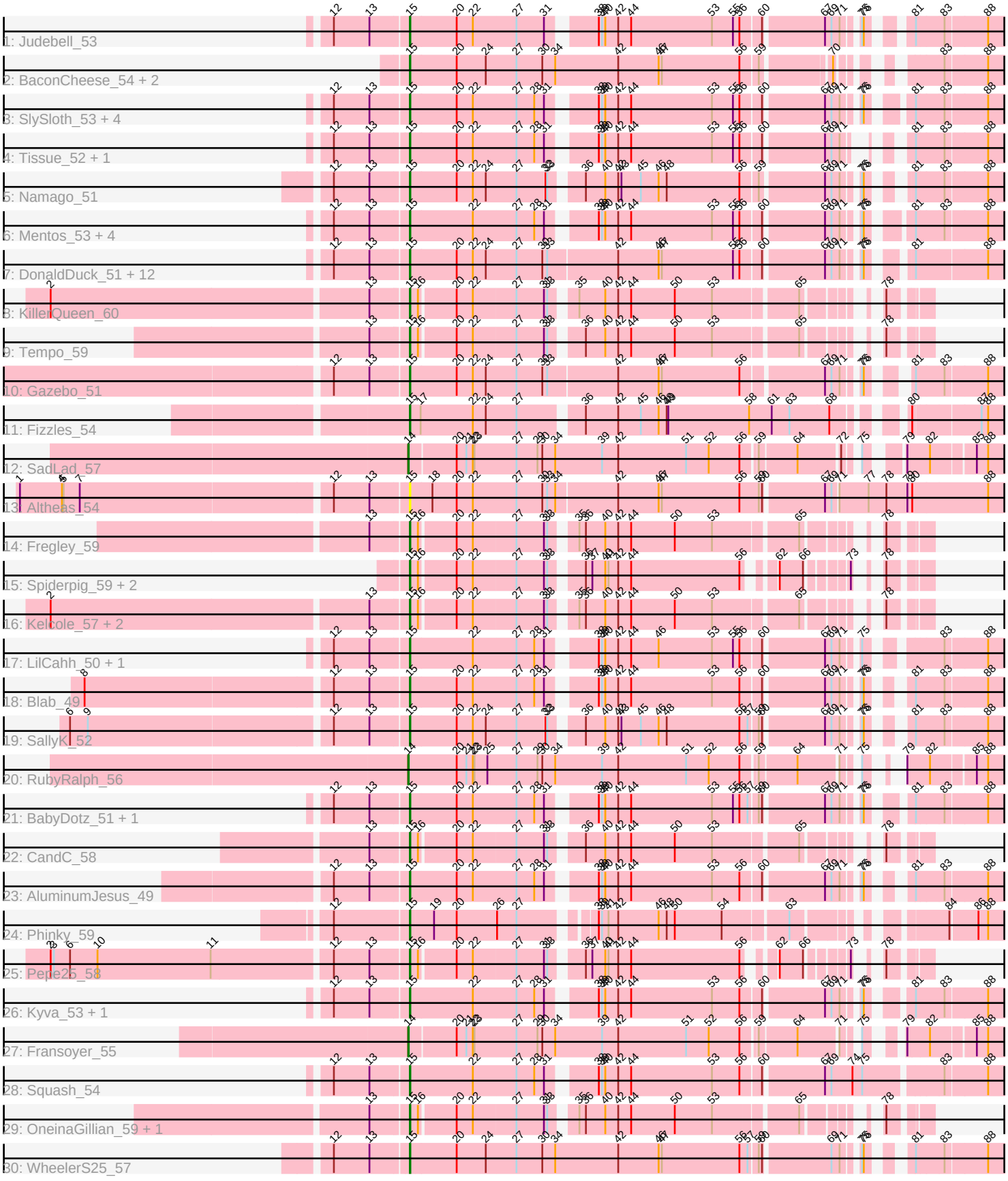
Pham 345758


1: Judebell_53
2: BaconCheese_54 + 2
3: SlySloth_53 + 4
4: Tissue_52 + 1
5: Namago_51
6: Mentos_53 + 4
7: DonaldDuck_51 + 12
8: KillerQueen_60
9: Tempo_59
10: Gazebo_51
11: Fizzles_54
12: SadLad_57
13: Altheas_54
14: Fregley_59
15: Spiderpig_59 + 2
16: Kelcole_57 + 2
17: LilCahh_50 + 1
18: Blab_49
19: SallyKJ_52
20: RubyRalph_56
21: BabyDotz_51 + 1
22: CandC_58
23: AluminumJesus_49
24: Phinky_59
25: Pepe25_58
26: Kyva_53 + 1
27: Fransoyer_55
28: Squash_54
29: OneinaGillian_59 + 1
30: WheelerS25_57

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 345758 Report

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

Pham number 345758 has 61 members, 5 are drafts.

