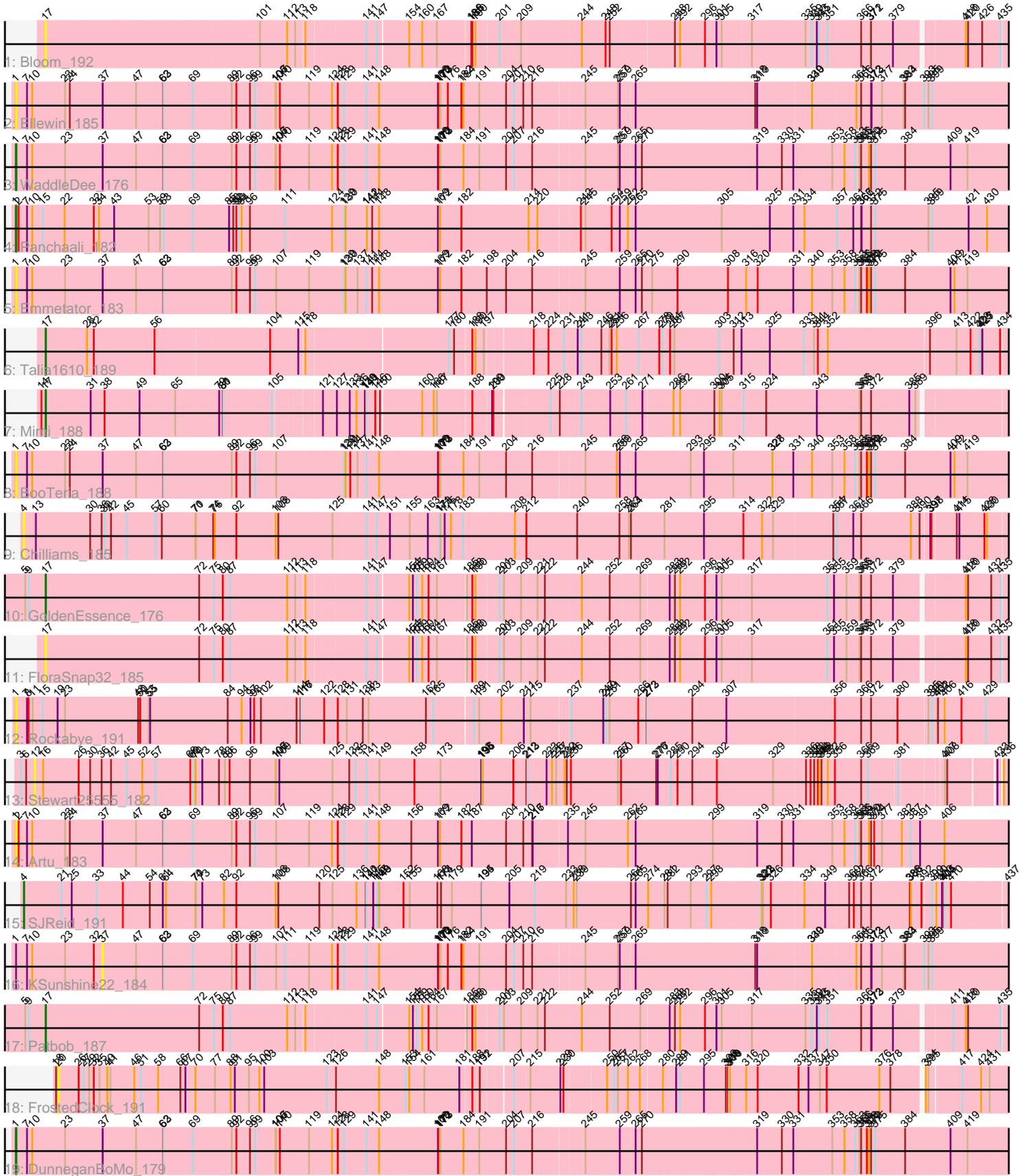


# Zoomed Pham 291571



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 291571 Report

This analysis was run 03/28/26 on database version 641.

Pham number 291571 has 19 members, 11 are drafts.

