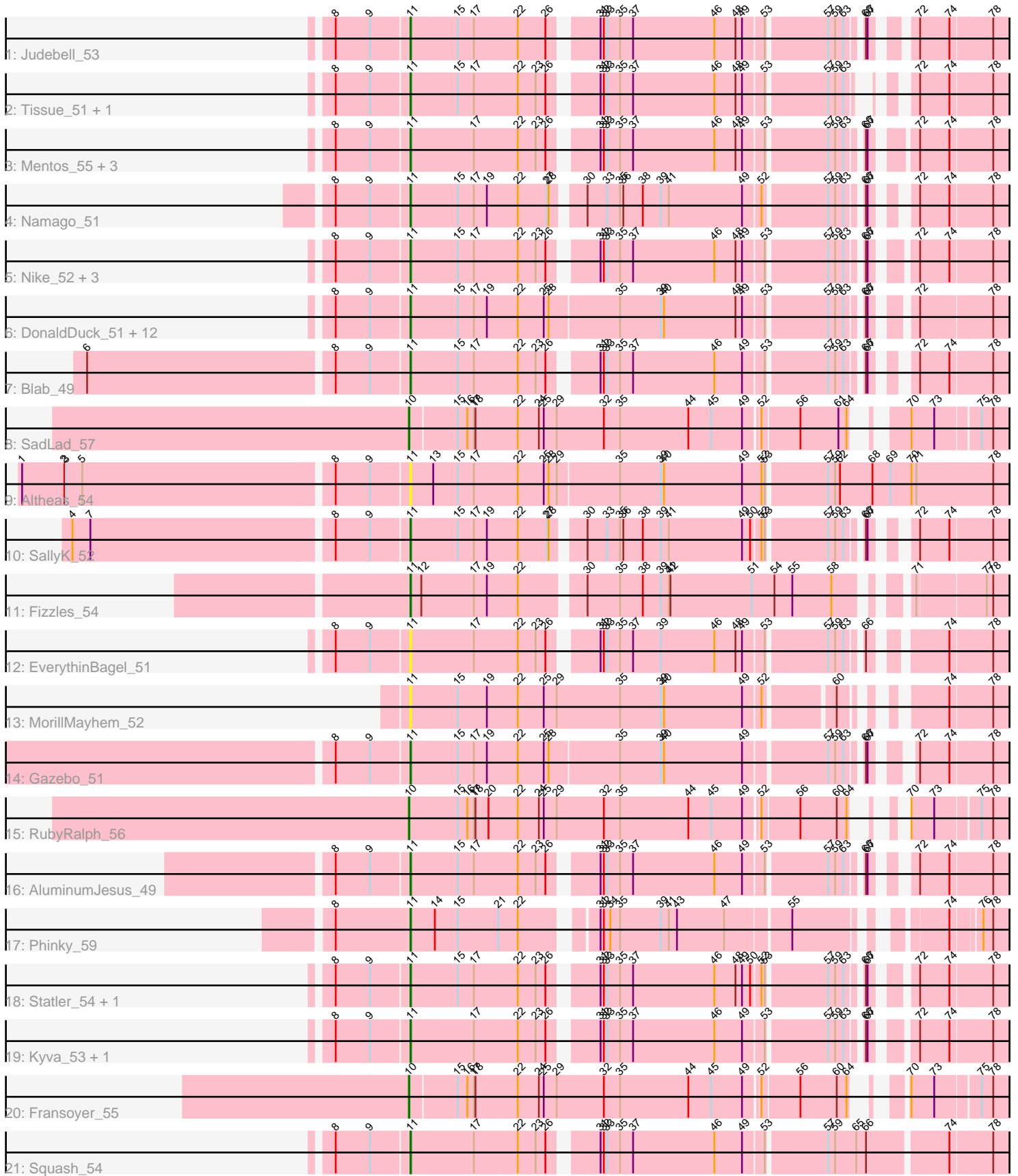


Pham 214422



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 214422 Report

This analysis was run 02/22/25 on database version 588.