Phages represented in each track:
• Track 1 : Judebell_53
• Track 2 : BaconCheese_54, MorillMayhem_52, Mila11_54
• Track 3 : SlySloth_53, Mashley_50, Hyperion_51, Lonelysoil_50, Nike_52
• Track 4 : Tissue_52, Grassboy_53
• Track 5 : Namago_51
• Track 6 : Mentos_53, Rowlf_48, Zagie_51, FrankDeliGuy_48, ZestyBestie_49
• Track 7 : DonaldDuck_51, Viceroy_50, Wheelie_51, Casend_52, Zhafia_54, Wayne3_53, Phabia_51, Quammi_49, Rudy_49, Jehoshaphat_53, Llemily_51, Teehee_52, Sillytadpoles_52
• Track 8 : KillerQueen_60
• Track 9 : Tempo_59
• Track 10 : Gazebo_51
• Track 11 : Fizzles_54
• Track 12 : SadLad_57
• Track 13 : Altheas_54
• Track 14 : Fregley_59
• Track 15 : Spiderpig_59, BirdInFrench_59, Wilca_59
• Track 16 : Kelcole_57, Romm_61, RobinRose_61
• Track 17 : LilCahh_50, EverythinBagel_50
• Track 18 : Blab_49
• Track 19 : SallyK_52
• Track 20 : RubyRalph_56
• Track 21 : BabyDotz_51, Statler_53
• Track 22 : CandC_58
• Track 23 : AluminumJesus_49
• Track 24 : Phinky_59
• Track 25 : Pepe25_58
• Track 26 : Kyva_53, StrawberryJamm_54
• Track 27 : Fransoyer_55
• Track 28 : Squash_54
• Track 29 : OneinaGillian_59, Marcie_64
• Track 30 : WheelerS25_57

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

The start number called the most often in the published annotations is 15, it was called in 53 of the 56 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Altheas_54, AluminumJesus_49, BabyDotz_51, BaconCheese_54, BirdInFrench_59, Blab_49, CandC_58, Casend_52, DonaldDuck_51, EverythinBagel_50, Fizzles_54, FrankDeliGuy_48, Fregley_59, Gazebo_51, Grassboy_53, Hyperion_51, Jehoshaphat_53, Judebell_53, Kelcole_57, KillerQueen_60, Kyva_53, LilCahh_50, Llemily_51, Lonelysoil_50, Marcie_64, Mashley_50, Mentos_53, Mila11_54, MorillMayhem_52, Namago_51, Nike_52, OneinaGillian_59, Pepe25_58, Phabia_51, Phinky_59, Quammi_49, RobinRose_61, Romm_61, Rowlf_48, Rudy_49, SallyK_52, Sillytadpoles_52, SlySloth_53, Spiderpig_59, Squash_54, Statler_53, StrawberryJamm_54, Teehee_52, Tempo_59, Tissue_52, Viceroy_50, Wayne3_53, WheelerS25_57, Wheelie_51, Wilca_59, Zagie_51, ZestyBestie_49, Zhafia_54,

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

Genes that do not have the "Most Annotated" start:
• Fransoyer_55, RubyRalph_56, SadLad_57,

Summary by start number:

Start 14:
• Found in 3 of 61 (4.9%) of genes in pham
• Manual Annotations of this start: 3 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Fransoyer_55 (EG), RubyRalph_56 (EG), SadLad_57 (EG),

Start 15:
• Found in 58 of 61 (95.1%) of genes in pham
• Manual Annotations of this start: 53 of 56
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Altheas_54 (EG), AluminumJesus_49 (EG), BabyDotz_51 (EG), BaconCheese_54 (EG), BirdInFrench_59 (EG), Blab_49 (EG), CandC_58 (EG), Casend_52 (EG), DonaldDuck_51 (EG), EverythinBagel_50 (EG), Fizzles_54 (EG), FrankDeliGuy_48 (EG), Fregley_59 (EG), Gazebo_51 (EG), Grassboy_53 (EG), Hyperion_51 (EG), Jehoshaphat_53 (EG), Judebell_53 (EG), Kelcole_57 (EG), KillerQueen_60 (EG), Kyva_53 (EG), LilCahh_50 (EG), Llemily_51 (EG), Lonelysoil_50 (EG), Marcie_64 (EG), Mashley_50 (EG), Mentos_53 (EG), Mila11_54 (EG), MorillMayhem_52 (EG), Namago_51 (EG), Nike_52 (EG), OneinaGillian_59 (EG), Pepe25_58 (EG), Phabia_51 (EG), Phinky_59 (EG), Quammi_49 (EG), RobinRose_61 (EG), Romm_61 (EG), Rowlf_48 (EG), Rudy_49 (EG), SallyK_52 (EG), Sillytadpoles_52 (EG), SlySloth_53 (EG), Spiderpig_59 (EG), Squash_54 (EG), Statler_53 (EG), StrawberryJamm_54 (EG), Teehee_52 (EG), Tempo_59 (EG), Tissue_52 (EG), Viceroy_50 (EG), Wayne3_53 (EG), WheelerS25_57 (EG), Wheelie_51 (EG), Wilca_59 (EG), Zagie_51 (EG), ZestyBestie_49 (EG), Zhafia_54 (EG),

Summary by clusters:

There is one cluster represented in this pham: EG

Info for manual annotations of cluster EG:
•Start number 14 was manually annotated 3 times for cluster EG.
•Start number 15 was manually annotated 53 times for cluster EG.

