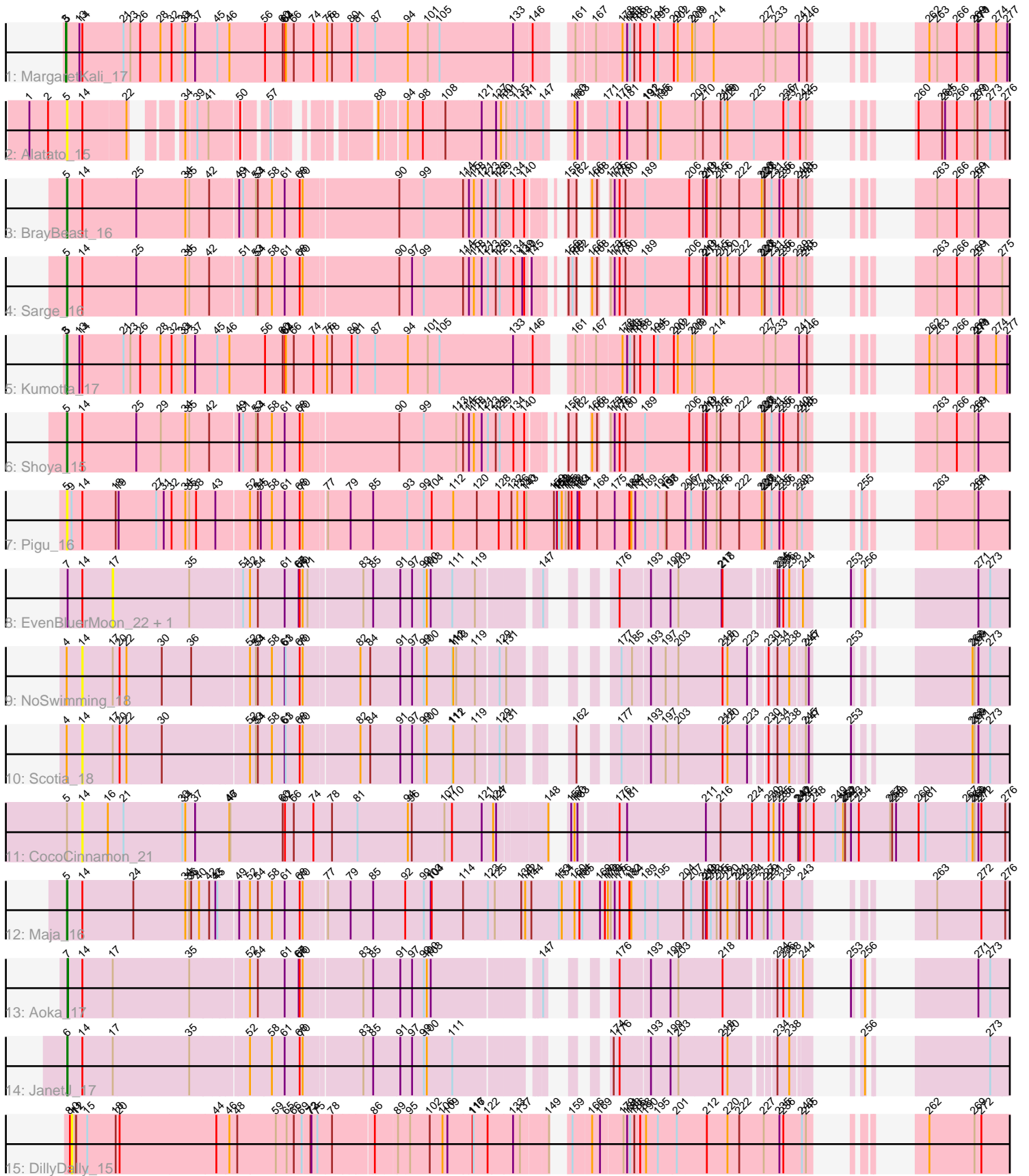


# Zoomed Pham 216648



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 216648 Report

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

Pham number 216648 has 16 members, 8 are drafts.