Pham number 214422 has 42 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Judebell_53
- Track 2 : Tissue_51, Grassboy_53
- Track 3 : Mentos_55, Rowlf_48, Zagie_51, FrankDeliGuy_49
- Track 4 : Namago_51
- Track 5 : Nike_52, Mashley_50, Hyperion_51, Lonelysoil_50
- Track 6 : DonaldDuck_51, Viceroy_50, Wheelie_51, Casend_52, Rudy_49, Wayne3_53, Jehoshaphat_53, Quammi_49, Llemily_51, Teehee_52, Zhafia_54, Sillytadpoles_52, Phabia_51
- Track 7 : Blab_49
- Track 8 : SadLad_57
- Track 9 : Altheas_54
- Track 10 : SallyK_52
- Track 11 : Fizzles_54
- Track 12 : EverythinBagel_51
- Track 13 : MorillMayhem_52
- Track 14 : Gazebo_51
- Track 15 : RubyRalph_56
- Track 16 : AluminumJesus_49
- Track 17 : Phinky_59
- Track 18 : Statler_54, BabyDotz_51
- Track 19 : Kyva_53, StrawberryJamm_54
- Track 20 : Fransoyer_55
- Track 21 : Squash_54

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

The start number called the most often in the published annotations is 11, it was called in 27 of the 30 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altheas_54, AluminumJesus_49, BabyDotz_51, Blab_49, Casend_52, DonaldDuck_51, EverythinBagel_51, Fizzles_54, FrankDeliGuy_49, Gazebo_51, Grassboy_53, Hyperion_51, Jehoshaphat_53, Judebell_53, Kyva_53, Llemily_51, Lonelysoil_50, Mashley_50, Mentos_55, MorillMayhem_52, Namago_51, Nike_52,

Phabia_51, Phinky_59, Quammi_49, Rowlf_48, Rudy_49, SallyK_52, Sillytadpoles_52, Squash_54, Statler_54, StrawberryJamm_54, Teehee_52, Tissue_51, Viceroy_50, Wayne3_53, Wheelie_51, Zagie_51, 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 10:

- Found in 3 of 42 (7.1%) of genes in pham
- Manual Annotations of this start: 3 of 30
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fransoyer_55 (EG), RubyRalph_56 (EG), SadLad_57 (EG),

Start 11:

- Found in 39 of 42 (92.9%) of genes in pham
- Manual Annotations of this start: 27 of 30
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Altheas_54 (EG), AluminumJesus_49 (EG), BabyDotz_51 (EG), Blab_49 (EG), Casend_52 (EG), DonaldDuck_51 (EG), EverythinBagel_51 (EG), Fizzles_54 (EG), FrankDeliGuy_49 (EG), Gazebo_51 (EG), Grassboy_53 (EG), Hyperion_51 (EG), Jehoshaphat_53 (EG), Judebell_53 (EG), Kyva_53 (EG), Llemily_51 (EG), Lonelysoil_50 (EG), Mashley_50 (EG), Mentos_55 (EG), MorillMayhem_52 (EG), Namago_51 (EG), Nike_52 (EG), Phabia_51 (EG), Phinky_59 (EG), Quammi_49 (EG), Rowlf_48 (EG), Rudy_49 (EG), SallyK_52 (EG), Sillytadpoles_52 (EG), Squash_54 (EG), Statler_54 (EG), StrawberryJamm_54 (EG), Teehee_52 (EG), Tissue_51 (EG), Viceroy_50 (EG), Wayne3_53 (EG), Wheelie_51 (EG), Zagie_51 (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 10 was manually annotated 3 times for cluster EG.
- Start number 11 was manually annotated 27 times for cluster EG.

