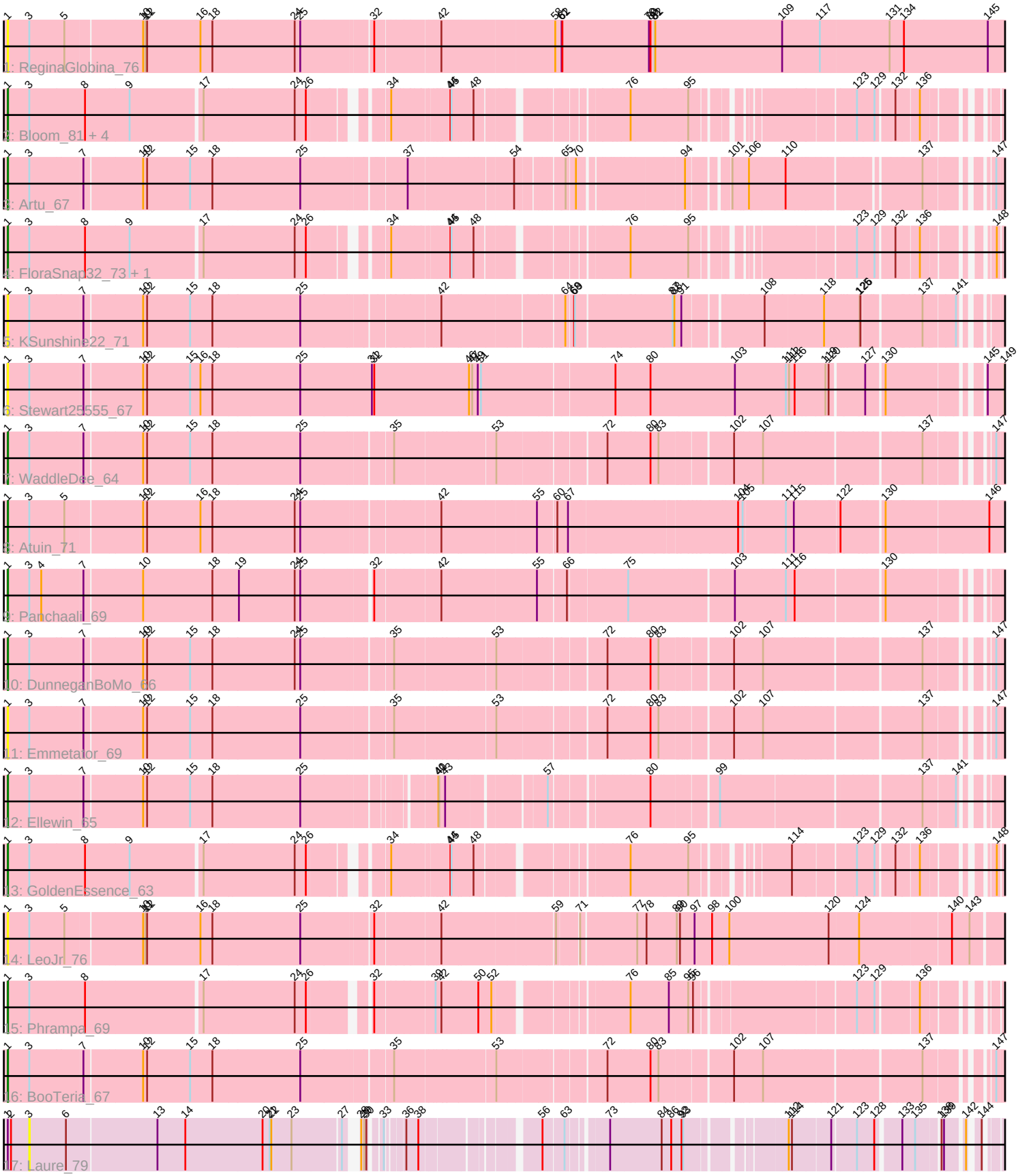
# Zoomed Pham 348026



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 348026 Report

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

Pham number 348026 has 22 members, 7 are drafts.