Gene Information:

Gene: Altheas_54 Start: 41052, Stop: 39964, Start Num: 15
Candidate Starts for Altheas_54:
(1, 41742), (4, 41664), (5, 41661), (7, 41631), (12, 41181), (13, 41118), (Start: 15 @41052 has 53 MA's), (18, 41016), (20, 40971), (22, 40941), (27, 40863), (30, 40815), (33, 40806), (34, 40791), (42, 40680), (46, 40605), (47, 40599), (56, 40455), (59, 40425), (60, 40419), (67, 40314), (69, 40302), (71, 40293), (77, 40239), (78, 40206), (79, 40167), (80, 40158), (88, 40020),

Gene: AluminumJesus_49 Start: 40027, Stop: 39011, Start Num: 15
Candidate Starts for AluminumJesus_49:
(12, 40156), (13, 40093), (Start: 15 @40027 has 53 MA's), (20, 39946), (22, 39916), (27, 39838), (28, 39805), (31, 39787), (38, 39718), (39, 39712), (40, 39706), (42, 39682), (44, 39658), (53, 39508), (56, 39457), (60, 39427), (67, 39322), (69, 39310), (71, 39295), (75, 39274), (76, 39271), (81, 39226), (83, 39178), (88, 39103),

Gene: BabyDotz_51 Start: 41041, Stop: 40022, Start Num: 15
Candidate Starts for BabyDotz_51:
(12, 41170), (13, 41107), (Start: 15 @41041 has 53 MA's), (20, 40960), (22, 40930), (27, 40852), (28, 40819), (31, 40801), (38, 40732), (39, 40726), (40, 40720), (42, 40696), (44, 40672), (53, 40522), (55, 40483), (56, 40471), (57, 40459), (59, 40447), (60, 40441), (67, 40336), (69, 40324), (71, 40309), (75, 40288), (76, 40285), (81, 40231), (83, 40183), (88, 40108),

Gene: BaconCheese_54 Start: 41934, Stop: 40948, Start Num: 15
Candidate Starts for BaconCheese_54:
(Start: 15 @41934 has 53 MA's), (20, 41853), (24, 41799), (27, 41745), (30, 41697), (34, 41673), (42, 41556), (46, 41481), (47, 41475), (56, 41331), (59, 41307), (70, 41193), (83, 41079), (88, 41004),

Gene: BirdInFrench_59 Start: 41149, Stop: 40379, Start Num: 15
Candidate Starts for BirdInFrench_59:
(Start: 15 @41149 has 53 MA's), (16, 41137), (20, 41074), (22, 41044), (27, 40966), (31, 40915), (33, 40909), (36, 40864), (37, 40852), (40, 40828), (41, 40822), (42, 40804), (44, 40780), (56, 40579), (62, 40549), (66, 40507), (73, 40453), (78, 40441),

Gene: Blab_49 Start: 39874, Stop: 38894, Start Num: 15
Candidate Starts for Blab_49:
(8, 40444), (12, 40003), (13, 39940), (Start: 15 @39874 has 53 MA's), (20, 39793), (22, 39763), (27, 39685), (28, 39652), (31, 39634), (38, 39565), (39, 39559), (40, 39553), (42, 39529), (44, 39505), (53, 39355), (56, 39304), (60, 39274), (67, 39169), (69, 39157), (71, 39142), (75, 39121), (76, 39118), (81, 39073), (83, 39025), (88, 38950),

Gene: CandC_58 Start: 40798, Stop: 39998, Start Num: 15
Candidate Starts for CandC_58:

(13, 40861), (Start: 15 @40798 has 53 MA's), (16, 40786), (20, 40723), (22, 40693), (27, 40615), (31, 40564), (33, 40558), (36, 40513), (40, 40477), (42, 40453), (44, 40429), (50, 40348), (53, 40279), (65, 40138), (78, 40060),

Gene: Casend_52 Start: 40845, Stop: 39802, Start Num: 15
Candidate Starts for Casend_52:
(12, 40974), (13, 40911), (Start: 15 @40845 has 53 MA's), (20, 40764), (22, 40734), (24, 40710), (27, 40656), (30, 40608), (33, 40599), (42, 40473), (46, 40398), (47, 40392), (55, 40260), (56, 40248), (60, 40218), (67, 40113), (69, 40101), (71, 40086), (75, 40065), (76, 40062), (81, 40011), (88, 39888),

Gene: DonaldDuck_51 Start: 40194, Stop: 39151, Start Num: 15
Candidate Starts for DonaldDuck_51:
(12, 40323), (13, 40260), (Start: 15 @40194 has 53 MA's), (20, 40113), (22, 40083), (24, 40059), (27, 40005), (30, 39957), (33, 39948), (42, 39822), (46, 39747), (47, 39741), (55, 39609), (56, 39597), (60, 39567), (67, 39462), (69, 39450), (71, 39435), (75, 39414), (76, 39411), (81, 39360), (88, 39237),

Gene: EverythinBagel_50 Start: 40555, Stop: 39539, Start Num: 15
Candidate Starts for EverythinBagel_50:
(12, 40684), (13, 40621), (Start: 15 @40555 has 53 MA's), (22, 40444), (27, 40366), (28, 40333), (31, 40315), (38, 40246), (39, 40240), (40, 40234), (42, 40210), (44, 40186), (46, 40135), (53, 40036), (55, 39997), (56, 39985), (60, 39955), (67, 39850), (69, 39838), (71, 39823), (75, 39802), (83, 39700), (88, 39625),

Gene: Fizzles_54 Start: 41170, Stop: 40166, Start Num: 15
Candidate Starts for Fizzles_54:
(Start: 15 @41170 has 53 MA's), (17, 41152), (22, 41056), (24, 41032), (27, 40978), (36, 40876), (42, 40816), (45, 40774), (46, 40741), (48, 40726), (49, 40723), (58, 40573), (61, 40531), (63, 40498), (68, 40426), (80, 40336), (87, 40222), (88, 40210),