Gene Information:

Gene: Altheas_54 Start: 41052, Stop: 39964, Start Num: 11

Candidate Starts for Altheas_54:

(1, 41742), (2, 41664), (3, 41661), (5, 41631), (8, 41181), (9, 41118), (Start: 11 @41052 has 27 MA's), (13, 41016), (15, 40971), (17, 40941), (22, 40863), (25, 40815), (28, 40806), (29, 40791), (35, 40680), (39, 40605), (40, 40599), (49, 40455), (52, 40425), (53, 40419), (57, 40314), (59, 40302), (62, 40293), (68, 40239), (69, 40206), (70, 40167), (71, 40158), (78, 40020),

Gene: AluminumJesus_49 Start: 40027, Stop: 39011, Start Num: 11

Candidate Starts for AluminumJesus_49:

(8, 40156), (9, 40093), (Start: 11 @40027 has 27 MA's), (15, 39946), (17, 39916), (22, 39838), (23, 39805), (26, 39787), (31, 39718), (32, 39712), (33, 39706), (35, 39682), (37, 39658), (46, 39508), (49, 39457), (53, 39427), (57, 39322), (59, 39310), (63, 39295), (66, 39274), (67, 39271), (72, 39226), (74, 39178), (78, 39103),

Gene: BabyDotz_51 Start: 41041, Stop: 40022, Start Num: 11

Candidate Starts for BabyDotz_51:

(8, 41170), (9, 41107), (Start: 11 @41041 has 27 MA's), (15, 40960), (17, 40930), (22, 40852), (23, 40819), (26, 40801), (31, 40732), (32, 40726), (33, 40720), (35, 40696), (37, 40672), (46, 40522), (48, 40483), (49, 40471), (50, 40459), (52, 40447), (53, 40441), (57, 40336), (59, 40324), (63, 40309), (66, 40288), (67, 40285), (72, 40231), (74, 40183), (78, 40108),

Gene: Blab_49 Start: 39874, Stop: 38894, Start Num: 11

Candidate Starts for Blab_49:

(6, 40444), (8, 40003), (9, 39940), (Start: 11 @39874 has 27 MA's), (15, 39793), (17, 39763), (22, 39685), (23, 39652), (26, 39634), (31, 39565), (32, 39559), (33, 39553), (35, 39529), (37, 39505), (46, 39355), (49, 39304), (53, 39274), (57, 39169), (59, 39157), (63, 39142), (66, 39121), (67, 39118), (72, 39073), (74, 39025), (78, 38950),

Gene: Casend_52 Start: 40845, Stop: 39802, Start Num: 11

Candidate Starts for Casend_52:

(8, 40974), (9, 40911), (Start: 11 @40845 has 27 MA's), (15, 40764), (17, 40734), (19, 40710), (22, 40656), (25, 40608), (28, 40599), (35, 40473), (39, 40398), (40, 40392), (48, 40260), (49, 40248), (53, 40218), (57, 40113), (59, 40101), (63, 40086), (66, 40065), (67, 40062), (72, 40011), (78, 39888),

Gene: DonaldDuck_51 Start: 40194, Stop: 39151, Start Num: 11

Candidate Starts for DonaldDuck_51:

(8, 40323), (9, 40260), (Start: 11 @40194 has 27 MA's), (15, 40113), (17, 40083), (19, 40059), (22, 40005), (25, 39957), (28, 39948), (35, 39822), (39, 39747), (40, 39741), (48, 39609), (49, 39597), (53, 39567), (57, 39462), (59, 39450), (63, 39435), (66, 39414), (67, 39411), (72, 39360), (78, 39237),

Gene: EverythinBagel_51 Start: 40555, Stop: 39539, Start Num: 11

Candidate Starts for EverythinBagel_51:

(8, 40684), (9, 40621), (Start: 11 @40555 has 27 MA's), (17, 40444), (22, 40366), (23, 40333), (26, 40315), (31, 40246), (32, 40240), (33, 40234), (35, 40210), (37, 40186), (39, 40135), (46, 40036), (48, 39997), (49, 39985), (53, 39955), (57, 39850), (59, 39838), (63, 39823), (66, 39802), (74, 39700), (78, 39625),