Phages represented in each track:

- Track 1 : MargaretKali\_17
- Track 2 : Alatato\_15
- Track 3 : BrayBeast\_16
- Track 4 : Sarge\_16
- Track 5 : Kumotta\_17
- Track 6 : Shoya\_15
- Track 7 : Pigu\_16
- Track 8 : EvenBluerMoon\_22, PrairieDogTown\_26
- Track 9 : NoSwimming\_18
- Track 10 : Scotia\_18
- Track 11 : CocoCinnamon\_21
- Track 12 : Maja\_16
- Track 13 : Aoka\_17
- Track 14 : JanetJ\_17
- Track 15 : DillyDally\_15

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

The start number called the most often in the published annotations is 5, it was called in 5 of the 8 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alatato\_15, BrayBeast\_16, Kumotta\_17, Maja\_16, Pigu\_16, Sarge\_16, Shoya\_15,

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

- CocoCinnamon\_21, MargaretKali\_17,

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

- Aoka\_17, DillyDally\_15, EvenBluerMoon\_22, JanetJ\_17, NoSwimming\_18, PrairieDogTown\_26, Scotia\_18,

### **Summary by start number:**

Start 3:

- Found in 2 of 16 ( 12.5% ) of genes in pham
- Manual Annotations of this start: 1 of 8
- Called 50.0% of time when present
- Phage (with cluster) where this start called: MargaretKali\_17 (FB),

Start 5:

- Found in 9 of 16 ( 56.2% ) of genes in pham
- Manual Annotations of this start: 5 of 8
- Called 77.8% of time when present
- Phage (with cluster) where this start called: Alatato\_15 (FB), BrayBeast\_16 (FB), Kumotta\_17 (FB), Maja\_16 (FO), Pigu\_16 (FB), Sarge\_16 (FB), Shoya\_15 (FB),

Start 6:

- Found in 1 of 16 ( 6.2% ) of genes in pham
- Manual Annotations of this start: 1 of 8
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JanetJ\_17 (FO),

Start 7:

- Found in 3 of 16 ( 18.8% ) of genes in pham
- Manual Annotations of this start: 1 of 8
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Aoka\_17 (FO),

Start 10:

- Found in 1 of 16 ( 6.2% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DillyDally\_15 (singleton),

Start 14:

- Found in 15 of 16 ( 93.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: CocoCinnamon\_21 (FO), NoSwimming\_18 (FO), Scotia\_18 (FO),

Start 17:

- Found in 6 of 16 ( 37.5% ) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: EvenBluerMoon\_22 (FO), PrairieDogTown\_26 (FO),

### **Summary by clusters:**

There are 3 clusters represented in this pham: FB, singleton, FO,

Info for manual annotations of cluster FB:

- Start number 3 was manually annotated 1 time for cluster FB.
- Start number 5 was manually annotated 4 times for cluster FB.

Info for manual annotations of cluster FO:

- Start number 5 was manually annotated 1 time for cluster FO.
- Start number 6 was manually annotated 1 time for cluster FO.
- Start number 7 was manually annotated 1 time for cluster FO.

### **Gene Information:**

Gene: Alatato\_15 Start: 9384, Stop: 12482, Start Num: 5

Candidate Starts for Alatato\_15:

(1, 9270), (2, 9327), (Start: 5 @9384 has 5 MA's), (14, 9429), (22, 9552), (34, 9639), (39, 9663), (41, 9696), (50, 9771), (57, 9831), (88, 10026), (94, 10098), (98, 10140), (108, 10191), (121, 10290), (127, 10329), (130, 10344), (131, 10353), (135, 10380), (141, 10404), (147, 10449), (160, 10485), (163, 10494), (171, 10566), (176, 10593), (181, 10614), (191, 10665), (192, 10668), (195, 10698), (196, 10707), (209, 10809), (210, 10833), (216, 10887), (219, 10899), (220, 10908), (225, 10989), (236, 11079), (237, 11094), (242, 11130), (245, 11148), (260, 11217), (264, 11289), (265, 11298), (266, 11334), (269, 11388), (270, 11397), (273, 11436), (276, 11481), (279, 11553), (280, 11571), (283, 11616), (289, 11661), (296, 11772), (302, 11883), (304, 11901), (307, 11973), (309, 12033), (311, 12084), (312, 12114), (314, 12123), (324, 12243), (326, 12264), (343, 12450), (345, 12468), (346, 12471),