Gene: FrankDeliGuy_48 Start: 40175, Stop: 39162, Start Num: 15
Candidate Starts for FrankDeliGuy_48:
(12, 40304), (13, 40241), (Start: 15 @40175 has 53 MA's), (22, 40064), (27, 39986), (28, 39953), (31, 39935), (38, 39866), (39, 39860), (40, 39854), (42, 39830), (44, 39806), (53, 39656), (55, 39617), (56, 39605), (60, 39575), (67, 39470), (69, 39458), (71, 39443), (75, 39422), (76, 39419), (81, 39371), (83, 39323), (88, 39248),

Gene: Fransoyer_55 Start: 42743, Stop: 41748, Start Num: 14
Candidate Starts for Fransoyer_55:
(Start: 14 @42743 has 3 MA's), (20, 42659), (21, 42641), (22, 42629), (23, 42626), (27, 42551), (29, 42512), (30, 42503), (34, 42479), (39, 42392), (42, 42362), (51, 42236), (52, 42194), (56, 42137), (59, 42113), (64, 42047), (71, 41984), (75, 41966), (79, 41930), (82, 41891), (85, 41816), (88, 41795),

Gene: Fregley_59 Start: 41063, Stop: 40263, Start Num: 15
Candidate Starts for Fregley_59:
(13, 41126), (Start: 15 @41063 has 53 MA's), (16, 41051), (20, 40988), (22, 40958), (27, 40880), (31, 40829), (33, 40823), (35, 40787), (36, 40778), (40, 40742), (42, 40718), (44, 40694), (50, 40613), (53, 40544), (65, 40403), (78, 40325),

Gene: Gazebo_51 Start: 40725, Stop: 39682, Start Num: 15
Candidate Starts for Gazebo_51:
(12, 40854), (13, 40791), (Start: 15 @40725 has 53 MA's), (20, 40644), (22, 40614), (24, 40590), (27, 40536), (30, 40488), (33, 40479), (42, 40353), (46, 40278), (47, 40272), (56, 40128), (67, 39993), (69, 39981), (71, 39966), (75, 39945), (76, 39942), (81, 39897), (83, 39849), (88, 39774),

Gene: Grassboy_53 Start: 40665, Stop: 39706, Start Num: 15
Candidate Starts for Grassboy_53:
(12, 40794), (13, 40731), (Start: 15 @40665 has 53 MA's), (20, 40584), (22, 40554), (27, 40476), (28, 40443), (31, 40425), (38, 40356), (39, 40350), (40, 40344), (42, 40320), (44, 40296), (53, 40146), (55, 40107), (56, 40095), (60, 40065), (67, 39960), (69, 39948), (71, 39933), (81, 39885), (83, 39837), (88, 39762),

Gene: Hyperion_51 Start: 40502, Stop: 39486, Start Num: 15
Candidate Starts for Hyperion_51:
(12, 40631), (13, 40568), (Start: 15 @40502 has 53 MA's), (20, 40421), (22, 40391), (27, 40313), (28, 40280), (31, 40262), (38, 40193), (39, 40187), (40, 40181), (42, 40157), (44, 40133), (53, 39983), (55, 39944), (56, 39932), (60, 39902), (67, 39797), (69, 39785), (71, 39770), (75, 39749), (76, 39746), (81, 39701), (83, 39653), (88, 39578),

Gene: Jehoshaphat_53 Start: 41113, Stop: 40070, Start Num: 15
Candidate Starts for Jehoshaphat_53:
(12, 41242), (13, 41179), (Start: 15 @41113 has 53 MA's), (20, 41032), (22, 41002), (24, 40978), (27, 40924), (30, 40876), (33, 40867), (42, 40741), (46, 40666), (47, 40660), (55, 40528), (56, 40516), (60, 40486), (67, 40381), (69, 40369), (71, 40354), (75, 40333), (76, 40330), (81, 40279), (88, 40156),

Gene: Judebell_53 Start: 40565, Stop: 39579, Start Num: 15
Candidate Starts for Judebell_53:
(12, 40694), (13, 40631), (Start: 15 @40565 has 53 MA's), (20, 40484), (22, 40454), (27, 40376), (31, 40325), (38, 40256), (39, 40250), (40, 40244), (42, 40220), (44, 40196), (53, 40046), (55, 40007), (56, 39995), (60, 39965), (67, 39860), (69, 39848), (71, 39833), (75, 39812), (76, 39809), (81, 39758), (83, 39710), (88, 39635),

Gene: Kelcole_57 Start: 41026, Stop: 40226, Start Num: 15
Candidate Starts for Kelcole_57:
(2, 41662), (13, 41089), (Start: 15 @41026 has 53 MA's), (16, 41014), (20, 40951), (22, 40921), (27, 40843), (31, 40792), (33, 40786), (35, 40750), (36, 40741), (40, 40705), (42, 40681), (44, 40657), (50, 40576), (53, 40507), (65, 40366), (78, 40288),

Gene: KillerQueen_60 Start: 41276, Stop: 40476, Start Num: 15
Candidate Starts for KillerQueen_60:
(2, 41912), (13, 41339), (Start: 15 @41276 has 53 MA's), (16, 41264), (20, 41201), (22, 41171), (27, 41093), (31, 41042), (33, 41036), (35, 41000), (40, 40955), (42, 40931), (44, 40907), (50, 40826), (53, 40757), (65, 40616), (78, 40538),