Gene: Fizzles_54 Start: 41170, Stop: 40166, Start Num: 11

Candidate Starts for Fizzles_54:

(Start: 11 @41170 has 27 MA's), (12, 41152), (17, 41056), (19, 41032), (22, 40978), (30, 40876), (35, 40816), (38, 40774), (39, 40741), (41, 40726), (42, 40723), (51, 40573), (54, 40531), (55, 40498), (58, 40426), (71, 40336), (77, 40222), (78, 40210),

Gene: FrankDeliGuy_49 Start: 40175, Stop: 39162, Start Num: 11

Candidate Starts for FrankDeliGuy_49:

(8, 40304), (9, 40241), (Start: 11 @40175 has 27 MA's), (17, 40064), (22, 39986), (23, 39953), (26, 39935), (31, 39866), (32, 39860), (33, 39854), (35, 39830), (37, 39806), (46, 39656), (48, 39617), (49, 39605), (53, 39575), (57, 39470), (59, 39458), (63, 39443), (66, 39422), (67, 39419), (72, 39371), (74, 39323), (78, 39248),

Gene: Fransoyer_55 Start: 42743, Stop: 41748, Start Num: 10

Candidate Starts for Fransoyer_55:

(Start: 10 @42743 has 3 MA's), (15, 42659), (16, 42641), (17, 42629), (18, 42626), (22, 42551), (24, 42512), (25, 42503), (29, 42479), (32, 42392), (35, 42362), (44, 42236), (45, 42194), (49, 42137), (52, 42113), (56, 42047), (60, 41984), (64, 41966), (70, 41930), (73, 41891), (75, 41816), (78, 41795),

Gene: Gazebo_51 Start: 40725, Stop: 39682, Start Num: 11

Candidate Starts for Gazebo_51:

(8, 40854), (9, 40791), (Start: 11 @40725 has 27 MA's), (15, 40644), (17, 40614), (19, 40590), (22, 40536), (25, 40488), (28, 40479), (35, 40353), (39, 40278), (40, 40272), (49, 40128), (57, 39993), (59, 39981), (63, 39966), (66, 39945), (67, 39942), (72, 39897), (74, 39849), (78, 39774),

Gene: Grassboy_53 Start: 40665, Stop: 39706, Start Num: 11

Candidate Starts for Grassboy_53:

(8, 40794), (9, 40731), (Start: 11 @40665 has 27 MA's), (15, 40584), (17, 40554), (22, 40476), (23, 40443), (26, 40425), (31, 40356), (32, 40350), (33, 40344), (35, 40320), (37, 40296), (46, 40146), (48, 40107), (49, 40095), (53, 40065), (57, 39960), (59, 39948), (63, 39933), (72, 39885), (74, 39837), (78, 39762),

Gene: Hyperion_51 Start: 40502, Stop: 39486, Start Num: 11

Candidate Starts for Hyperion_51:

(8, 40631), (9, 40568), (Start: 11 @40502 has 27 MA's), (15, 40421), (17, 40391), (22, 40313), (23, 40280), (26, 40262), (31, 40193), (32, 40187), (33, 40181), (35, 40157), (37, 40133), (46, 39983), (48, 39944), (49, 39932), (53, 39902), (57, 39797), (59, 39785), (63, 39770), (66, 39749), (67, 39746), (72, 39701), (74, 39653), (78, 39578),

Gene: Jehoshaphat_53 Start: 41113, Stop: 40070, Start Num: 11

Candidate Starts for Jehoshaphat_53:

(8, 41242), (9, 41179), (Start: 11 @41113 has 27 MA's), (15, 41032), (17, 41002), (19, 40978), (22, 40924), (25, 40876), (28, 40867), (35, 40741), (39, 40666), (40, 40660), (48, 40528), (49, 40516), (53, 40486), (57, 40381), (59, 40369), (63, 40354), (66, 40333), (67, 40330), (72, 40279), (78, 40156),