Phages represented in each track:

- Track 1 : Bloom\_192
- Track 2 : Ellewin\_185
- Track 3 : WaddleDee\_176
- Track 4 : Panchaali\_182
- Track 5 : Emmetator\_183
- Track 6 : Talia1610\_189
- Track 7 : Mimi\_188
- Track 8 : BooTeria\_188
- Track 9 : Chilliams\_185
- Track 10 : GoldenEssence\_176
- Track 11 : FloraSnap32\_185
- Track 12 : Rockabye\_191
- Track 13 : Stewart25555\_182
- Track 14 : Artu\_183
- Track 15 : SJReid\_191
- Track 16 : KSunshine22\_184
- Track 17 : Patbob\_187
- Track 18 : FrostedClock\_191
- Track 19 : DunneganBoMo\_179

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

The start number called the most often in the published annotations is 17, it was called in 4 of the 8 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Bloom\_192, FloraSnap32\_185, GoldenEssence\_176, Mimi\_188, Patbob\_187, Talia1610\_189,

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

- 

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

- Artu\_183, BooTeria\_188, Chilliams\_185, DunneganBoMo\_179, Ellewin\_185, Emmetator\_183, FrostedClock\_191, KSunshine22\_184, Panchaali\_182, Rockabye\_191, SJReid\_191, Stewart25555\_182, WaddleDee\_176,

### Summary by start number:

#### Start 1:

- Found in 9 of 19 ( 47.4% ) of genes in pham
- Manual Annotations of this start: 3 of 8
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Artu\_183 (FC), BooTeria\_188 (FC), DunneganBoMo\_179 (FC), Ellewin\_185 (FC), Emmetator\_183 (FC), Panchaali\_182 (FC), Rockabye\_191 (FC), WaddleDee\_176 (FC),

#### Start 4:

- Found in 2 of 19 ( 10.5% ) 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: Chilliams\_185 (FC), SJReid\_191 (FC),

#### Start 12:

- Found in 1 of 19 ( 5.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Stewart25555\_182 (FC),

#### Start 17:

- Found in 6 of 19 ( 31.6% ) of genes in pham
- Manual Annotations of this start: 4 of 8
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bloom\_192 (FC), FloraSnap32\_185 (FC), GoldenEssence\_176 (FC), Mimi\_188 (FC), Patbob\_187 (FC), Talia1610\_189 (FC),

#### Start 20:

- Found in 1 of 19 ( 5.3% ) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: FrostedClock\_191 (FC),

#### Start 37:

- Found in 7 of 19 ( 36.8% ) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: KSunshine22\_184 (FC),

### Summary by clusters:

There is one cluster represented in this pham: FC

#### Info for manual annotations of cluster FC:

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

- Start number 17 was manually annotated 4 times for cluster FC.

### **Gene Information:**

Gene: Artu\_183 Start: 126525, Stop: 134876, Start Num: 1

Candidate Starts for Artu\_183:

(Start: 1 @126525 has 3 MA's), (2, 126540), (7, 126588), (10, 126618), (23, 126798), (24, 126825), (37, 127008), (47, 127197), (62, 127347), (63, 127350), (69, 127518), (89, 127734), (92, 127761), (96, 127839), (99, 127869), (107, 127983), (119, 128157), (124, 128286), (128, 128319), (129, 128355), (141, 128484), (148, 128556), (156, 128730), (169, 128883), (172, 128895), (182, 129015), (187, 129075), (204, 129243), (210, 129339), (216, 129381), (217, 129384), (235, 129561), (245, 129645), (262, 129858), (265, 129891), (299, 130293), (319, 130506), (330, 130632), (331, 130692), (353, 130881), (358, 130944), (363, 131004), (365, 131028), (366, 131037), (370, 131082), (372, 131094), (374, 131112), (377, 131157), (382, 131271), (387, 131322), (391, 131376), (406, 131514), (439, 131916), (444, 131961), (471, 132342), (474, 132378), (476, 132417), (484, 132501), (485, 132504), (488, 132591), (490, 132630), (492, 132666), (495, 132711), (497, 132750), (499, 132771), (501, 132903), (502, 132924), (505, 132990), (506, 133182), (507, 133224), (508, 133236), (514, 133476), (528, 133671), (529, 133683), (534, 133755), (544, 133953), (547, 133989), (548, 134007), (555, 134106), (558, 134214), (560, 134346), (561, 134355), (565, 134436), (568, 134532), (569, 134568), (570, 134718), (571, 134724), (574, 134751), (575, 134781),