Gene: Kyva_53 Start: 40722, Stop: 39730, Start Num: 15
Candidate Starts for Kyva_53:
(12, 40851), (13, 40788), (Start: 15 @40722 has 53 MA's), (22, 40611), (27, 40533), (28, 40500), (31, 40482), (38, 40413), (39, 40407), (40, 40401), (42, 40377), (44, 40353), (53, 40203), (56, 40152), (60, 40122), (67, 40017), (69, 40005), (71, 39990), (75, 39969), (76, 39966), (81, 39909), (83, 39861), (88, 39786),

Gene: LilCahh_50 Start: 40183, Stop: 39167, Start Num: 15
Candidate Starts for LilCahh_50:
(12, 40312), (13, 40249), (Start: 15 @40183 has 53 MA's), (22, 40072), (27, 39994), (28, 39961), (31, 39943), (38, 39874), (39, 39868), (40, 39862), (42, 39838), (44, 39814), (46, 39763), (53, 39664), (55, 39625), (56, 39613), (60, 39583), (67, 39478), (69, 39466), (71, 39451), (75, 39430), (83, 39328), (88, 39253),

Gene: Llemily_51 Start: 39889, Stop: 38846, Start Num: 15
Candidate Starts for Llemily_51:
(12, 40018), (13, 39955), (Start: 15 @39889 has 53 MA's), (20, 39808), (22, 39778), (24, 39754), (27, 39700), (30, 39652), (33, 39643), (42, 39517), (46, 39442), (47, 39436), (55, 39304), (56, 39292), (60, 39262), (67, 39157), (69, 39145), (71, 39130), (75, 39109), (76, 39106), (81, 39055), (88, 38932),

Gene: Lonelysoil_50 Start: 40098, Stop: 39088, Start Num: 15
Candidate Starts for Lonelysoil_50:
(12, 40227), (13, 40164), (Start: 15 @40098 has 53 MA's), (20, 40017), (22, 39987), (27, 39909), (28, 39876), (31, 39858), (38, 39789), (39, 39783), (40, 39777), (42, 39753), (44, 39729), (53, 39579), (55, 39540), (56, 39528), (60, 39498), (67, 39393), (69, 39381), (71, 39366), (75, 39345), (76, 39342), (81, 39297), (83, 39249), (88, 39174),

Gene: Marcie_64 Start: 41925, Stop: 41125, Start Num: 15
Candidate Starts for Marcie_64:
(13, 41988), (Start: 15 @41925 has 53 MA's), (16, 41913), (20, 41850), (22, 41820), (27, 41742), (31, 41691), (33, 41685), (35, 41649), (36, 41640), (40, 41604), (42, 41580), (44, 41556), (50, 41475), (53, 41406), (65, 41265), (78, 41187),

Gene: Mashley_50 Start: 40281, Stop: 39265, Start Num: 15
Candidate Starts for Mashley_50:
(12, 40410), (13, 40347), (Start: 15 @40281 has 53 MA's), (20, 40200), (22, 40170), (27, 40092), (28, 40059), (31, 40041), (38, 39972), (39, 39966), (40, 39960), (42, 39936), (44, 39912), (53, 39762), (55, 39723), (56, 39711), (60, 39681), (67, 39576), (69, 39564), (71, 39549), (75, 39528), (76, 39525), (81, 39480), (83, 39432), (88, 39357),

Gene: Mentos_53 Start: 41473, Stop: 40448, Start Num: 15
Candidate Starts for Mentos_53:
(12, 41602), (13, 41539), (Start: 15 @41473 has 53 MA's), (22, 41362), (27, 41284), (28, 41251), (31, 41233), (38, 41164), (39, 41158), (40, 41152), (42, 41128), (44, 41104), (53, 40954), (55, 40915), (56, 40903), (60, 40873), (67, 40768), (69, 40756), (71, 40741), (75, 40720), (76, 40717), (81, 40657), (83, 40609), (88, 40534),

Gene: Mila11_54 Start: 41749, Stop: 40763, Start Num: 15
Candidate Starts for Mila11_54:
(Start: 15 @41749 has 53 MA's), (20, 41668), (24, 41614), (27, 41560), (30, 41512), (34, 41488), (42, 41371), (46, 41296), (47, 41290), (56, 41146), (59, 41122), (70, 41008), (83, 40894), (88, 40819),

Gene: MorillMayhem_52 Start: 40626, Stop: 39640, Start Num: 15
Candidate Starts for MorillMayhem_52:
(Start: 15 @40626 has 53 MA's), (20, 40545), (24, 40491), (27, 40437), (30, 40389), (34, 40365), (42, 40248), (46, 40173), (47, 40167), (56, 40023), (59, 39999), (70, 39885), (83, 39771), (88, 39696),

Gene: Namago_51 Start: 39843, Stop: 38860, Start Num: 15
Candidate Starts for Namago_51:
(12, 39972), (13, 39909), (Start: 15 @39843 has 53 MA's), (20, 39762), (22, 39732), (24, 39708), (27, 39654), (32, 39600), (33, 39597), (36, 39552), (40, 39516), (42, 39492), (43, 39486), (45, 39450), (46, 39417), (48, 39402), (56, 39267), (59, 39243), (67, 39132), (69, 39120), (71, 39105), (75, 39084), (76, 39081), (81, 39039), (83, 38991), (88, 38916),

Gene: Nike_52 Start: 40816, Stop: 39824, Start Num: 15
Candidate Starts for Nike_52:

(12, 40945), (13, 40882), (Start: 15 @40816 has 53 MA's), (20, 40735), (22, 40705), (27, 40627), (28, 40594), (31, 40576), (38, 40507), (39, 40501), (40, 40495), (42, 40471), (44, 40447), (53, 40297), (55, 40258), (56, 40246), (60, 40216), (67, 40111), (69, 40099), (71, 40084), (75, 40063), (76, 40060), (81, 40003), (83, 39955), (88, 39880),

Gene: OneinaGillian_59 Start: 40928, Stop: 40128, Start Num: 15
Candidate Starts for OneinaGillian_59:
(13, 40991), (Start: 15 @40928 has 53 MA's), (16, 40916), (20, 40853), (22, 40823), (27, 40745), (31, 40694), (33, 40688), (35, 40652), (36, 40643), (40, 40607), (42, 40583), (44, 40559), (50, 40478), (53, 40409), (65, 40268), (78, 40190),

Gene: Pepe25_58 Start: 40459, Stop: 39689, Start Num: 15
Candidate Starts for Pepe25_58:
(2, 41095), (3, 41089), (6, 41059), (10, 41008), (11, 40798), (12, 40585), (13, 40522), (Start: 15 @40459 has 53 MA's), (16, 40447), (20, 40384), (22, 40354), (27, 40276), (31, 40225), (33, 40219), (36, 40174), (37, 40162), (40, 40138), (41, 40132), (42, 40114), (44, 40090), (56, 39889), (62, 39859), (66, 39817), (73, 39763), (78, 39751),

Gene: Phabia_51 Start: 40304, Stop: 39261, Start Num: 15
Candidate Starts for Phabia_51:
(12, 40433), (13, 40370), (Start: 15 @40304 has 53 MA's), (20, 40223), (22, 40193), (24, 40169), (27, 40115), (30, 40067), (33, 40058), (42, 39932), (46, 39857), (47, 39851), (55, 39719), (56, 39707), (60, 39677), (67, 39572), (69, 39560), (71, 39545), (75, 39524), (76, 39521), (81, 39470), (88, 39347),

Gene: Phinky_59 Start: 42437, Stop: 41463, Start Num: 15
Candidate Starts for Phinky_59:
(12, 42569), (Start: 15 @42437 has 53 MA's), (19, 42395), (20, 42353), (26, 42278), (27, 42242), (38, 42131), (39, 42125), (41, 42113), (42, 42095), (46, 42020), (48, 42005), (50, 41990), (54, 41903), (63, 41795), (84, 41588), (86, 41540), (88, 41522),

Gene: Quammi_49 Start: 40004, Stop: 38961, Start Num: 15
Candidate Starts for Quammi_49:
(12, 40133), (13, 40070), (Start: 15 @40004 has 53 MA's), (20, 39923), (22, 39893), (24, 39869), (27, 39815), (30, 39767), (33, 39758), (42, 39632), (46, 39557), (47, 39551), (55, 39419), (56, 39407), (60, 39377), (67, 39272), (69, 39260), (71, 39245), (75, 39224), (76, 39221), (81, 39170), (88, 39047),

Gene: RobinRose_61 Start: 41440, Stop: 40640, Start Num: 15
Candidate Starts for RobinRose_61:
(2, 42076), (13, 41503), (Start: 15 @41440 has 53 MA's), (16, 41428), (20, 41365), (22, 41335), (27, 41257), (31, 41206), (33, 41200), (35, 41164), (36, 41155), (40, 41119), (42, 41095), (44, 41071), (50, 40990), (53, 40921), (65, 40780), (78, 40702),

Gene: Romm_61 Start: 41437, Stop: 40637, Start Num: 15
Candidate Starts for Romm_61:
(2, 42073), (13, 41500), (Start: 15 @41437 has 53 MA's), (16, 41425), (20, 41362), (22, 41332), (27, 41254), (31, 41203), (33, 41197), (35, 41161), (36, 41152), (40, 41116), (42, 41092), (44, 41068), (50, 40987), (53, 40918), (65, 40777), (78, 40699),

Gene: Rowlf_48 Start: 39958, Stop: 38966, Start Num: 15
Candidate Starts for Rowlf_48:
(12, 40087), (13, 40024), (Start: 15 @39958 has 53 MA's), (22, 39847), (27, 39769), (28, 39736), (31, 39718), (38, 39649), (39, 39643), (40, 39637), (42, 39613), (44, 39589), (53, 39439), (55, 39400), (56, 39388), (60, 39358), (67, 39253), (69, 39241), (71, 39226), (75, 39205), (76, 39202), (81, 39145), (83,

39097), (88, 39022),

Gene: RubyRalph_56 Start: 42890, Stop: 41904, Start Num: 14
Candidate Starts for RubyRalph_56:
(Start: 14 @42890 has 3 MA's), (20, 42800), (21, 42782), (22, 42770), (23, 42767), (25, 42743), (27, 42692), (29, 42653), (30, 42644), (34, 42620), (39, 42533), (42, 42503), (51, 42377), (52, 42335), (56, 42278), (59, 42254), (64, 42188), (71, 42125), (75, 42107), (79, 42086), (82, 42047), (85, 41972), (88, 41951),

