (78, 37912), (81, 37762), (91, 37672), (98, 37582), (99, 37567), (102, 37537), (104, 37483), (106, 37429), (107, 37426), (110, 37381), (115, 37288), (117, 37237), (121, 37159),

Gene: Mentos_52 Start: 40448, Stop: 38304, Start Num: 8
Candidate Starts for Mentos_52:
(7, 40466), (Start: 8 @40448 has 42 MA's), (12, 40217), (13, 40214), (15, 40145), (16, 40136), (17, 40052), (18, 39923), (22, 39869), (23, 39866), (24, 39857), (29, 39752), (30, 39746), (31, 39725), (33, 39707), (36, 39662), (39, 39608), (40, 39593), (42, 39524), (45, 39476), (48, 39416), (49, 39380), (50, 39368), (51, 39344), (53, 39320), (56, 39266), (59, 39245), (63, 39224), (66, 39203), (75, 39167), (76, 39116), (77, 39107), (78, 39095), (81, 38945), (91, 38855), (98, 38765), (99, 38750), (102, 38720), (104, 38666), (106, 38612), (107, 38609), (110, 38564), (115, 38471), (117, 38420), (118, 38402),

Gene: Mila11_52 Start: 40522, Stop: 38222, Start Num: 8
Candidate Starts for Mila11_52:
(4, 40576), (Start: 8 @40522 has 42 MA's), (12, 40294), (13, 40291), (15, 40222), (16, 40213), (17, 40129), (18, 40000), (22, 39946), (23, 39943), (24, 39934), (29, 39829), (30, 39823), (31, 39802), (33, 39784), (36, 39739), (37, 39730), (39, 39685), (40, 39670), (42, 39601), (45, 39553), (48, 39493), (49, 39457), (50, 39445), (51, 39421), (53, 39397), (56, 39343), (59, 39322), (63, 39301), (74, 39217), (76, 39151), (77, 39142), (78, 39130), (89, 38890), (93, 38764), (98, 38683), (99, 38668), (102, 38638), (104, 38584), (106, 38530), (107, 38527), (110, 38482), (114, 38395), (115, 38389), (117, 38338), (121, 38260),

Gene: MorillMayhem_50 Start: 39399, Stop: 37153, Start Num: 8
Candidate Starts for MorillMayhem_50:
(4, 39453), (Start: 8 @39399 has 42 MA's), (12, 39171), (13, 39168), (15, 39099), (16, 39090), (17, 39006), (18, 38877), (22, 38823), (23, 38820), (24, 38811), (29, 38706), (30, 38700), (31, 38679), (33, 38661), (36, 38616), (39, 38562), (40, 38547), (42, 38478), (45, 38430), (48, 38370), (49, 38334), (50, 38322), (51, 38298), (53, 38274), (56, 38220), (59, 38199), (63, 38178), (74, 38094), (76, 38028), (77, 38019), (78, 38007), (90, 37779), (93, 37695), (98, 37614), (99, 37599), (102, 37569), (104, 37515), (106, 37461), (107, 37458), (110, 37413), (114, 37326), (115, 37320), (117, 37269), (121, 37191),

Gene: Namago_50 Start: 38860, Stop: 36662, Start Num: 8
Candidate Starts for Namago_50:
(Start: 8 @38860 has 42 MA's), (10, 38788), (11, 38749), (12, 38629), (13, 38626), (16, 38548), (17, 38464), (20, 38311), (22, 38281), (23, 38278), (24, 38269), (29, 38164), (30, 38158), (31, 38137), (33, 38119), (36, 38074), (38, 38023), (39, 38020), (40, 38005), (42, 37936), (45, 37888), (48, 37828), (49, 37792), (50, 37780), (51, 37756), (53, 37732), (56, 37678), (59, 37657), (71, 37561), (72, 37552), (73, 37543), (76, 37474), (77, 37465), (81, 37303), (91, 37213), (98, 37123), (99, 37108), (102, 37078), (104, 37024), (106, 36970), (107, 36967), (110, 36922), (115, 36829), (117, 36778),