Gene: Bloom\_192 Start: 125632, Stop: 131058, Start Num: 17

Candidate Starts for Bloom\_192:

(Start: 17 @125632 has 4 MA's), (101, 126790), (112, 126925), (113, 126961), (118, 127006), (141, 127291), (147, 127351), (154, 127519), (160, 127594), (167, 127678), (186, 127861), (188, 127867), (190, 127885), (201, 127993), (209, 128107), (244, 128413), (248, 128530), (252, 128551), (288, 128872), (292, 128896), (296, 129028), (301, 129091), (305, 129121), (317, 129274), (335, 129565), (339, 129592), (343, 129616), (345, 129628), (351, 129676), (366, 129847), (371, 129901), (372, 129904), (379, 130027), (418, 130336), (420, 130348), (426, 130426), (435, 130531), (441, 130618), (445, 130645), (452, 130735), (456, 130819), (459, 130843), (464, 130930), (466, 130972), (472, 131014), (475, 131053),

Gene: BooTeria\_188 Start: 126052, Stop: 134382, Start Num: 1

Candidate Starts for BooTeria\_188:

(Start: 1 @126052 has 3 MA's), (7, 126115), (10, 126145), (23, 126325), (24, 126352), (37, 126535), (47, 126724), (62, 126874), (63, 126877), (89, 127261), (92, 127288), (96, 127366), (99, 127396), (107, 127510), (129, 127882), (130, 127891), (134, 127918), (137, 127960), (141, 128011), (148, 128083), (169, 128410), (170, 128416), (172, 128422), (173, 128425), (184, 128554), (191, 128641), (204, 128776), (216, 128914), (245, 129178), (256, 129334), (259, 129349), (265, 129424), (293, 129715), (295, 129781), (311, 129925), (327, 130108), (328, 130111), (331, 130222), (340, 130309), (353, 130411), (358, 130474), (363, 130534), (365, 130558), (366, 130567), (368, 130600), (370, 130612), (372, 130624), (375, 130648), (384, 130810), (409, 131056), (412, 131077), (419, 131149), (439, 131422), (471, 131848), (476, 131923), (484, 132007), (485, 132010), (488, 132097), (490, 132136), (497, 132256), (499, 132277), (501, 132409), (502, 132430), (505, 132496), (506, 132688), (507, 132730), (508, 132742), (514, 132982), (519, 133051), (528, 133177), (534, 133261), (544, 133459), (547, 133495), (548, 133513), (555, 133612), (557, 133717), (558, 133720), (560, 133852), (561, 133861), (563, 133933), (565, 133942), (568, 134038), (569, 134074), (570, 134224), (571, 134230), (574, 134257), (575, 134287),

Gene: Chilliams\_185 Start: 118889, Stop: 125611, Start Num: 4

Candidate Starts for Chilliams\_185:

(Start: 4 @118889 has 1 MA's), (13, 118955), (30, 119246), (36, 119312), (39, 119330), (42, 119366), (45, 119450), (57, 119609), (60, 119642), (70, 119825), (71, 119828), (74, 119918), (76, 119927), (92, 120047), (106, 120269), (108, 120284), (125, 120581), (141, 120746), (147, 120803), (151, 120878), (155, 120983), (163, 121079), (171, 121136), (173, 121142), (175, 121166), (178, 121202), (183, 121268), (208, 121562), (212, 121628), (240, 121910), (258, 122153), (263, 122207), (264, 122219), (281, 122399), (295, 122597), (314, 122792), (322, 122891), (329, 122942), (354, 123245), (357, 123257), (361, 123350), (366, 123392), (388, 123656), (390, 123692), (397, 123734), (398, 123740), (414, 123866), (415, 123881), (428, 124019), (430, 124034), (438, 124163), (454, 124307), (469, 124544), (480, 124667), (482, 124676), (486, 124721), (487, 124754), (496, 124931), (503, 125045), (504, 125051), (513, 125168), (518, 125210), (531, 125432), (532, 125435), (538, 125564),