Gene: Rudy_49 Start: 40040, Stop: 38994, Start Num: 15
Candidate Starts for Rudy_49:
(12, 40169), (13, 40106), (Start: 15 @40040 has 53 MA's), (20, 39959), (22, 39929), (24, 39905), (27, 39851), (30, 39803), (33, 39794), (42, 39668), (46, 39593), (47, 39587), (55, 39455), (56, 39443), (60, 39413), (67, 39308), (69, 39296), (71, 39281), (75, 39260), (76, 39257), (81, 39203), (88, 39080),

Gene: SadLad_57 Start: 43744, Stop: 42740, Start Num: 14
Candidate Starts for SadLad_57:
(Start: 14 @43744 has 3 MA's), (20, 43660), (21, 43642), (22, 43630), (23, 43627), (27, 43552), (29, 43513), (30, 43504), (34, 43480), (39, 43393), (42, 43363), (51, 43237), (52, 43195), (56, 43138), (59, 43114), (64, 43048), (72, 42982), (75, 42967), (79, 42922), (82, 42883), (85, 42808), (88, 42787),

Gene: SallyK_52 Start: 40959, Stop: 39973, Start Num: 15
Candidate Starts for SallyK_52:
(6, 41556), (9, 41523), (12, 41088), (13, 41025), (Start: 15 @40959 has 53 MA's), (20, 40878), (22, 40848), (24, 40824), (27, 40770), (32, 40716), (33, 40713), (36, 40668), (40, 40632), (42, 40608), (43, 40602), (45, 40566), (46, 40533), (48, 40518), (56, 40383), (57, 40371), (59, 40359), (60, 40353), (67, 40248), (69, 40236), (71, 40221), (75, 40200), (76, 40197), (81, 40152), (83, 40104), (88, 40029),

Gene: Sillytadpoles_52 Start: 39877, Stop: 38834, Start Num: 15
Candidate Starts for Sillytadpoles_52:
(12, 40006), (13, 39943), (Start: 15 @39877 has 53 MA's), (20, 39796), (22, 39766), (24, 39742), (27, 39688), (30, 39640), (33, 39631), (42, 39505), (46, 39430), (47, 39424), (55, 39292), (56, 39280), (60, 39250), (67, 39145), (69, 39133), (71, 39118), (75, 39097), (76, 39094), (81, 39043), (88, 38920),

Gene: SlySloth_53 Start: 40602, Stop: 39580, Start Num: 15
Candidate Starts for SlySloth_53:
(12, 40731), (13, 40668), (Start: 15 @40602 has 53 MA's), (20, 40521), (22, 40491), (27, 40413), (28, 40380), (31, 40362), (38, 40293), (39, 40287), (40, 40281), (42, 40257), (44, 40233), (53, 40083), (55, 40044), (56, 40032), (60, 40002), (67, 39897), (69, 39885), (71, 39870), (75, 39849), (76, 39846), (81, 39789), (83, 39741), (88, 39666),

Gene: Spiderpig_59 Start: 41138, Stop: 40368, Start Num: 15
Candidate Starts for Spiderpig_59:
(Start: 15 @41138 has 53 MA's), (16, 41126), (20, 41063), (22, 41033), (27, 40955), (31, 40904), (33, 40898), (36, 40853), (37, 40841), (40, 40817), (41, 40811), (42, 40793), (44, 40769), (56, 40568), (62, 40538), (66, 40496), (73, 40442), (78, 40430),

Gene: Squash_54 Start: 40675, Stop: 39638, Start Num: 15
Candidate Starts for Squash_54:
(12, 40804), (13, 40741), (Start: 15 @40675 has 53 MA's), (22, 40564), (27, 40486), (28, 40453), (31, 40435), (38, 40366), (39, 40360), (40, 40354), (42, 40330), (44, 40306), (53, 40156), (56, 40105), (60, 40075), (67, 39970), (69, 39958), (74, 39919), (75, 39901), (83, 39769), (88, 39694),

Gene: Statler_53 Start: 40677, Stop: 39664, Start Num: 15
Candidate Starts for Statler_53:
(12, 40806), (13, 40743), (Start: 15 @40677 has 53 MA's), (20, 40596), (22, 40566), (27, 40488), (28, 40455), (31, 40437), (38, 40368), (39, 40362), (40, 40356), (42, 40332), (44, 40308), (53, 40158), (55, 40119), (56, 40107), (57, 40095), (59, 40083), (60, 40077), (67, 39972), (69, 39960), (71, 39945), (75, 39924), (76, 39921), (81, 39867), (83, 39819), (88, 39744),

Gene: StrawberryJamm_54 Start: 40137, Stop: 39109, Start Num: 15
Candidate Starts for StrawberryJamm_54:
(12, 40266), (13, 40203), (Start: 15 @40137 has 53 MA's), (22, 40026), (27, 39948), (28, 39915), (31, 39897), (38, 39828), (39, 39822), (40, 39816), (42, 39792), (44, 39768), (53, 39618), (56, 39567), (60, 39537), (67, 39432), (69, 39420), (71, 39405), (75, 39384), (76, 39381), (81, 39318), (83, 39270), (88, 39195),

Gene: Teehee_52 Start: 41110, Stop: 40067, Start Num: 15
Candidate Starts for Teehee_52:
(12, 41239), (13, 41176), (Start: 15 @41110 has 53 MA's), (20, 41029), (22, 40999), (24, 40975), (27, 40921), (30, 40873), (33, 40864), (42, 40738), (46, 40663), (47, 40657), (55, 40525), (56, 40513), (60, 40483), (67, 40378), (69, 40366), (71, 40351), (75, 40330), (76, 40327), (81, 40276), (88, 40153),