Phages represented in each track:
• Track 1 : ReginaGlobina_76
• Track 2 : Bloom_81, Racecar_78, Talia1610_77, Mimi_77, FrostedClock_76
• Track 3 : Artu_67
• Track 4 : FloraSnap32_73, Patbob_75
• Track 5 : KSunshine22_71
• Track 6 : Stewart25555_67
• Track 7 : WaddleDee_64
• Track 8 : Atuin_71
• Track 9 : Panchaali_69
• Track 10 : DunneganBoMo_66
• Track 11 : Emmetator_69
• Track 12 : Ellewin_65
• Track 13 : GoldenEssence_63
• Track 14 : LeoJr_76
• Track 15 : Phrampa_69
• Track 16 : BooTeria_67
• Track 17 : Laure_79

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

The start number called the most often in the published annotations is 1, it was called in 15 of the 15 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Artu_67, Atuin_71, Bloom_81, BooTeria_67, DunneganBoMo_66, Ellewin_65, Emmetator_69, FloraSnap32_73, FrostedClock_76, GoldenEssence_63, KSunshine22_71, LeoJr_76, Mimi_77, Panchaali_69, Patbob_75, Phrampa_69, Racecar_78, ReginaGlobina_76, Stewart25555_67, Talia1610_77, WaddleDee_64,

Genes that have the "Most Annotated" start but do not call it:
• Laure_79,

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

**Summary by start number:**

Start 1:
• Found in 22 of 22 ( 100.0% ) of genes in pham
• Manual Annotations of this start: 15 of 15
• Called 95.5% of time when present
• Phage (with cluster) where this start called: Artu_67 (FC), Atuin_71 (FC), Bloom_81 (FC), BooTeria_67 (FC), DunneganBoMo_66 (FC), Ellewin_65 (FC), Emmetator_69 (FC), FloraSnap32_73 (FC), FrostedClock_76 (FC), GoldenEssence_63 (FC), KSunshine22_71 (FC), LeoJr_76 (FC), Mimi_77 (FC), Panchaali_69 (FC), Patbob_75 (FC), Phrampa_69 (FC), Racecar_78 (FC), ReginaGlobina_76 (FC), Stewart25555_67 (FC), Talia1610_77 (FC), WaddleDee_64 (FC),

Start 3:
• Found in 22 of 22 ( 100.0% ) of genes in pham
• No Manual Annotations of this start.
• Called 4.5% of time when present
• Phage (with cluster) where this start called: Laure_79 (UNK),

**Summary by clusters:**

There are 2 clusters represented in this pham: UNK, FC,

Info for manual annotations of cluster FC:
•Start number 1 was manually annotated 15 times for cluster FC.

***Gene Information:***

Gene: Artu_67 Start: 29584, Stop: 39393, Start Num: 1
Candidate Starts for Artu_67:
(Start: 1 @29584 has 15 MA's), (3, 29665), (7, 29857), (10, 30061), (12, 30076), (15, 30238), (18, 30322), (25, 30649), (37, 31009), (54, 31351), (65, 31495), (70, 31525), (94, 31837), (101, 31954), (106, 32014), (110, 32140), (137, 32572), (147, 32746), (155, 32926), (157, 32962), (161, 33043), (163, 33100), (180, 33334), (188, 33478), (191, 33535), (192, 33589), (194, 33631), (197, 33658), (201, 33949), (202, 33967), (203, 34144), (204, 34147), (205, 34216), (207, 34306), (222, 34879), (226, 34948), (230, 35176), (234, 35221), (237, 35341), (240, 35407), (242, 35452), (244, 35557), (250, 35926), (254, 36085), (255, 36145), (256, 36187), (258, 36229), (260, 36271), (265, 36394), (268, 36418), (271, 36481), (273, 36547), (284, 36739), (294, 36961), (312, 37333), (316, 37354), (318, 37408), (322, 37465), (331, 37639), (333, 37669), (334, 37705), (346, 37885), (353, 38032), (358, 38167), (360, 38215), (375, 38497), (388, 38842), (389, 38866), (390, 38869), (393, 38911), (394, 38920), (396, 38998), (399, 39028), (401, 39100), (404, 39181), (406, 39298), (407, 39331),

Gene: Atuin_71 Start: 32692, Stop: 42033, Start Num: 1
Candidate Starts for Atuin_71:
(Start: 1 @32692 has 15 MA's), (3, 32773), (5, 32905), (10, 33175), (12, 33190), (16, 33391), (18, 33436), (24, 33742), (25, 33763), (42, 34228), (55, 34552), (60, 34615), (67, 34651), (104, 35212), (105, 35227), (111, 35371), (115, 35401), (122, 35560), (130, 35710), (146, 36061), (151, 36163), (160, 36445), (168, 36604), (180, 36889), (186, 36991), (188, 37033), (191, 37090), (192, 37144), (197, 37213), (212, 37474), (226, 37627), (229, 37696), (231, 37864), (234, 37894), (236, 37990),

(237, 38014), (239, 38038), (241, 38119), (246, 38443), (249, 38578), (250, 38596), (254, 38755), (255, 38815), (256, 38857), (259, 38938), (262, 38962), (264, 39028), (266, 39070), (271, 39145), (279, 39313), (281, 39343), (282, 39352), (305, 39808), (322, 40090), (324, 40099), (332, 40273), (334, 40327), (342, 40468), (357, 40753), (360, 40828), (363, 40858), (388, 41482), (389, 41506), (390, 41509), (393, 41551), (394, 41560), (401, 41740), (402, 41761), (403, 41785), (406, 41938),