Gene: Nike_51 Start: 39824, Stop: 37617, Start Num: 8
Candidate Starts for Nike_51:
(Start: 8 @39824 has 42 MA's), (11, 39713), (12, 39593), (13, 39590), (16, 39512), (17, 39428), (18, 39299), (22, 39245), (23, 39242), (24, 39233), (29, 39128), (30, 39122), (31, 39101), (36, 39038), (38, 38987), (39, 38984), (40, 38969), (42, 38900), (45, 38852), (48, 38792), (49, 38756), (50, 38744), (51, 38720), (53, 38696), (56, 38642), (59, 38621), (63, 38600), (66, 38579), (75, 38543), (76, 38492), (77, 38483), (78, 38471), (88, 38243), (93, 38159), (98, 38078), (99, 38063), (102, 38033), (104, 37979), (106, 37925), (107, 37922), (110, 37877), (115, 37784), (117, 37733),

Gene: Phabia_50 Start: 39261, Stop: 37024, Start Num: 8
Candidate Starts for Phabia_50:
(6, 39279), (Start: 8 @39261 has 42 MA's), (10, 39189), (12, 39030), (13, 39027), (16, 38949), (17, 38865), (22, 38682), (23, 38679), (24, 38670), (29, 38565), (30, 38559), (31, 38538), (33, 38520), (36, 38475), (38, 38424), (39, 38421), (40, 38406), (42, 38337), (45, 38289), (48, 38229), (49, 38193), (50, 38181), (51, 38157), (53, 38133), (56, 38079), (57, 38067), (59, 38058), (65, 38037), (68, 37998), (73, 37968), (76, 37899), (77, 37890), (79, 37791), (91, 37644), (96, 37602), (101, 37518), (104, 37386), (106, 37332), (107, 37329), (110, 37284), (115, 37191), (117, 37140),

Gene: Phinky_58 Start: 41459, Stop: 39381, Start Num: 8
Candidate Starts for Phinky_58:
(Start: 8 @41459 has 42 MA's), (13, 41225), (15, 41156), (16, 41147), (17, 41063), (19, 40931), (22, 40880), (23, 40877), (24, 40868), (30, 40757), (31, 40736), (33, 40718), (34, 40712), (35, 40691), (39, 40622), (40, 40607), (43, 40523), (45, 40490), (46, 40469), (47, 40451), (49, 40388), (50, 40376), (51, 40352), (52, 40337), (55, 40310), (59, 40256), (63, 40235), (66, 40214), (69, 40193), (76, 40106), (77, 40097), (98, 39845), (99, 39830), (102, 39800), (103, 39740), (104, 39722), (107, 39665), (110, 39620), (113, 39566), (116, 39545), (117, 39497), (119, 39470), (120, 39425), (121, 39419),

Gene: Quammi_48 Start: 38961, Stop: 36724, Start Num: 8
Candidate Starts for Quammi_48:
(6, 38979), (Start: 8 @38961 has 42 MA's), (10, 38889), (12, 38730), (13, 38727), (16, 38649), (17, 38565), (22, 38382), (23, 38379), (24, 38370), (29, 38265), (30, 38259), (31, 38238), (33, 38220), (36, 38175), (38, 38124), (39, 38121), (40, 38106), (42, 38037), (45, 37989), (48, 37929), (49, 37893), (50, 37881), (51, 37857), (53, 37833), (56, 37779), (57, 37767), (59, 37758), (65, 37737), (68, 37698), (73, 37668), (76, 37599), (77, 37590), (79, 37491), (91, 37344), (96, 37302), (101, 37218), (104, 37086),

(106, 37032), (107, 37029), (110, 36984), (115, 36891), (117, 36840),

Gene: Rowlf_47 Start: 38966, Stop: 36771, Start Num: 8
Candidate Starts for Rowlf_47:
(Start: 8 @38966 has 42 MA's), (10, 38894), (11, 38855), (12, 38735), (13, 38732), (15, 38663), (16, 38654), (17, 38570), (22, 38387), (23, 38384), (24, 38375), (29, 38270), (30, 38264), (31, 38243), (33, 38225), (36, 38180), (38, 38129), (39, 38126), (40, 38111), (42, 38042), (45, 37994), (48, 37934), (49, 37898), (50, 37886), (51, 37862), (53, 37838), (56, 37784), (59, 37763), (63, 37742), (66, 37721), (69, 37682), (73, 37652), (76, 37583), (77, 37574), (78, 37562), (81, 37412), (91, 37322), (98, 37232), (99, 37217), (102, 37187), (104, 37133), (106, 37079), (107, 37076), (110, 37031), (114, 36944), (115, 36938), (117, 36887),