Gene: Judebell_53 Start: 40565, Stop: 39579, Start Num: 11

Candidate Starts for Judebell_53:

(8, 40694), (9, 40631), (Start: 11 @40565 has 27 MA's), (15, 40484), (17, 40454), (22, 40376), (26, 40325), (31, 40256), (32, 40250), (33, 40244), (35, 40220), (37, 40196), (46, 40046), (48, 40007), (49, 39995), (53, 39965), (57, 39860), (59, 39848), (63, 39833), (66, 39812), (67, 39809), (72, 39758), (74, 39710), (78, 39635),

Gene: Kyva_53 Start: 40722, Stop: 39730, Start Num: 11

Candidate Starts for Kyva_53:

(8, 40851), (9, 40788), (Start: 11 @40722 has 27 MA's), (17, 40611), (22, 40533), (23, 40500), (26, 40482), (31, 40413), (32, 40407), (33, 40401), (35, 40377), (37, 40353), (46, 40203), (49, 40152), (53, 40122), (57, 40017), (59, 40005), (63, 39990), (66, 39969), (67, 39966), (72, 39909), (74, 39861), (78, 39786),

Gene: Llemily_51 Start: 39889, Stop: 38846, Start Num: 11

Candidate Starts for Llemily_51:

(8, 40018), (9, 39955), (Start: 11 @39889 has 27 MA's), (15, 39808), (17, 39778), (19, 39754), (22, 39700), (25, 39652), (28, 39643), (35, 39517), (39, 39442), (40, 39436), (48, 39304), (49, 39292), (53, 39262), (57, 39157), (59, 39145), (63, 39130), (66, 39109), (67, 39106), (72, 39055), (78, 38932),

Gene: Lonelysoil_50 Start: 40098, Stop: 39088, Start Num: 11

Candidate Starts for Lonelysoil_50:

(8, 40227), (9, 40164), (Start: 11 @40098 has 27 MA's), (15, 40017), (17, 39987), (22, 39909), (23, 39876), (26, 39858), (31, 39789), (32, 39783), (33, 39777), (35, 39753), (37, 39729), (46, 39579), (48, 39540), (49, 39528), (53, 39498), (57, 39393), (59, 39381), (63, 39366), (66, 39345), (67, 39342), (72, 39297), (74, 39249), (78, 39174),

Gene: Mashley_50 Start: 40281, Stop: 39265, Start Num: 11

Candidate Starts for Mashley_50:

(8, 40410), (9, 40347), (Start: 11 @40281 has 27 MA's), (15, 40200), (17, 40170), (22, 40092), (23, 40059), (26, 40041), (31, 39972), (32, 39966), (33, 39960), (35, 39936), (37, 39912), (46, 39762), (48, 39723), (49, 39711), (53, 39681), (57, 39576), (59, 39564), (63, 39549), (66, 39528), (67, 39525), (72, 39480), (74, 39432), (78, 39357),

Gene: Mentos_55 Start: 41473, Stop: 40448, Start Num: 11

Candidate Starts for Mentos_55:

(8, 41602), (9, 41539), (Start: 11 @41473 has 27 MA's), (17, 41362), (22, 41284), (23, 41251), (26, 41233), (31, 41164), (32, 41158), (33, 41152), (35, 41128), (37, 41104), (46, 40954), (48, 40915), (49, 40903), (53, 40873), (57, 40768), (59, 40756), (63, 40741), (66, 40720), (67, 40717), (72, 40657), (74, 40609), (78, 40534),

Gene: MorillMayhem_52 Start: 40626, Stop: 39640, Start Num: 11

Candidate Starts for MorillMayhem_52:

(Start: 11 @40626 has 27 MA's), (15, 40545), (19, 40491), (22, 40437), (25, 40389), (29, 40365), (35, 40248), (39, 40173), (40, 40167), (49, 40023), (52, 39999), (60, 39885), (74, 39771), (78, 39696),

Gene: Namago_51 Start: 39843, Stop: 38860, Start Num: 11

Candidate Starts for Namago_51:

(8, 39972), (9, 39909), (Start: 11 @39843 has 27 MA's), (15, 39762), (17, 39732), (19, 39708), (22, 39654), (27, 39600), (28, 39597), (30, 39552), (33, 39516), (35, 39492), (36, 39486), (38, 39450), (39, 39417), (41, 39402), (49, 39267), (52, 39243), (57, 39132), (59, 39120), (63, 39105), (66, 39084), (67, 39081), (72, 39039), (74, 38991), (78, 38916),

Gene: Nike_52 Start: 40816, Stop: 39824, Start Num: 11

Candidate Starts for Nike_52:

(8, 40945), (9, 40882), (Start: 11 @40816 has 27 MA's), (15, 40735), (17, 40705), (22, 40627), (23, 40594), (26, 40576), (31, 40507), (32, 40501), (33, 40495), (35, 40471), (37, 40447), (46, 40297), (48, 40258), (49, 40246), (53, 40216), (57, 40111), (59, 40099), (63, 40084), (66, 40063), (67, 40060), (72, 40003), (74, 39955), (78, 39880),

Gene: Phabia_51 Start: 40304, Stop: 39261, Start Num: 11

Candidate Starts for Phabia_51:

(8, 40433), (9, 40370), (Start: 11 @40304 has 27 MA's), (15, 40223), (17, 40193), (19, 40169), (22, 40115), (25, 40067), (28, 40058), (35, 39932), (39, 39857), (40, 39851), (48, 39719), (49, 39707), (53, 39677), (57, 39572), (59, 39560), (63, 39545), (66, 39524), (67, 39521), (72, 39470), (78, 39347),

Gene: Phinky_59 Start: 42437, Stop: 41463, Start Num: 11

Candidate Starts for Phinky_59:

(8, 42569), (Start: 11 @42437 has 27 MA's), (14, 42395), (15, 42353), (21, 42278), (22, 42242), (31, 42131), (32, 42125), (34, 42113), (35, 42095), (39, 42020), (41, 42005), (43, 41990), (47, 41903), (55, 41795), (74, 41588), (76, 41540), (78, 41522),

Gene: Quammi_49 Start: 40004, Stop: 38961, Start Num: 11

Candidate Starts for Quammi_49:

(8, 40133), (9, 40070), (Start: 11 @40004 has 27 MA's), (15, 39923), (17, 39893), (19, 39869), (22, 39815), (25, 39767), (28, 39758), (35, 39632), (39, 39557), (40, 39551), (48, 39419), (49, 39407), (53, 39377), (57, 39272), (59, 39260), (63, 39245), (66, 39224), (67, 39221), (72, 39170), (78, 39047),

Gene: Rowlf_48 Start: 39958, Stop: 38966, Start Num: 11

Candidate Starts for Rowlf_48:

(8, 40087), (9, 40024), (Start: 11 @39958 has 27 MA's), (17, 39847), (22, 39769), (23, 39736), (26, 39718), (31, 39649), (32, 39643), (33, 39637), (35, 39613), (37, 39589), (46, 39439), (48, 39400), (49, 39388), (53, 39358), (57, 39253), (59, 39241), (63, 39226), (66, 39205), (67, 39202), (72, 39145), (74, 39097), (78, 39022),

Gene: RubyRalph_56 Start: 42890, Stop: 41904, Start Num: 10

Candidate Starts for RubyRalph_56:

(Start: 10 @42890 has 3 MA's), (15, 42800), (16, 42782), (17, 42770), (18, 42767), (20, 42743), (22, 42692), (24, 42653), (25, 42644), (29, 42620), (32, 42533), (35, 42503), (44, 42377), (45, 42335), (49, 42278), (52, 42254), (56, 42188), (60, 42125), (64, 42107), (70, 42086), (73, 42047), (75, 41972), (78, 41951),

Gene: Rudy_49 Start: 40040, Stop: 38994, Start Num: 11

Candidate Starts for Rudy_49:

(8, 40169), (9, 40106), (Start: 11 @40040 has 27 MA's), (15, 39959), (17, 39929), (19, 39905), (22, 39851), (25, 39803), (28, 39794), (35, 39668), (39, 39593), (40, 39587), (48, 39455), (49, 39443), (53, 39413), (57, 39308), (59, 39296), (63, 39281), (66, 39260), (67, 39257), (72, 39203), (78, 39080),

Gene: SadLad_57 Start: 43744, Stop: 42740, Start Num: 10

Candidate Starts for SadLad_57:

(Start: 10 @43744 has 3 MA's), (15, 43660), (16, 43642), (17, 43630), (18, 43627), (22, 43552), (24, 43513), (25, 43504), (29, 43480), (32, 43393), (35, 43363), (44, 43237), (45, 43195), (49, 43138), (52, 43114), (56, 43048), (61, 42982), (64, 42967), (70, 42922), (73, 42883), (75, 42808), (78, 42787),

Gene: SallyK_52 Start: 40959, Stop: 39973, Start Num: 11

Candidate Starts for SallyK_52:

(4, 41556), (7, 41523), (8, 41088), (9, 41025), (Start: 11 @40959 has 27 MA's), (15, 40878), (17, 40848), (19, 40824), (22, 40770), (27, 40716), (28, 40713), (30, 40668), (33, 40632), (35, 40608), (36, 40602), (38, 40566), (39, 40533), (41, 40518), (49, 40383), (50, 40371), (52, 40359), (53, 40353), (57, 40248), (59, 40236), (63, 40221), (66, 40200), (67, 40197), (72, 40152), (74, 40104), (78, 40029),

Gene: Sillytadpoles_52 Start: 39877, Stop: 38834, Start Num: 11

Candidate Starts for Sillytadpoles_52:

(8, 40006), (9, 39943), (Start: 11 @39877 has 27 MA's), (15, 39796), (17, 39766), (19, 39742), (22, 39688), (25, 39640), (28, 39631), (35, 39505), (39, 39430), (40, 39424), (48, 39292), (49, 39280), (53, 39250), (57, 39145), (59, 39133), (63, 39118), (66, 39097), (67, 39094), (72, 39043), (78, 38920),

Gene: Squash_54 Start: 40675, Stop: 39638, Start Num: 11

Candidate Starts for Squash_54:

(8, 40804), (9, 40741), (Start: 11 @40675 has 27 MA's), (17, 40564), (22, 40486), (23, 40453), (26, 40435), (31, 40366), (32, 40360), (33, 40354), (35, 40330), (37, 40306), (46, 40156), (49, 40105), (53, 40075), (57, 39970), (59, 39958), (65, 39919), (66, 39901), (74, 39769), (78, 39694),

Gene: Statler_54 Start: 40677, Stop: 39664, Start Num: 11

Candidate Starts for Statler_54:

(8, 40806), (9, 40743), (Start: 11 @40677 has 27 MA's), (15, 40596), (17, 40566), (22, 40488), (23, 40455), (26, 40437), (31, 40368), (32, 40362), (33, 40356), (35, 40332), (37, 40308), (46, 40158), (48,

40119), (49, 40107), (50, 40095), (52, 40083), (53, 40077), (57, 39972), (59, 39960), (63, 39945), (66, 39924), (67, 39921), (72, 39867), (74, 39819), (78, 39744),

Gene: StrawberryJamm_54 Start: 40137, Stop: 39109, Start Num: 11

Candidate Starts for StrawberryJamm_54:

(8, 40266), (9, 40203), (Start: 11 @40137 has 27 MA's), (17, 40026), (22, 39948), (23, 39915), (26, 39897), (31, 39828), (32, 39822), (33, 39816), (35, 39792), (37, 39768), (46, 39618), (49, 39567), (53, 39537), (57, 39432), (59, 39420), (63, 39405), (66, 39384), (67, 39381), (72, 39318), (74, 39270), (78, 39195),