Gene: Bloom_81 Start: 35379, Stop: 43508, Start Num: 1
Candidate Starts for Bloom_81:
(Start: 1 @35379 has 15 MA's), (3, 35460), (8, 35667), (9, 35826), (17, 36084), (24, 36420), (26, 36459), (34, 36657), (44, 36831), (45, 36834), (48, 36903), (76, 37347), (95, 37548), (123, 38037), (129, 38100), (132, 38163), (136, 38244), (154, 38559), (164, 38778), (171, 38820), (172, 38823), (173, 38844), (176, 38913), (177, 38925), (179, 38955), (181, 38997), (183, 39048), (187, 39084), (194, 39240), (208, 39426), (213, 39546), (245, 40347), (252, 40662), (253, 40725), (272, 41139), (276, 41253), (285, 41337), (288, 41394), (301, 41700), (303, 41712), (306, 41757), (315, 41910), (319, 41970), (338, 42312), (339, 42321), (343, 42393), (344, 42399), (345, 42411), (347, 42462), (352, 42537), (361, 42729), (368, 42876), (369, 42885), (370, 42909), (373, 43023), (376, 43137), (377, 43143), (378, 43173), (380, 43206), (381, 43233), (382, 43236), (383, 43242), (384, 43269), (386, 43317), (387, 43362), (392, 43428),

Gene: BooTeria_67 Start: 30039, Stop: 39461, Start Num: 1
Candidate Starts for BooTeria_67:
(Start: 1 @30039 has 15 MA's), (3, 30120), (7, 30312), (10, 30516), (12, 30531), (15, 30693), (18, 30777), (25, 31104), (35, 31410), (53, 31746), (72, 32088), (80, 32232), (83, 32262), (102, 32496), (107, 32598), (137, 33120), (147, 33294), (155, 33474), (157, 33510), (161, 33591), (163, 33648), (180, 33882), (188, 34026), (191, 34083), (192, 34137), (194, 34179), (197, 34206), (222, 34926), (226, 34995), (234, 35268), (237, 35388), (240, 35454), (242, 35499), (244, 35604), (250, 35973), (254, 36132), (255, 36192), (256, 36234), (260, 36318), (265, 36441), (271, 36528), (273, 36594), (284, 36786), (294, 37008), (312, 37380), (316, 37401), (318, 37455), (322, 37512), (331, 37686), (333, 37716), (334, 37752), (345, 37914), (346, 37932), (353, 38079), (358, 38214), (360, 38262), (375, 38574), (379, 38712), (388, 38907), (389, 38931), (390, 38934), (393, 38976), (394, 38985), (395, 39018), (397, 39072), (401, 39156), (405, 39324), (406, 39366),

Gene: DunneganBoMo_66 Start: 29464, Stop: 38886, Start Num: 1
Candidate Starts for DunneganBoMo_66:
(Start: 1 @29464 has 15 MA's), (3, 29545), (7, 29737), (10, 29941), (12, 29956), (15, 30118), (18, 30202), (24, 30508), (25, 30529), (35, 30835), (53, 31171), (72, 31513), (80, 31657), (83, 31687), (102, 31921), (107, 32023), (137, 32545), (147, 32719), (155, 32899), (157, 32935), (161, 33016), (163, 33073), (180, 33307), (188, 33451), (191, 33508), (192, 33562), (194, 33604), (197, 33631), (222, 34351), (226, 34420), (234, 34693), (237, 34813), (240, 34879), (242, 34924), (244, 35029), (250, 35398), (254, 35557), (255, 35617), (256, 35659), (260, 35743), (265, 35866), (271, 35953), (273, 36019), (284, 36211), (294, 36433), (312, 36805), (316, 36826), (318, 36880), (322, 36937), (331, 37111), (333, 37141), (334, 37177), (345, 37339), (346, 37357), (353, 37504), (358, 37639), (360, 37687), (375, 37999), (379, 38137), (388, 38332), (389, 38356), (390, 38359), (393, 38401), (394, 38410), (395, 38443), (397, 38497), (401, 38581), (405, 38749), (406, 38791),

Gene: Ellewin_65 Start: 29191, Stop: 38481, Start Num: 1
Candidate Starts for Ellewin_65:
(Start: 1 @29191 has 15 MA's), (3, 29272), (7, 29464), (10, 29668), (12, 29683), (15, 29845), (18, 29929), (25, 30256), (40, 30670), (41, 30673), (43, 30694), (57, 30997), (80, 31282), (99, 31489), (137, 32173), (141, 32275), (158, 32557), (163, 32686), (165, 32719), (180, 32914), (188, 33058), (191, 33115), (192, 33169), (194, 33211), (197, 33238), (222, 33958), (226, 34027), (234, 34300), (237, 34420), (240, 34486), (244, 34636), (250, 35005), (254, 35164), (255, 35224), (256, 35266), (260, 35350), (265, 35473), (268, 35497), (271, 35560), (273, 35626), (284, 35818), (294, 36040), (312,