Gene: RubyRalph_54 Start: 41686, Stop: 39695, Start Num: 9
Candidate Starts for RubyRalph_54:
(2, 41842), (3, 41785), (5, 41752), (Start: 8 @41689 has 42 MA's), (Start: 9 @41686 has 3 MA's), (13, 41458), (16, 41380), (18, 41164), (21, 41122), (24, 41098), (26, 41011), (27, 41005), (28, 40993), (29, 40990), (31, 40963), (32, 40948), (36, 40903), (39, 40849), (41, 40807), (45, 40717), (48, 40651), (50, 40603), (51, 40579), (53, 40555), (70, 40438), (76, 40366), (77, 40357), (81, 40219), (97, 40141), (105, 40033), (110, 39970), (112, 39910), (119, 39802), (122, 39748),

Gene: Rudy_48 Start: 38994, Stop: 36757, Start Num: 8
Candidate Starts for Rudy_48:
(6, 39012), (Start: 8 @38994 has 42 MA's), (10, 38922), (12, 38763), (13, 38760), (16, 38682), (17, 38598), (22, 38415), (23, 38412), (24, 38403), (29, 38298), (30, 38292), (31, 38271), (33, 38253), (36, 38208), (38, 38157), (39, 38154), (40, 38139), (42, 38070), (45, 38022), (48, 37962), (49, 37926), (50, 37914), (51, 37890), (53, 37866), (56, 37812), (57, 37800), (59, 37791), (65, 37770), (68, 37731), (73, 37701), (76, 37632), (77, 37623), (79, 37524), (91, 37377), (96, 37335), (101, 37251), (104, 37119), (106, 37065), (107, 37062), (110, 37017), (115, 36924), (117, 36873),

Gene: SadLad_56 Start: 42740, Stop: 40638, Start Num: 9
Candidate Starts for SadLad_56:
(1, 43034), (Start: 8 @42743 has 42 MA's), (Start: 9 @42740 has 3 MA's), (13, 42512), (16, 42434), (18, 42218), (21, 42176), (24, 42152), (26, 42065), (27, 42059), (28, 42047), (29, 42044), (31, 42017), (32, 42002), (36, 41957), (39, 41903), (41, 41861), (44, 41783), (45, 41771), (48, 41705), (50, 41657), (53, 41609), (76, 41360), (77, 41351), (97, 41135), (109, 40925), (110, 40913), (119, 40745), (122, 40691),

Gene: SallyK_51 Start: 39973, Stop: 37676, Start Num: 8
Candidate Starts for SallyK_51:
(Start: 8 @39973 has 42 MA's), (10, 39901), (11, 39862), (12, 39742), (13, 39739), (16, 39661), (17, 39577), (20, 39424), (22, 39394), (23, 39391), (24, 39382), (29, 39277), (30, 39271), (31, 39250), (33, 39232), (36, 39187), (38, 39136), (39, 39133), (40, 39118), (42, 39049), (45, 39001), (48, 38941), (49, 38905), (50, 38893), (51, 38869), (53, 38845), (56, 38791), (59, 38770), (63, 38749), (74, 38665), (76, 38599), (77, 38590), (93, 38218), (98, 38137), (99, 38122), (102, 38092), (104, 38038), (106, 37984), (107, 37981), (110, 37936), (115, 37843), (117, 37792),

Gene: Sillytadpoles_51 Start: 38834, Stop: 36597, Start Num: 8
Candidate Starts for Sillytadpoles_51:
(6, 38852), (Start: 8 @38834 has 42 MA's), (10, 38762), (12, 38603), (13, 38600), (16, 38522), (17, 38438), (22, 38255), (23, 38252), (24, 38243), (29, 38138), (30, 38132), (31, 38111), (33, 38093), (36, 38048), (38, 37997), (39, 37994), (40, 37979), (42, 37910), (45, 37862), (48, 37802), (49, 37766), (50, 37754), (51, 37730), (53, 37706), (56, 37652), (57, 37640), (59, 37631), (65, 37610), (68, 37571), (73, 37541), (76, 37472), (77, 37463), (79, 37364), (91, 37217), (96, 37175), (101, 37091), (104, 36959),