Gene: DunneganBoMo\_179 Start: 125234, Stop: 133039, Start Num: 1

Candidate Starts for DunneganBoMo\_179:

(Start: 1 @125234 has 3 MA's), (7, 125297), (10, 125327), (23, 125507), (37, 125717), (47, 125906), (62, 126056), (63, 126059), (69, 126227), (89, 126443), (92, 126470), (96, 126548), (99, 126578), (106, 126689), (107, 126692), (110, 126713), (119, 126866), (124, 126995), (128, 127028), (129, 127064), (141, 127193), (148, 127265), (169, 127592), (170, 127598), (172, 127604), (173, 127607), (184, 127736), (191, 127823), (204, 127958), (207, 128003), (216, 128096), (245, 128360), (259, 128531), (265, 128606), (270, 128642), (319, 129221), (330, 129347), (331, 129407), (353, 129596), (358, 129659), (363, 129719), (365, 129743), (366, 129752), (368, 129785), (370, 129797), (372, 129809), (375, 129833), (384, 129995), (409, 130241), (419, 130334), (439, 130607), (460, 130898), (468, 130997), (470, 131021), (476, 131108), (484, 131192), (485, 131195), (488, 131282), (490, 131321), (497, 131441), (498, 131456), (499, 131462), (514, 131639), (519, 131708), (528, 131834), (534, 131918), (540, 132059), (544, 132116), (548, 132170), (555, 132269), (557, 132374), (558, 132377), (560, 132509), (561, 132518), (563, 132590), (565, 132599), (568, 132695), (569, 132731), (570, 132881), (571, 132887), (574, 132914), (575, 132944),

Gene: Ellewin\_185 Start: 125325, Stop: 133118, Start Num: 1

Candidate Starts for Ellewin\_185:

(Start: 1 @125325 has 3 MA's), (7, 125388), (10, 125418), (23, 125598), (24, 125625), (37, 125808), (47, 125997), (62, 126147), (63, 126150), (69, 126318), (89, 126534), (92, 126561), (96, 126639), (99, 126669), (106, 126780), (107, 126783), (110, 126804), (119, 126957), (124, 127086), (128, 127119), (129, 127155), (141, 127284), (148, 127356), (169, 127683), (170, 127689), (172, 127695), (173, 127698), (176, 127740), (182, 127815), (184, 127827), (191, 127914), (204, 128049), (207, 128094), (210, 128145), (216, 128187), (245, 128451), (257, 128613), (259, 128622), (265, 128697), (318, 129303), (319, 129312), (339, 129579), (340, 129582), (364, 129807), (366, 129831), (372, 129888), (373, 129891), (377, 129951), (383, 130068), (384, 130074), (393, 130173), (395, 130197), (399, 130218), (444, 130731), (448, 130770), (460, 130977), (468, 131076), (470, 131100), (478, 131196), (479, 131202), (484, 131271), (488, 131361), (490, 131400), (491, 131403), (497, 131520), (498, 131535), (499, 131541), (514, 131718), (519, 131787), (526, 131895), (528, 131913), (534, 131997), (536, 132018), (542, 132153), (543, 132165), (544, 132195), (548, 132249), (551, 132276), (554, 132324), (557, 132453), (558, 132456), (562, 132624), (565, 132678), (568, 132774), (569, 132810), (571, 132966),

Gene: Emmetator\_183 Start: 125449, Stop: 133245, Start Num: 1

Candidate Starts for Emmetator\_183:

(Start: 1 @125449 has 3 MA's), (7, 125512), (10, 125542), (23, 125722), (37, 125932), (47, 126121), (62, 126271), (63, 126274), (89, 126658), (92, 126685), (96, 126763), (99, 126793), (107, 126907), (119, 127081), (129, 127279), (130, 127288), (137, 127357), (141, 127408), (144, 127441), (148, 127480), (169, 127807), (172, 127819), (182, 127939), (198, 128071), (204, 128167), (216, 128308), (245, 128572), (259, 128743), (265, 128818), (270, 128854), (275, 128911), (290, 129037), (308, 129289), (316, 129385), (320, 129430), (331, 129613), (340, 129700), (353, 129802), (358, 129865), (363, 129925), (365, 129949), (366, 129958), (368, 129991), (370, 130003), (372, 130015), (375,