36412), (316, 36433), (318, 36487), (322, 36544), (331, 36718), (333, 36748), (334, 36784), (346, 36964), (353, 37111), (358, 37246), (360, 37294), (375, 37594), (379, 37732), (388, 37927), (389, 37951), (390, 37954), (393, 37996), (394, 38005), (395, 38038), (397, 38092), (401, 38176), (405, 38344), (406, 38386),

Gene: Emmetator_69 Start: 30211, Stop: 39633, Start Num: 1
Candidate Starts for Emmetator_69:
(Start: 1 @30211 has 15 MA's), (3, 30292), (7, 30484), (10, 30688), (12, 30703), (15, 30865), (18, 30949), (25, 31276), (35, 31582), (53, 31918), (72, 32260), (80, 32404), (83, 32434), (102, 32668), (107, 32770), (137, 33292), (147, 33466), (155, 33646), (157, 33682), (161, 33763), (163, 33820), (180, 34054), (184, 34147), (188, 34198), (191, 34255), (192, 34309), (194, 34351), (197, 34378), (222, 35098), (226, 35167), (234, 35440), (237, 35560), (240, 35626), (242, 35671), (244, 35776), (250, 36145), (254, 36304), (255, 36364), (256, 36406), (260, 36490), (265, 36613), (271, 36700), (273, 36766), (284, 36958), (294, 37180), (312, 37552), (316, 37573), (318, 37627), (322, 37684), (331, 37858), (333, 37888), (334, 37924), (345, 38086), (346, 38104), (353, 38251), (358, 38386), (360, 38434), (375, 38746), (388, 39079), (389, 39103), (390, 39106), (393, 39148), (394, 39157), (395, 39190), (397, 39244), (401, 39328), (405, 39496), (406, 39538),

Gene: FloraSnap32_73 Start: 33834, Stop: 41975, Start Num: 1
Candidate Starts for FloraSnap32_73:
(Start: 1 @33834 has 15 MA's), (3, 33915), (8, 34122), (9, 34281), (17, 34539), (24, 34875), (26, 34914), (34, 35112), (44, 35286), (45, 35289), (48, 35358), (76, 35802), (95, 36003), (123, 36492), (129, 36555), (132, 36618), (136, 36699), (148, 36879), (154, 37014), (164, 37233), (171, 37275), (172, 37278), (173, 37299), (175, 37323), (176, 37368), (177, 37380), (179, 37410), (181, 37452), (183, 37503), (187, 37539), (194, 37695), (196, 37716), (208, 37881), (213, 38001), (220, 38052), (223, 38115), (232, 38349), (235, 38397), (272, 39603), (274, 39657), (276, 39717), (285, 39801), (286, 39840), (290, 39876), (292, 39918), (297, 40062), (301, 40167), (303, 40179), (306, 40224), (308, 40254), (311, 40353), (319, 40437), (327, 40593), (338, 40779), (340, 40809), (343, 40860), (344, 40866), (345, 40878), (347, 40929), (368, 41343), (370, 41376), (373, 41490), (376, 41604), (378, 41640), (380, 41673), (381, 41700), (382, 41703), (384, 41736), (385, 41769), (386, 41784), (387, 41829), (392, 41895),

Gene: FrostedClock_76 Start: 34867, Stop: 42996, Start Num: 1
Candidate Starts for FrostedClock_76:
(Start: 1 @34867 has 15 MA's), (3, 34948), (8, 35155), (9, 35314), (17, 35572), (24, 35908), (26, 35947), (34, 36145), (44, 36319), (45, 36322), (48, 36391), (76, 36835), (95, 37036), (123, 37525), (129, 37588), (132, 37651), (136, 37732), (154, 38047), (164, 38266), (171, 38308), (172, 38311), (173, 38332), (176, 38401), (177, 38413), (179, 38443), (181, 38485), (183, 38536), (187, 38572), (194, 38728), (208, 38914), (213, 39034), (245, 39835), (252, 40150), (253, 40213), (272, 40627), (276, 40741), (285, 40825), (288, 40882), (301, 41188), (303, 41200), (306, 41245), (315, 41398), (319, 41458), (338, 41800), (339, 41809), (343, 41881), (344, 41887), (345, 41899), (347, 41950), (352, 42025), (361, 42217), (368, 42364), (369, 42373), (370, 42397), (373, 42511), (376, 42625), (377, 42631), (378, 42661), (380, 42694), (381, 42721), (382, 42724), (383, 42730), (384, 42757), (386, 42805), (387, 42850), (392, 42916),