(106, 36905), (107, 36902), (110, 36857), (115, 36764), (117, 36713),

Gene: SlySloth_52 Start: 39580, Stop: 37394, Start Num: 8
Candidate Starts for SlySloth_52:
(7, 39598), (Start: 8 @39580 has 42 MA's), (12, 39349), (13, 39346), (16, 39268), (17, 39184), (20, 39031), (22, 39001), (23, 38998), (24, 38989), (29, 38884), (30, 38878), (31, 38857), (33, 38839), (36, 38794), (38, 38743), (39, 38740), (40, 38725), (42, 38656), (45, 38608), (48, 38548), (49, 38512), (50, 38500), (51, 38476), (53, 38452), (56, 38398), (59, 38377), (63, 38356), (74, 38272), (76, 38206), (77, 38197), (78, 38185), (91, 37945), (96, 37903), (98, 37855), (99, 37840), (102, 37810), (104, 37756), (106, 37702), (107, 37699), (110, 37654), (115, 37561), (117, 37510), (118, 37492),

Gene: Squash_53 Start: 39638, Stop: 37479, Start Num: 8
Candidate Starts for Squash_53:
(Start: 8 @39638 has 42 MA's), (12, 39407), (13, 39404), (16, 39326), (17, 39242), (20, 39089), (22, 39059), (23, 39056), (24, 39047), (29, 38942), (30, 38936), (31, 38915), (33, 38897), (36, 38852), (39, 38798), (40, 38783), (42, 38714), (45, 38666), (48, 38606), (49, 38570), (50, 38558), (51, 38534), (53, 38510), (59, 38435), (63, 38414), (76, 38306), (77, 38297), (78, 38285), (81, 38135), (96, 38057), (101, 37973), (104, 37841), (106, 37787), (107, 37784), (110, 37739), (115, 37646), (117, 37595), (121, 37517),

Gene: Statler_52 Start: 39658, Stop: 37568, Start Num: 8
Candidate Starts for Statler_52:
(7, 39676), (Start: 8 @39658 has 42 MA's), (12, 39427), (13, 39424), (16, 39346), (17, 39262), (20, 39109), (22, 39079), (23, 39076), (24, 39067), (29, 38962), (30, 38956), (31, 38935), (33, 38917), (36, 38872), (39, 38818), (40, 38803), (42, 38734), (45, 38686), (48, 38626), (49, 38590), (50, 38578), (51, 38554), (53, 38530), (56, 38476), (59, 38455), (63, 38434), (66, 38413), (75, 38377), (76, 38326), (77, 38317), (78, 38305), (81, 38155), (94, 38077), (98, 38029), (99, 38014), (102, 37984), (104, 37930), (106, 37876), (107, 37873), (110, 37828), (115, 37735), (117, 37684), (121, 37606),

Gene: StrawberryJamm_53 Start: 39109, Stop: 36965, Start Num: 8
Candidate Starts for StrawberryJamm_53:
(7, 39127), (Start: 8 @39109 has 42 MA's), (12, 38878), (13, 38875), (15, 38806), (16, 38797), (17, 38713), (18, 38584), (22, 38530), (23, 38527), (24, 38518), (29, 38413), (30, 38407), (31, 38386), (33, 38368), (36, 38323), (39, 38269), (40, 38254), (42, 38185), (45, 38137), (48, 38077), (49, 38041), (50, 38029), (51, 38005), (53, 37981), (56, 37927), (59, 37906), (63, 37885), (66, 37864), (75, 37828), (76, 37777), (77, 37768), (78, 37756), (81, 37606), (91, 37516), (98, 37426), (99, 37411), (102, 37381), (104, 37327), (106, 37273), (107, 37270), (110, 37225), (115, 37132), (117, 37081), (118, 37063),