Gene: Tempo_59 Start: 41305, Stop: 40505, Start Num: 15
Candidate Starts for Tempo_59:
(13, 41368), (Start: 15 @41305 has 53 MA's), (16, 41293), (20, 41230), (22, 41200), (27, 41122), (31, 41071), (33, 41065), (36, 41020), (40, 40984), (42, 40960), (44, 40936), (50, 40855), (53, 40786), (65, 40645), (78, 40567),

Gene: Tissue_52 Start: 40561, Stop: 39602, Start Num: 15
Candidate Starts for Tissue_52:
(12, 40690), (13, 40627), (Start: 15 @40561 has 53 MA's), (20, 40480), (22, 40450), (27, 40372), (28, 40339), (31, 40321), (38, 40252), (39, 40246), (40, 40240), (42, 40216), (44, 40192), (53, 40042), (55, 40003), (56, 39991), (60, 39961), (67, 39856), (69, 39844), (71, 39829), (81, 39781), (83, 39733), (88, 39658),

Gene: Viceroy_50 Start: 40010, Stop: 38964, Start Num: 15
Candidate Starts for Viceroy_50:
(12, 40139), (13, 40076), (Start: 15 @40010 has 53 MA's), (20, 39929), (22, 39899), (24, 39875), (27, 39821), (30, 39773), (33, 39764), (42, 39638), (46, 39563), (47, 39557), (55, 39425), (56, 39413), (60, 39383), (67, 39278), (69, 39266), (71, 39251), (75, 39230), (76, 39227), (81, 39173), (88, 39050),

Gene: Wayne3_53 Start: 40873, Stop: 39830, Start Num: 15
Candidate Starts for Wayne3_53:
(12, 41002), (13, 40939), (Start: 15 @40873 has 53 MA's), (20, 40792), (22, 40762), (24, 40738), (27, 40684), (30, 40636), (33, 40627), (42, 40501), (46, 40426), (47, 40420), (55, 40288), (56, 40276), (60, 40246), (67, 40141), (69, 40129), (71, 40114), (75, 40093), (76, 40090), (81, 40039), (88, 39916),

Gene: WheelerS25_57 Start: 41451, Stop: 40438, Start Num: 15
Candidate Starts for WheelerS25_57:
(12, 41580), (13, 41517), (Start: 15 @41451 has 53 MA's), (20, 41370), (24, 41316), (27, 41262), (30, 41214), (34, 41190), (42, 41073), (46, 40998), (47, 40992), (56, 40848), (57, 40836), (59, 40824), (60, 40818), (69, 40701), (71, 40686), (75, 40665), (76, 40662), (81, 40617), (83, 40569), (88, 40494),

Gene: Wheelie_51 Start: 40194, Stop: 39151, Start Num: 15
Candidate Starts for Wheelie_51:

(12, 40323), (13, 40260), (Start: 15 @40194 has 53 MA's), (20, 40113), (22, 40083), (24, 40059), (27, 40005), (30, 39957), (33, 39948), (42, 39822), (46, 39747), (47, 39741), (55, 39609), (56, 39597), (60, 39567), (67, 39462), (69, 39450), (71, 39435), (75, 39414), (76, 39411), (81, 39360), (88, 39237),

Gene: Wilca_59 Start: 41149, Stop: 40379, Start Num: 15
Candidate Starts for Wilca_59:
(Start: 15 @41149 has 53 MA's), (16, 41137), (20, 41074), (22, 41044), (27, 40966), (31, 40915), (33, 40909), (36, 40864), (37, 40852), (40, 40828), (41, 40822), (42, 40804), (44, 40780), (56, 40579), (62, 40549), (66, 40507), (73, 40453), (78, 40441),

Gene: Zagie_51 Start: 40343, Stop: 39306, Start Num: 15
Candidate Starts for Zagie_51:
(12, 40472), (13, 40409), (Start: 15 @40343 has 53 MA's), (22, 40232), (27, 40154), (28, 40121), (31, 40103), (38, 40034), (39, 40028), (40, 40022), (42, 39998), (44, 39974), (53, 39824), (55, 39785), (56, 39773), (60, 39743), (67, 39638), (69, 39626), (71, 39611), (75, 39590), (76, 39587), (81, 39515), (83, 39467), (88, 39392),

Gene: ZestyBestie_49 Start: 40170, Stop: 39157, Start Num: 15
Candidate Starts for ZestyBestie_49:
(12, 40299), (13, 40236), (Start: 15 @40170 has 53 MA's), (22, 40059), (27, 39981), (28, 39948), (31, 39930), (38, 39861), (39, 39855), (40, 39849), (42, 39825), (44, 39801), (53, 39651), (55, 39612), (56, 39600), (60, 39570), (67, 39465), (69, 39453), (71, 39438), (75, 39417), (76, 39414), (81, 39366), (83, 39318), (88, 39243),

Gene: Zhafia_54 Start: 40674, Stop: 39631, Start Num: 15
Candidate Starts for Zhafia_54:
(12, 40803), (13, 40740), (Start: 15 @40674 has 53 MA's), (20, 40593), (22, 40563), (24, 40539), (27, 40485), (30, 40437), (33, 40428), (42, 40302), (46, 40227), (47, 40221), (55, 40089), (56, 40077), (60, 40047), (67, 39942), (69, 39930), (71, 39915), (75, 39894), (76, 39891), (81, 39840), (88, 39717),