Gene: GoldenEssence_63 Start: 29172, Stop: 37301, Start Num: 1
Candidate Starts for GoldenEssence_63:
(Start: 1 @29172 has 15 MA's), (3, 29253), (8, 29460), (9, 29619), (17, 29877), (24, 30213), (26, 30252), (34, 30450), (44, 30624), (45, 30627), (48, 30696), (76, 31140), (95, 31341), (114, 31617), (123, 31830), (129, 31893), (132, 31956), (136, 32037), (148, 32217), (154, 32352), (164, 32571), (171, 32613), (172, 32616), (173, 32637), (176, 32706), (177, 32718), (179, 32748), (181, 32790), (183, 32841), (187, 32877), (194, 33033), (208, 33219), (213, 33339), (232, 33687), (235, 33735), (252, 34455), (272, 34932), (276, 35046), (285, 35130), (301, 35493), (303, 35505), (304, 35520),

(306, 35550), (308, 35580), (315, 35703), (339, 36114), (343, 36186), (344, 36192), (347, 36255), (352, 36330), (359, 36489), (366, 36627), (368, 36669), (369, 36678), (370, 36702), (373, 36816), (378, 36966), (380, 36999), (381, 37026), (382, 37029), (384, 37062), (386, 37110), (387, 37155), (391, 37197), (392, 37221),

Gene: KSunshine22_71 Start: 30731, Stop: 40120, Start Num: 1
Candidate Starts for KSunshine22_71:
(Start: 1 @30731 has 15 MA's), (3, 30812), (7, 31004), (10, 31208), (12, 31223), (15, 31385), (18, 31469), (25, 31796), (42, 32261), (64, 32654), (68, 32678), (69, 32681), (87, 33008), (88, 33014), (91, 33032), (108, 33293), (118, 33500), (125, 33626), (126, 33629), (137, 33824), (141, 33926), (174, 34274), (180, 34391), (186, 34493), (188, 34535), (191, 34592), (192, 34646), (197, 34715), (200, 34889), (206, 34994), (215, 35228), (216, 35231), (218, 35300), (219, 35453), (221, 35573), (222, 35579), (224, 35597), (225, 35612), (228, 35705), (234, 35927), (237, 36047), (240, 36113), (244, 36263), (250, 36632), (254, 36791), (255, 36851), (256, 36893), (260, 36977), (265, 37100), (268, 37124), (271, 37187), (273, 37253), (284, 37445), (294, 37667), (296, 37712), (312, 38039), (316, 38060), (318, 38114), (322, 38171), (331, 38345), (333, 38375), (334, 38411), (346, 38591), (353, 38738), (358, 38873), (360, 38921), (375, 39233), (388, 39566), (389, 39590), (390, 39593), (393, 39635), (394, 39644), (395, 39677), (397, 39731), (401, 39815), (405, 39983), (406, 40025),

Gene: Laure_79 Start: 35515, Stop: 43047, Start Num: 3
Candidate Starts for Laure_79:
(Start: 1 @35434 has 15 MA's), (2, 35446), (3, 35515), (6, 35650), (13, 35974), (14, 36079), (20, 36367), (21, 36394), (22, 36400), (23, 36469), (27, 36643), (28, 36658), (29, 36667), (30, 36673), (33, 36706), (36, 36751), (38, 36793), (56, 37135), (63, 37198), (73, 37315), (84, 37501), (86, 37534), (92, 37573), (93, 37579), (112, 37873), (114, 37885), (121, 38020), (123, 38098), (128, 38161), (133, 38242), (135, 38284), (138, 38362), (139, 38371), (142, 38428), (144, 38455), (162, 38746), (164, 38824), (170, 38848), (171, 38866), (179, 38998), (182, 39079), (185, 39091), (187, 39118), (189, 39142), (190, 39163), (195, 39286), (198, 39340), (207, 39430), (211, 39538), (214, 39577), (238, 40063), (243, 40177), (248, 40588), (251, 40675), (257, 40921), (261, 41008), (263, 41050), (270, 41164), (275, 41296), (277, 41314), (278, 41320), (280, 41344), (283, 41356), (287, 41440), (289, 41461), (291, 41500), (293, 41548), (295, 41587), (298, 41692), (299, 41704), (300, 41710), (302, 41770), (307, 41830), (309, 41848), (310, 41890), (313, 41956), (314, 41965), (317, 41977), (321, 42085), (323, 42094), (326, 42145), (328, 42193), (329, 42202), (330, 42211), (334, 42301), (335, 42304), (337, 42331), (341, 42400), (349, 42535), (350, 42544), (351, 42553), (355, 42661), (362, 42781), (364, 42817), (367, 42886), (369, 42928), (371, 43003), (372, 43036),