Gene: Aoka\_17 Start: 10956, Stop: 14201, Start Num: 7

Candidate Starts for Aoka\_17:

(Start: 7 @10956 has 1 MA's), (14, 11001), (17, 11094), (35, 11316), (52, 11478), (54, 11502), (61, 11583), (67, 11625), (68, 11628), (70, 11637), (83, 11808), (85, 11838), (91, 11919), (97, 11955), (99, 11991), (100, 12000), (103, 12012), (147, 12306), (176, 12396), (193, 12474), (199, 12528), (203, 12552), (218, 12681), (234, 12813), (236, 12828), (238, 12846), (244, 12870), (253, 12900), (256, 12921), (271, 13113), (273, 13149), (301, 13593), (303, 13614), (309, 13749), (314, 13839), (328, 14001), (329, 14055), (338, 14145), (339, 14154),

Gene: BrayBeast\_16 Start: 9776, Stop: 13165, Start Num: 5

Candidate Starts for BrayBeast\_16:

(Start: 5 @9776 has 5 MA's), (14, 9821), (25, 9983), (34, 10124), (35, 10136), (42, 10196), (49, 10268), (51, 10280), (53, 10316), (54, 10322), (58, 10364), (61, 10403), (68, 10448), (70, 10457), (90, 10736), (99, 10811), (114, 10931), (115, 10949), (118, 10964), (121, 10988), (123, 11006), (126, 11030), (129, 11042), (134, 11078), (140, 11111), (156, 11168), (162, 11192), (166, 11198), (168, 11213), (173, 11222), (175, 11234), (176, 11249), (180, 11267), (189, 11324), (206, 11459), (210, 11501), (211, 11510), (212, 11513), (215, 11543), (216, 11555), (222, 11612), (226, 11681), (227, 11687), (228, 11690), (231, 11711), (235, 11735), (236, 11747), (240, 11792), (243, 11804), (245, 11816), (263, 11942), (266, 12002), (269, 12056), (271, 12068), (282, 12287), (288, 12317), (289, 12344), (292, 12365), (296, 12455), (302, 12566), (307, 12656), (308, 12701), (309, 12716), (311, 12767), (317, 12839), (321, 12899), (324, 12926), (327, 12950), (331, 13052), (332, 13058), (334, 13079), (340, 13109), (343, 13133), (344, 13142), (345, 13151), (346, 13154),

Gene: CocoCinnamon\_21 Start: 11179, Stop: 14817, Start Num: 14

Candidate Starts for CocoCinnamon\_21:

(Start: 5 @11134 has 5 MA's), (14, 11179), (16, 11257), (21, 11302), (33, 11473), (34, 11482), (37, 11512), (46, 11611), (47, 11614), (60, 11770), (62, 11776), (66, 11803), (74, 11863), (78, 11917), (81, 11992), (94, 12142), (96, 12154), (107, 12244), (110, 12265), (121, 12346), (124, 12376), (127, 12385), (148, 12520), (157, 12532), (160, 12541), (163, 12550), (176, 12649), (181, 12670), (211, 12898), (216, 12943), (224, 13039), (230, 13090), (232, 13105), (235, 13123), (236, 13135), (240, 13180), (241, 13183), (242, 13186), (245, 13204), (248, 13228), (249, 13294), (250, 13318), (251, 13321), (252, 13324), (253, 13342), (254, 13366), (257, 13462), (258, 13468), (259, 13480), (260,

13549), (261, 13570), (267, 13696), (268, 13714), (269, 13720), (271, 13732), (272, 13741), (276, 13813), (279, 13885), (280, 13903), (284, 13954), (289, 13993), (291, 14011), (293, 14038), (296, 14104), (302, 14215), (307, 14305), (309, 14365), (311, 14416), (316, 14470), (318, 14503), (324, 14575), (326, 14596), (331, 14701), (333, 14719), (334, 14728), (343, 14782), (344, 14791), (345, 14800), (346, 14803), (347, 14806),