Gene: Teehee_51 Start: 40067, Stop: 37830, Start Num: 8
Candidate Starts for Teehee_51:
(6, 40085), (Start: 8 @40067 has 42 MA's), (10, 39995), (12, 39836), (13, 39833), (16, 39755), (17, 39671), (22, 39488), (23, 39485), (24, 39476), (29, 39371), (30, 39365), (31, 39344), (33, 39326), (36, 39281), (38, 39230), (39, 39227), (40, 39212), (42, 39143), (45, 39095), (48, 39035), (49, 38999), (50, 38987), (51, 38963), (53, 38939), (56, 38885), (57, 38873), (59, 38864), (65, 38843), (68, 38804), (73, 38774), (76, 38705), (77, 38696), (79, 38597), (91, 38450), (96, 38408), (101, 38324), (104, 38192), (106, 38138), (107, 38135), (110, 38090), (115, 37997), (117, 37946),

Gene: Tissue_51 Start: 39602, Stop: 37305, Start Num: 8
Candidate Starts for Tissue_51:
(Start: 8 @39602 has 42 MA's), (10, 39530), (11, 39491), (12, 39371), (13, 39368), (16, 39290), (17, 39206), (20, 39053), (22, 39023), (23, 39020), (24, 39011), (29, 38906), (30, 38900), (31, 38879), (33, 38861), (36, 38816), (38, 38765), (39, 38762), (40, 38747), (42, 38678), (45, 38630), (48, 38570), (49, 38534), (50, 38522), (51, 38498), (53, 38474), (56, 38420), (59, 38399), (63, 38378), (74, 38294), (76,

38228), (77, 38219), (93, 37847), (98, 37766), (99, 37751), (102, 37721), (104, 37667), (106, 37613), (107, 37610), (110, 37565), (115, 37472), (117, 37421),

Gene: Viceroy_49 Start: 38964, Stop: 36727, Start Num: 8
Candidate Starts for Viceroy_49:
(6, 38982), (Start: 8 @38964 has 42 MA's), (10, 38892), (12, 38733), (13, 38730), (16, 38652), (17, 38568), (22, 38385), (23, 38382), (24, 38373), (29, 38268), (30, 38262), (31, 38241), (33, 38223), (36, 38178), (38, 38127), (39, 38124), (40, 38109), (42, 38040), (45, 37992), (48, 37932), (49, 37896), (50, 37884), (51, 37860), (53, 37836), (56, 37782), (57, 37770), (59, 37761), (65, 37740), (68, 37701), (73, 37671), (76, 37602), (77, 37593), (79, 37494), (91, 37347), (96, 37305), (101, 37221), (104, 37089), (106, 37035), (107, 37032), (110, 36987), (115, 36894), (117, 36843),

Gene: Wayne3_52 Start: 39830, Stop: 37593, Start Num: 8
Candidate Starts for Wayne3_52:
(6, 39848), (Start: 8 @39830 has 42 MA's), (10, 39758), (12, 39599), (13, 39596), (16, 39518), (17, 39434), (22, 39251), (23, 39248), (24, 39239), (29, 39134), (30, 39128), (31, 39107), (33, 39089), (36, 39044), (38, 38993), (39, 38990), (40, 38975), (42, 38906), (45, 38858), (48, 38798), (49, 38762), (50, 38750), (51, 38726), (53, 38702), (56, 38648), (57, 38636), (59, 38627), (65, 38606), (68, 38567), (73, 38537), (76, 38468), (77, 38459), (79, 38360), (91, 38213), (96, 38171), (101, 38087), (104, 37955), (106, 37901), (107, 37898), (110, 37853), (115, 37760), (117, 37709),

Gene: WheelerS25_56 Start: 40438, Stop: 38219, Start Num: 8
Candidate Starts for WheelerS25_56:
(Start: 8 @40438 has 42 MA's), (12, 40207), (13, 40204), (16, 40126), (17, 40042), (20, 39889), (22, 39859), (23, 39856), (24, 39847), (29, 39742), (30, 39736), (31, 39715), (33, 39697), (36, 39652), (38, 39601), (39, 39598), (40, 39583), (42, 39514), (45, 39466), (48, 39406), (49, 39370), (50, 39358), (51, 39334), (53, 39310), (56, 39256), (59, 39235), (65, 39214), (68, 39175), (73, 39145), (76, 39076), (77, 39067), (78, 39055), (86, 38815), (91, 38758), (96, 38716), (101, 38632), (104, 38581), (106, 38527), (107, 38524), (110, 38479), (115, 38386), (117, 38335), (121, 38257),