Gene: LeoJr_76 Start: 32832, Stop: 42152, Start Num: 1
Candidate Starts for LeoJr_76:
(Start: 1 @32832 has 15 MA's), (3, 32913), (5, 33045), (10, 33315), (11, 33324), (12, 33330), (16, 33531), (18, 33576), (25, 33903), (32, 34152), (42, 34368), (59, 34743), (71, 34809), (77, 34989), (78, 35022), (89, 35130), (90, 35142), (97, 35196), (98, 35259), (100, 35319), (120, 35667), (124, 35769), (140, 36090), (143, 36156), (156, 36471), (159, 36534), (167, 36708), (180, 36984), (188, 37128), (191, 37185), (192, 37239), (197, 37308), (212, 37569), (226, 37722), (229, 37791), (231, 37959), (234, 37989), (236, 38085), (237, 38109), (239, 38133), (241, 38214), (246, 38538), (249, 38673), (250, 38691), (254, 38850), (255, 38910), (256, 38952), (259, 39033), (262, 39057), (264, 39123), (266, 39165), (271, 39240), (279, 39408), (281, 39438), (282, 39447), (305, 39903), (322, 40197), (324, 40206), (332, 40380), (334, 40434), (336, 40455), (342, 40575), (357, 40860), (360, 40935), (363, 40965), (388, 41601), (389, 41625), (390, 41628), (393, 41670), (394, 41679), (401, 41859), (402, 41880), (403, 41904), (406, 42057),

Gene: Mimi_77 Start: 34726, Stop: 42855, Start Num: 1
Candidate Starts for Mimi_77:

(Start: 1 @34726 has 15 MA's), (3, 34807), (8, 35014), (9, 35173), (17, 35431), (24, 35767), (26, 35806), (34, 36004), (44, 36178), (45, 36181), (48, 36250), (76, 36694), (95, 36895), (123, 37384), (129, 37447), (132, 37510), (136, 37591), (154, 37906), (164, 38125), (171, 38167), (172, 38170), (173, 38191), (176, 38260), (177, 38272), (179, 38302), (181, 38344), (183, 38395), (187, 38431), (194, 38587), (208, 38773), (213, 38893), (245, 39694), (252, 40009), (253, 40072), (272, 40486), (276, 40600), (285, 40684), (288, 40741), (301, 41047), (303, 41059), (306, 41104), (315, 41257), (319, 41317), (338, 41659), (339, 41668), (343, 41740), (344, 41746), (345, 41758), (347, 41809), (352, 41884), (361, 42076), (368, 42223), (369, 42232), (370, 42256), (373, 42370), (376, 42484), (377, 42490), (378, 42520), (380, 42553), (381, 42580), (382, 42583), (383, 42589), (384, 42616), (386, 42664), (387, 42709), (392, 42775),

Gene: Panchaali_69 Start: 30313, Stop: 39819, Start Num: 1
Candidate Starts for Panchaali_69:
(Start: 1 @30313 has 15 MA's), (3, 30394), (4, 30439), (7, 30586), (10, 30787), (18, 31048), (19, 31144), (24, 31354), (25, 31375), (32, 31615), (42, 31831), (55, 32152), (66, 32242), (75, 32440), (103, 32803), (111, 32983), (116, 33016), (130, 33322), (150, 33670), (153, 33772), (188, 34399), (191, 34456), (192, 34510), (194, 34552), (197, 34579), (199, 34684), (217, 35011), (221, 35278), (222, 35284), (224, 35302), (225, 35317), (226, 35353), (234, 35632), (237, 35752), (240, 35818), (244, 35968), (250, 36337), (254, 36496), (255, 36556), (256, 36598), (260, 36682), (265, 36805), (271, 36892), (273, 36958), (284, 37150), (294, 37372), (296, 37417), (312, 37744), (318, 37819), (322, 37876), (331, 38050), (333, 38080), (334, 38116), (346, 38296), (348, 38371), (354, 38482), (358, 38578), (360, 38626), (365, 38719), (375, 38932), (388, 39277), (389, 39301), (390, 39304), (393, 39346), (394, 39355), (395, 39388), (396, 39433), (397, 39442), (401, 39526), (402, 39547), (406, 39724),