Gene: DillyDally\_15 Start: 9981, Stop: 13370, Start Num: 10

Candidate Starts for DillyDally\_15:

(8, 9975), (10, 9981), (11, 9990), (12, 9993), (15, 10026), (18, 10110), (20, 10122), (44, 10413), (46, 10452), (48, 10476), (59, 10593), (65, 10626), (66, 10644), (69, 10668), (72, 10689), (73, 10692), (75, 10710), (78, 10752), (86, 10857), (89, 10911), (95, 10944), (102, 11004), (106, 11043), (109, 11058), (116, 11130), (117, 11133), (122, 11172), (133, 11241), (137, 11262), (149, 11340), (159, 11355), (166, 11409), (169, 11433), (179, 11499), (181, 11508), (183, 11517), (186, 11526), (188, 11544), (190, 11562), (195, 11598), (201, 11655), (212, 11742), (220, 11805), (222, 11841), (227, 11916), (235, 11964), (236, 11976), (243, 12033), (245, 12045), (262, 12147), (269, 12285), (272, 12306), (279, 12450), (280, 12468), (285, 12522), (290, 12567), (295, 12645), (298, 12705), (304, 12798), (305, 12822), (307, 12870), (308, 12915), (309, 12930), (311, 12981), (313, 13017), (315, 13029), (319, 13077), (320, 13089), (322, 13128), (323, 13131), (329, 13236), (333, 13296), (337, 13320), (341, 13344),

Gene: EvenBluerMoon\_22 Start: 11129, Stop: 14236, Start Num: 17

Candidate Starts for EvenBluerMoon\_22:

(Start: 7 @10991 has 1 MA's), (14, 11036), (17, 11129), (35, 11351), (51, 11495), (52, 11513), (54, 11537), (61, 11618), (67, 11660), (68, 11663), (70, 11672), (71, 11687), (83, 11843), (85, 11873), (91, 11954), (97, 11990), (99, 12026), (100, 12035), (103, 12047), (111, 12113), (119, 12182), (147, 12341), (176, 12431), (193, 12509), (199, 12563), (203, 12587), (217, 12713), (218, 12716), (234, 12848), (235, 12854), (236, 12863), (238, 12881), (244, 12905), (253, 12935), (256, 12956), (271, 13148), (273, 13184), (301, 13628), (303, 13649), (309, 13784), (314, 13874), (328, 14036), (329, 14090), (338, 14180), (339, 14189),

Gene: JanetJ\_17 Start: 10770, Stop: 14018, Start Num: 6

Candidate Starts for JanetJ\_17:

(Start: 6 @10770 has 1 MA's), (14, 10815), (17, 10908), (35, 11130), (52, 11292), (58, 11358), (61, 11397), (68, 11442), (70, 11451), (83, 11622), (85, 11652), (91, 11733), (97, 11769), (99, 11805), (100, 11814), (111, 11892), (174, 12192), (176, 12210), (193, 12288), (199, 12342), (203, 12366), (218, 12495), (220, 12510), (234, 12627), (238, 12660), (256, 12735), (273, 12963), (314, 13650), (328, 13812), (335, 13938), (338, 13950), (339, 13959),

Gene: Kumotta\_17 Start: 10633, Stop: 14061, Start Num: 5

Candidate Starts for Kumotta\_17:

(Start: 3 @10630 has 1 MA's), (Start: 5 @10633 has 5 MA's), (13, 10669), (14, 10678), (21, 10801), (23, 10822), (26, 10852), (28, 10906), (32, 10939), (33, 10972), (34, 10981), (37, 11011), (45, 11074), (46, 11110), (56, 11215), (60, 11269), (62, 11275), (64, 11278), (66, 11302), (74, 11362), (76, 11401), (78, 11416), (80, 11473), (81, 11491), (87, 11545), (94, 11641), (101, 11701), (105, 11731), (133, 11950), (146, 12004), (161, 12073), (167, 12127), (178, 12202), (181, 12214), (183, 12223), (186, 12232), (188, 12250), (194, 12292), (195, 12304), (200, 12352), (202, 12364), (208, 12403), (209, 12412), (214, 12469), (227, 12622), (233, 12658), (241, 12730), (246, 12754), (262, 12853), (263, 12877), (266, 12937), (269, 12991), (270, 13000), (271, 13003), (274, 13057), (277, 13090), (279, 13156), (280, 13174), (281, 13207), (283, 13216), (284, 13225), (286, 13237), (297, 13375), (299, 13441), (300, 13462), (302, 13477), (303, 13492), (304, 13495), (306, 13564), (307, 13567), (310, 13663), (313, 13711), (325, 13858), (327, 13867), (328, 13870), (333, 13987), (336, 14005), (342, 14038),

Gene: Maja\_16 Start: 10263, Stop: 13793, Start Num: 5

Candidate Starts for Maja\_16:

(Start: 5 @10263 has 5 MA's), (14, 10308), (24, 10461), (34, 10611), (35, 10623), (36, 10629), (40, 10653), (42, 10683), (43, 10698), (45, 10704), (49, 10755), (52, 10785), (54, 10809), (58, 10851), (61, 10890), (68, 10935), (70, 10944), (77, 11007), (79, 11076), (85, 11145), (92, 11241), (99, 11298), (103, 11319), (104, 11322), (114, 11418), (123, 11493), (125, 11514), (138, 11589), (142, 11601), (144, 11619), (153, 11703), (154, 11712), (160, 11751), (164, 11766), (165, 11775), (169, 11829), (170, 11844), (172, 11853), (173, 11862), (175, 11874), (176, 11889), (182, 11919), (184, 11925), (189, 11964), (195, 12003), (204, 12081), (207, 12105), (210, 12141), (211, 12150), (212, 12153), (213, 12165), (215, 12183), (216, 12195), (220, 12216), (221, 12243), (222, 12252), (223, 12276), (224, 12291), (227, 12327), (229, 12339), (231, 12351), (236, 12387), (243, 12444), (263, 12582), (272, 12717), (276, 12789), (279, 12861), (280, 12879), (285, 12930), (289, 12969), (291, 12987), (292, 12990), (295, 13056), (296, 13080), (302, 13191), (307, 13281), (309, 13341), (324, 13551), (326, 13572), (331, 13677), (333, 13695), (334, 13704), (343, 13758), (344, 13767), (345, 13776), (346, 13779), (347, 13782),

Gene: MargaretKali\_17 Start: 10265, Stop: 13696, Start Num: 3

Candidate Starts for MargaretKali\_17:

(Start: 3 @10265 has 1 MA's), (Start: 5 @10268 has 5 MA's), (13, 10304), (14, 10313), (21, 10436), (23, 10457), (26, 10487), (28, 10541), (32, 10574), (33, 10607), (34, 10616), (37, 10646), (45, 10709), (46, 10745), (56, 10850), (60, 10904), (62, 10910), (64, 10913), (66, 10937), (74, 10997), (76, 11036), (78, 11051), (80, 11108), (81, 11126), (87, 11180), (94, 11276), (101, 11336), (105, 11366), (133, 11585), (146, 11639), (161, 11708), (167, 11762), (178, 11837), (181, 11849), (183, 11858), (186, 11867), (188, 11885), (194, 11927), (195, 11939), (200, 11987), (202, 11999), (208, 12038), (209, 12047), (214, 12104), (227, 12257), (233, 12293), (241, 12365), (246, 12389), (262, 12488), (263, 12512), (266, 12572), (269, 12626), (270, 12635), (271, 12638), (274, 12692), (277, 12725), (279, 12791), (280, 12809), (281, 12842), (283, 12851), (284, 12860), (286, 12872), (297, 13010), (299, 13076), (300, 13097), (302, 13112), (303, 13127), (304, 13130), (306, 13199), (307, 13202), (310, 13298), (313, 13346), (325, 13493), (327, 13502), (328, 13505), (333, 13622), (336, 13640), (342, 13673),