Gene: Teehee_52 Start: 41110, Stop: 40067, Start Num: 11

Candidate Starts for Teehee_52:

(8, 41239), (9, 41176), (Start: 11 @41110 has 27 MA's), (15, 41029), (17, 40999), (19, 40975), (22, 40921), (25, 40873), (28, 40864), (35, 40738), (39, 40663), (40, 40657), (48, 40525), (49, 40513), (53, 40483), (57, 40378), (59, 40366), (63, 40351), (66, 40330), (67, 40327), (72, 40276), (78, 40153),

Gene: Tissue_51 Start: 40561, Stop: 39602, Start Num: 11

Candidate Starts for Tissue_51:

(8, 40690), (9, 40627), (Start: 11 @40561 has 27 MA's), (15, 40480), (17, 40450), (22, 40372), (23, 40339), (26, 40321), (31, 40252), (32, 40246), (33, 40240), (35, 40216), (37, 40192), (46, 40042), (48, 40003), (49, 39991), (53, 39961), (57, 39856), (59, 39844), (63, 39829), (72, 39781), (74, 39733), (78, 39658),

Gene: Viceroy_50 Start: 40010, Stop: 38964, Start Num: 11

Candidate Starts for Viceroy_50:

(8, 40139), (9, 40076), (Start: 11 @40010 has 27 MA's), (15, 39929), (17, 39899), (19, 39875), (22, 39821), (25, 39773), (28, 39764), (35, 39638), (39, 39563), (40, 39557), (48, 39425), (49, 39413), (53, 39383), (57, 39278), (59, 39266), (63, 39251), (66, 39230), (67, 39227), (72, 39173), (78, 39050),

Gene: Wayne3_53 Start: 40873, Stop: 39830, Start Num: 11

Candidate Starts for Wayne3_53:

(8, 41002), (9, 40939), (Start: 11 @40873 has 27 MA's), (15, 40792), (17, 40762), (19, 40738), (22, 40684), (25, 40636), (28, 40627), (35, 40501), (39, 40426), (40, 40420), (48, 40288), (49, 40276), (53, 40246), (57, 40141), (59, 40129), (63, 40114), (66, 40093), (67, 40090), (72, 40039), (78, 39916),

Gene: Wheelie_51 Start: 40194, Stop: 39151, Start Num: 11

Candidate Starts for Wheelie_51:

(8, 40323), (9, 40260), (Start: 11 @40194 has 27 MA's), (15, 40113), (17, 40083), (19, 40059), (22, 40005), (25, 39957), (28, 39948), (35, 39822), (39, 39747), (40, 39741), (48, 39609), (49, 39597), (53, 39567), (57, 39462), (59, 39450), (63, 39435), (66, 39414), (67, 39411), (72, 39360), (78, 39237),

Gene: Zagie_51 Start: 40343, Stop: 39306, Start Num: 11

Candidate Starts for Zagie_51:

(8, 40472), (9, 40409), (Start: 11 @40343 has 27 MA's), (17, 40232), (22, 40154), (23, 40121), (26, 40103), (31, 40034), (32, 40028), (33, 40022), (35, 39998), (37, 39974), (46, 39824), (48, 39785), (49, 39773), (53, 39743), (57, 39638), (59, 39626), (63, 39611), (66, 39590), (67, 39587), (72, 39515), (74, 39467), (78, 39392),

Gene: Zhafia_54 Start: 40674, Stop: 39631, Start Num: 11

Candidate Starts for Zhafia_54:

(8, 40803), (9, 40740), (Start: 11 @40674 has 27 MA's), (15, 40593), (17, 40563), (19, 40539), (22, 40485), (25, 40437), (28, 40428), (35, 40302), (39, 40227), (40, 40221), (48, 40089), (49, 40077), (53, 40047), (57, 39942), (59, 39930), (63, 39915), (66, 39894), (67, 39891), (72, 39840), (78, 39717),