Gene: Patbob_75 Start: 35019, Stop: 43160, Start Num: 1
Candidate Starts for Patbob_75:
(Start: 1 @35019 has 15 MA's), (3, 35100), (8, 35307), (9, 35466), (17, 35724), (24, 36060), (26, 36099), (34, 36297), (44, 36471), (45, 36474), (48, 36543), (76, 36987), (95, 37188), (123, 37677), (129, 37740), (132, 37803), (136, 37884), (148, 38064), (154, 38199), (164, 38418), (171, 38460), (172, 38463), (173, 38484), (175, 38508), (176, 38553), (177, 38565), (179, 38595), (181, 38637), (183, 38688), (187, 38724), (194, 38880), (196, 38901), (208, 39066), (213, 39186), (220, 39237), (223, 39300), (232, 39534), (235, 39582), (272, 40788), (274, 40842), (276, 40902), (285, 40986), (286, 41025), (290, 41061), (292, 41103), (297, 41247), (301, 41352), (303, 41364), (306, 41409), (308, 41439), (311, 41538), (319, 41622), (327, 41778), (338, 41964), (340, 41994), (343, 42045), (344, 42051), (345, 42063), (347, 42114), (368, 42528), (370, 42561), (373, 42675), (376, 42789), (378, 42825), (380, 42858), (381, 42885), (382, 42888), (384, 42921), (385, 42954), (386, 42969), (387, 43014), (392, 43080),

Gene: Phrampa_69 Start: 32059, Stop: 40398, Start Num: 1
Candidate Starts for Phrampa_69:
(Start: 1 @32059 has 15 MA's), (3, 32140), (8, 32344), (17, 32758), (24, 33094), (26, 33133), (32, 33313), (39, 33511), (42, 33529), (50, 33655), (52, 33700), (76, 34102), (85, 34237), (95, 34303), (96, 34321), (123, 34849), (129, 34912), (136, 35056), (154, 35371), (164, 35590), (171, 35632), (173, 35656), (176, 35725), (177, 35737), (178, 35743), (179, 35767), (183, 35860), (185, 35863), (187, 35896), (193, 36049), (194, 36052), (208, 36238), (209, 36298), (210, 36319), (227, 36517), (276, 38137), (285, 38221), (286, 38260), (290, 38296), (292, 38338), (297, 38482), (301, 38587), (303, 38599), (319, 38857), (325, 38932), (338, 39199), (339, 39208), (343, 39280), (344, 39286), (345, 39298), (347, 39349), (368, 39766), (369, 39775), (370, 39799), (373, 39913), (376, 40027), (378, 40063), (380, 40096), (381, 40123), (382, 40126), (384, 40159), (386, 40207), (387, 40252), (392, 40318),

Gene: Racecar_78 Start: 35379, Stop: 43508, Start Num: 1

Candidate Starts for Racecar_78:
(Start: 1 @35379 has 15 MA's), (3, 35460), (8, 35667), (9, 35826), (17, 36084), (24, 36420), (26, 36459), (34, 36657), (44, 36831), (45, 36834), (48, 36903), (76, 37347), (95, 37548), (123, 38037), (129, 38100), (132, 38163), (136, 38244), (154, 38559), (164, 38778), (171, 38820), (172, 38823), (173, 38844), (176, 38913), (177, 38925), (179, 38955), (181, 38997), (183, 39048), (187, 39084), (194, 39240), (208, 39426), (213, 39546), (245, 40347), (252, 40662), (253, 40725), (272, 41139), (276, 41253), (285, 41337), (288, 41394), (301, 41700), (303, 41712), (306, 41757), (315, 41910), (319, 41970), (338, 42312), (339, 42321), (343, 42393), (344, 42399), (345, 42411), (347, 42462), (352, 42537), (361, 42729), (368, 42876), (369, 42885), (370, 42909), (373, 43023), (376, 43137), (377, 43143), (378, 43173), (380, 43206), (381, 43233), (382, 43236), (383, 43242), (384, 43269), (386, 43317), (387, 43362), (392, 43428),

Gene: ReginaGlobina_76 Start: 33389, Stop: 42901, Start Num: 1
Candidate Starts for ReginaGlobina_76:
(Start: 1 @33389 has 15 MA's), (3, 33470), (5, 33602), (10, 33872), (11, 33881), (12, 33887), (16, 34088), (18, 34133), (24, 34439), (25, 34460), (32, 34709), (42, 34925), (58, 35318), (61, 35342), (62, 35345), (79, 35669), (80, 35675), (81, 35690), (82, 35693), (109, 36161), (117, 36299), (131, 36548), (134, 36599), (145, 36911), (152, 37097), (160, 37301), (168, 37460), (180, 37745), (186, 37847), (188, 37889), (191, 37946), (192, 38000), (197, 38069), (212, 38330), (226, 38483), (229, 38552), (231, 38720), (234, 38750), (236, 38846), (237, 38870), (239, 38894), (241, 38975), (246, 39299), (249, 39434), (250, 39452), (254, 39611), (255, 39671), (256, 39713), (259, 39794), (262, 39818), (264, 39884), (271, 40001), (279, 40169), (281, 40199), (282, 40208), (305, 40664), (320, 40925), (322, 40946), (324, 40955), (332, 41129), (334, 41183), (342, 41324), (357, 41609), (360, 41684), (363, 41714), (388, 42350), (389, 42374), (390, 42377), (393, 42419), (394, 42428), (401, 42608), (402, 42629), (403, 42653), (406, 42806),