Gene: NoSwimming\_18 Start: 11970, Stop: 15167, Start Num: 14

Candidate Starts for NoSwimming\_18:

(4, 11925), (14, 11970), (17, 12063), (20, 12081), (22, 12102), (30, 12201), (36, 12291), (52, 12447), (53, 12465), (54, 12471), (58, 12513), (61, 12552), (63, 12555), (68, 12597), (70, 12606), (82, 12768), (84, 12798), (91, 12888), (97, 12924), (99, 12960), (100, 12969), (111, 13047), (112, 13050), (113, 13059), (119, 13116), (129, 13182), (131, 13197), (177, 13371), (185, 13398), (193, 13443), (197, 13482), (203, 13521), (218, 13650), (220, 13665), (223, 13725), (230, 13764), (234, 13782), (238, 13815), (245, 13848), (247, 13857), (253, 13869), (268, 14064), (269, 14070), (271, 14082), (273, 14118), (295, 14430), (302, 14565), (307, 14655), (314, 14805), (325, 14955), (329, 15021), (335, 15093), (338, 15105),

Gene: Pigu\_16 Start: 9334, Stop: 12879, Start Num: 5

Candidate Starts for Pigu\_16:

(Start: 5 @9334 has 5 MA's), (9, 9346), (14, 9379), (18, 9481), (19, 9487), (27, 9598), (31, 9616), (32, 9640), (34, 9682), (35, 9694), (38, 9715), (43, 9769), (52, 9856), (54, 9880), (55, 9889), (58, 9922), (61, 9961), (68, 10006), (70, 10015), (77, 10078), (79, 10147), (85, 10216), (93, 10318), (99, 10369), (104, 10393), (112, 10459), (120, 10531), (128, 10597), (132, 10630), (136, 10648), (140, 10669), (143, 10675), (150, 10759), (151, 10768), (152, 10771), (153, 10774), (154, 10783), (155, 10795), (156, 10804), (158, 10813), (163, 10831), (164, 10837), (168, 10891), (175, 10945), (182, 10990), (184, 10996), (187, 11008), (189, 11035), (195, 11074), (197, 11098), (198, 11101), (205, 11158), (207, 11176), (210, 11212), (211, 11221), (215, 11254), (216, 11266), (222, 11323), (226, 11392), (227, 11398), (228, 11401), (231, 11422), (235, 11446), (236, 11458), (239, 11500), (243, 11515), (255,

11560), (263, 11653), (269, 11767), (271, 11779), (278, 11929), (279, 11932), (280, 11950), (282, 11998), (287, 12025), (288, 12028), (290, 12064), (293, 12100), (294, 12130), (295, 12142), (296, 12166), (298, 12202), (302, 12277), (307, 12367), (309, 12427), (326, 12658), (329, 12718), (331, 12763), (333, 12781), (334, 12790), (343, 12844), (344, 12853), (345, 12862), (346, 12865), (347, 12868),

Gene: PrairieDogTown\_26 Start: 11131, Stop: 14238, Start Num: 17

Candidate Starts for PrairieDogTown\_26:

(Start: 7 @10993 has 1 MA's), (14, 11038), (17, 11131), (35, 11353), (51, 11497), (52, 11515), (54, 11539), (61, 11620), (67, 11662), (68, 11665), (70, 11674), (71, 11689), (83, 11845), (85, 11875), (91, 11956), (97, 11992), (99, 12028), (100, 12037), (103, 12049), (111, 12115), (119, 12184), (147, 12343), (176, 12433), (193, 12511), (199, 12565), (203, 12589), (217, 12715), (218, 12718), (234, 12850), (235, 12856), (236, 12865), (238, 12883), (244, 12907), (253, 12937), (256, 12958), (271, 13150), (273, 13186), (301, 13630), (303, 13651), (309, 13786), (314, 13876), (328, 14038), (329, 14092), (338, 14182), (339, 14191),

Gene: Sarge\_16 Start: 9687, Stop: 13076, Start Num: 5

Candidate Starts for Sarge\_16:

(Start: 5 @9687 has 5 MA's), (14, 9732), (25, 9894), (34, 10035), (35, 10047), (42, 10107), (51, 10191), (53, 10227), (54, 10233), (58, 10275), (61, 10314), (68, 10359), (70, 10368), (90, 10647), (97, 10686), (99, 10722), (114, 10842), (115, 10860), (118, 10875), (121, 10899), (123, 10917), (126, 10941), (129, 10953), (134, 10989), (139, 11016), (140, 11022), (145, 11034), (156, 11079), (159, 11091), (162, 11103), (166, 11109), (168, 11124), (173, 11133), (175, 11145), (176, 11160), (180, 11178), (189, 11235), (206, 11370), (210, 11412), (211, 11421), (212, 11424), (215, 11454), (216, 11466), (220, 11487), (222, 11523), (226, 11592), (227, 11598), (228, 11601), (231, 11622), (235, 11646), (236, 11658), (239, 11700), (243, 11715), (245, 11727), (263, 11853), (266, 11913), (269, 11967), (271, 11979), (275, 12051), (280, 12150), (282, 12198), (288, 12228), (289, 12255), (292, 12276), (296, 12366), (298, 12402), (302, 12477), (307, 12567), (309, 12627), (311, 12678), (317, 12750), (321, 12810), (324, 12837), (327, 12861), (330, 12927), (331, 12963), (332, 12969), (334, 12990), (340, 13020), (343, 13044), (344, 13053), (345, 13062), (346, 13065),

Gene: Scotia\_18 Start: 11970, Stop: 15167, Start Num: 14

Candidate Starts for Scotia\_18:

(4, 11925), (14, 11970), (17, 12063), (20, 12081), (22, 12102), (30, 12201), (52, 12447), (53, 12465), (54, 12471), (58, 12513), (61, 12552), (63, 12555), (68, 12597), (70, 12606), (82, 12768), (84, 12798), (91, 12888), (97, 12924), (99, 12960), (100, 12969), (111, 13047), (112, 13050), (119, 13116), (129, 13182), (131, 13197), (162, 13311), (177, 13371), (193, 13443), (197, 13482), (203, 13521), (218, 13650), (220, 13665), (223, 13725), (230, 13764), (234, 13782), (238, 13815), (245, 13848), (247, 13857), (253, 13869), (268, 14064), (269, 14070), (271, 14082), (273, 14118), (295, 14430), (302, 14565), (307, 14655), (314, 14805), (325, 14955), (329, 15021), (335, 15093), (338, 15105),

Gene: Shoya\_15 Start: 9323, Stop: 12712, Start Num: 5

Candidate Starts for Shoya\_15:

(Start: 5 @9323 has 5 MA's), (14, 9368), (25, 9530), (29, 9596), (34, 9671), (35, 9683), (42, 9743), (49, 9815), (51, 9827), (53, 9863), (54, 9869), (58, 9911), (61, 9950), (68, 9995), (70, 10004), (90, 10283), (99, 10358), (113, 10457), (114, 10478), (115, 10496), (118, 10511), (121, 10535), (123, 10553), (126, 10577), (129, 10589), (134, 10625), (140, 10658), (156, 10715), (162, 10739), (166, 10745), (168, 10760), (173, 10769), (175, 10781), (176, 10796), (180, 10814), (189, 10871), (206, 11006), (210, 11048), (211, 11057), (212, 11060), (215, 11090), (216, 11102), (222, 11159), (226, 11228), (227, 11234), (228, 11237), (231, 11258), (235, 11282), (236, 11294), (240, 11339), (243, 11351), (245, 11363), (263, 11489), (266, 11549), (269, 11603), (271, 11615), (282, 11834), (288, 11864), (289, 11891), (292, 11912), (296, 12002), (302, 12113), (307, 12203), (308, 12248), (309, 12263), (311, 12314), (317, 12386), (324, 12473), (327, 12497), (330, 12563), (331, 12599), (332, 12605), (334,

12626), (340, 12656), (343, 12680), (344, 12689), (345, 12698), (346, 12701),