Gene: Wheelie_50 Start: 39151, Stop: 36914, Start Num: 8
Candidate Starts for Wheelie_50:
(6, 39169), (Start: 8 @39151 has 42 MA's), (10, 39079), (12, 38920), (13, 38917), (16, 38839), (17, 38755), (22, 38572), (23, 38569), (24, 38560), (29, 38455), (30, 38449), (31, 38428), (33, 38410), (36, 38365), (38, 38314), (39, 38311), (40, 38296), (42, 38227), (45, 38179), (48, 38119), (49, 38083), (50, 38071), (51, 38047), (53, 38023), (56, 37969), (57, 37957), (59, 37948), (65, 37927), (68, 37888), (73, 37858), (76, 37789), (77, 37780), (79, 37681), (91, 37534), (96, 37492), (101, 37408), (104, 37276), (106, 37222), (107, 37219), (110, 37174), (115, 37081), (117, 37030),

Gene: Zagie_50 Start: 39306, Stop: 37162, Start Num: 8
Candidate Starts for Zagie_50:
(7, 39324), (Start: 8 @39306 has 42 MA's), (10, 39234), (11, 39195), (12, 39075), (13, 39072), (15, 39003), (16, 38994), (17, 38910), (18, 38781), (22, 38727), (23, 38724), (24, 38715), (29, 38610), (30, 38604), (31, 38583), (33, 38565), (36, 38520), (38, 38469), (39, 38466), (40, 38451), (42, 38382), (45, 38334), (48, 38274), (49, 38238), (50, 38226), (51, 38202), (53, 38178), (56, 38124), (59, 38103), (63, 38082), (66, 38061), (75, 38025), (76, 37974), (77, 37965), (78, 37953), (81, 37803), (91, 37713), (98, 37623), (99, 37608), (102, 37578), (104, 37524), (106, 37470), (107, 37467), (110, 37422), (115, 37329), (117, 37278), (118, 37260),

Gene: ZestyBestie_48 Start: 39157, Stop: 36890, Start Num: 8
Candidate Starts for ZestyBestie_48:
(6, 39175), (Start: 8 @39157 has 42 MA's), (11, 39046), (12, 38926), (13, 38923), (16, 38845), (17, 38761), (22, 38578), (23, 38575), (24, 38566), (29, 38461), (30, 38455), (31, 38434), (33, 38416), (36,

38371), (38, 38320), (39, 38317), (40, 38302), (42, 38233), (45, 38185), (48, 38125), (49, 38089), (50, 38077), (51, 38053), (53, 38029), (56, 37975), (59, 37954), (71, 37858), (72, 37849), (73, 37840), (76, 37771), (77, 37762), (91, 37510), (96, 37468), (101, 37384), (104, 37252), (106, 37198), (107, 37195), (110, 37150), (115, 37057), (117, 37006),

Gene: Zhafia_53 Start: 39631, Stop: 37394, Start Num: 8
Candidate Starts for Zhafia_53:
(6, 39649), (Start: 8 @39631 has 42 MA's), (10, 39559), (12, 39400), (13, 39397), (16, 39319), (17, 39235), (22, 39052), (23, 39049), (24, 39040), (29, 38935), (30, 38929), (31, 38908), (33, 38890), (36, 38845), (38, 38794), (39, 38791), (40, 38776), (42, 38707), (45, 38659), (48, 38599), (49, 38563), (50, 38551), (51, 38527), (53, 38503), (56, 38449), (57, 38437), (59, 38428), (65, 38407), (68, 38368), (73, 38338), (76, 38269), (77, 38260), (79, 38161), (91, 38014), (96, 37972), (101, 37888), (104, 37756), (106, 37702), (107, 37699), (110, 37654), (115, 37561), (117, 37510),