Gene: Stewart25555_67 Start: 29719, Stop: 39243, Start Num: 1
Candidate Starts for Stewart25555_67:
(Start: 1 @29719 has 15 MA's), (3, 29800), (7, 29992), (10, 30196), (12, 30211), (15, 30373), (16, 30412), (18, 30457), (25, 30781), (31, 31048), (32, 31057), (46, 31414), (47, 31426), (49, 31447), (51, 31459), (74, 31921), (80, 32047), (103, 32362), (111, 32542), (113, 32554), (116, 32575), (119, 32683), (120, 32695), (127, 32812), (130, 32872), (145, 33166), (149, 33229), (160, 33556), (166, 33697), (169, 33715), (188, 34072), (191, 34129), (192, 34183), (194, 34225), (197, 34252), (221, 34642), (222, 34648), (224, 34666), (225, 34681), (226, 34717), (233, 34978), (234, 34999), (237, 35119), (240, 35185), (244, 35335), (247, 35560), (250, 35701), (254, 35860), (255, 35920), (256, 35962), (260, 36046), (265, 36169), (267, 36190), (269, 36217), (271, 36256), (273, 36322), (284, 36514), (294, 36736), (312, 37108), (316, 37129), (318, 37183), (322, 37240), (329, 37375), (331, 37417), (333, 37447), (334, 37483), (346, 37663), (353, 37810), (356, 37906), (357, 37918), (358, 37945), (360, 37993), (365, 38086), (374, 38326), (375, 38335), (388, 38683), (389, 38707), (390, 38710), (393, 38752), (394, 38761), (398, 38860), (400, 38935), (401, 38938), (402, 38959), (406, 39148),

Gene: Talia1610_77 Start: 34744, Stop: 42873, Start Num: 1
Candidate Starts for Talia1610_77:
(Start: 1 @34744 has 15 MA's), (3, 34825), (8, 35032), (9, 35191), (17, 35449), (24, 35785), (26, 35824), (34, 36022), (44, 36196), (45, 36199), (48, 36268), (76, 36712), (95, 36913), (123, 37402), (129, 37465), (132, 37528), (136, 37609), (154, 37924), (164, 38143), (171, 38185), (172, 38188), (173, 38209), (176, 38278), (177, 38290), (179, 38320), (181, 38362), (183, 38413), (187, 38449), (194, 38605), (208, 38791), (213, 38911), (245, 39712), (252, 40027), (253, 40090), (272, 40504), (276, 40618), (285, 40702), (288, 40759), (301, 41065), (303, 41077), (306, 41122), (315, 41275), (319, 41335), (338, 41677), (339, 41686), (343, 41758), (344, 41764), (345, 41776), (347, 41827), (352, 41902), (361, 42094), (368, 42241), (369, 42250), (370, 42274), (373, 42388), (376, 42502), (377, 42508), (378, 42538), (380, 42571), (381, 42598), (382, 42601), (383, 42607), (384, 42634),

(386, 42682), (387, 42727), (392, 42793),

Gene: WaddleDee_64 Start: 29316, Stop: 38738, Start Num: 1
Candidate Starts for WaddleDee_64:
(Start: 1 @29316 has 15 MA's), (3, 29397), (7, 29589), (10, 29793), (12, 29808), (15, 29970), (18, 30054), (25, 30381), (35, 30687), (53, 31023), (72, 31365), (80, 31509), (83, 31539), (102, 31773), (107, 31875), (137, 32397), (147, 32571), (155, 32751), (157, 32787), (161, 32868), (163, 32925), (180, 33159), (184, 33252), (188, 33303), (191, 33360), (192, 33414), (194, 33456), (197, 33483), (222, 34203), (226, 34272), (234, 34545), (237, 34665), (240, 34731), (242, 34776), (244, 34881), (250, 35250), (254, 35409), (255, 35469), (256, 35511), (260, 35595), (265, 35718), (271, 35805), (273, 35871), (284, 36063), (294, 36285), (312, 36657), (316, 36678), (318, 36732), (322, 36789), (331, 36963), (333, 36993), (334, 37029), (346, 37209), (353, 37356), (358, 37491), (360, 37539), (375, 37851), (388, 38184), (389, 38208), (390, 38211), (393, 38253), (394, 38262), (395, 38295), (397, 38349), (401, 38433), (405, 38601), (406, 38643),