130039), (384, 130201), (409, 130447), (412, 130468), (419, 130540), (439, 130813), (460, 131104), (468, 131203), (470, 131227), (476, 131314), (484, 131398), (485, 131401), (488, 131488), (490, 131527), (497, 131647), (498, 131662), (499, 131668), (514, 131845), (519, 131914), (528, 132040), (534, 132124), (540, 132265), (544, 132322), (548, 132376), (555, 132475), (557, 132580), (558, 132583), (560, 132715), (561, 132724), (563, 132796), (565, 132805), (568, 132901), (569, 132937), (570, 133087), (571, 133093), (574, 133120), (575, 133150),

Gene: FloraSnap32\_185 Start: 123963, Stop: 129392, Start Num: 17

Candidate Starts for FloraSnap32\_185:

(Start: 17 @123963 has 4 MA's), (72, 124800), (75, 124875), (80, 124926), (87, 124959), (112, 125256), (113, 125292), (118, 125337), (141, 125622), (147, 125682), (154, 125850), (157, 125871), (159, 125895), (160, 125925), (164, 125961), (167, 126009), (185, 126168), (188, 126198), (190, 126216), (201, 126324), (203, 126348), (209, 126438), (221, 126522), (222, 126564), (244, 126744), (252, 126882), (269, 127032), (283, 127173), (288, 127203), (292, 127227), (296, 127359), (301, 127422), (305, 127452), (317, 127605), (351, 128013), (355, 128040), (359, 128100), (365, 128172), (366, 128181), (372, 128238), (379, 128361), (418, 128670), (420, 128682), (432, 128811), (435, 128865), (445, 128979), (452, 129069), (456, 129153), (459, 129177), (464, 129264), (466, 129306), (472, 129348), (475, 129387),

Gene: FrostedClock\_191 Start: 126308, Stop: 131746, Start Num: 20

Candidate Starts for FrostedClock\_191:

(18, 126293), (20, 126308), (26, 126419), (27, 126449), (29, 126479), (32, 126506), (35, 126536), (40, 126581), (41, 126599), (46, 126722), (51, 126761), (58, 126854), (66, 126965), (67, 126992), (70, 127046), (77, 127148), (88, 127235), (91, 127259), (95, 127340), (100, 127400), (103, 127427), (123, 127778), (126, 127823), (148, 128048), (153, 128186), (154, 128207), (161, 128291), (181, 128468), (188, 128522), (191, 128558), (192, 128561), (207, 128708), (215, 128792), (229, 128948), (230, 128966), (250, 129179), (255, 129212), (257, 129233), (262, 129284), (268, 129335), (280, 129437), (289, 129497), (291, 129518), (295, 129641), (306, 129743), (308, 129755), (309, 129761), (310, 129767), (316, 129854), (320, 129905), (332, 130124), (337, 130181), (347, 130247), (350, 130286), (376, 130589), (378, 130652), (394, 130802), (395, 130817), (417, 130985), (424, 131087), (431, 131135), (450, 131402), (455, 131447), (461, 131591), (462, 131597), (463, 131612), (465, 131660), (472, 131699), (475, 131738),

Gene: GoldenEssence\_176 Start: 119841, Stop: 125270, Start Num: 17

Candidate Starts for GoldenEssence\_176:

(5, 119724), (9, 119745), (Start: 17 @119841 has 4 MA's), (72, 120678), (75, 120753), (80, 120804), (87, 120837), (112, 121134), (113, 121170), (118, 121215), (141, 121500), (147, 121560), (154, 121728), (157, 121749), (159, 121773), (160, 121803), (164, 121839), (167, 121887), (185, 122046), (188, 122076), (190, 122094), (201, 122202), (203, 122226), (209, 122316), (221, 122400), (222, 122442), (244, 122622), (252, 122760), (269, 122910), (283, 123051), (288, 123081), (292, 123105), (296, 123237), (301, 123300), (305, 123330), (317, 123483), (351, 123891), (355, 123918), (359, 123978), (365, 124050), (366, 124059), (372, 124116), (379, 124239), (418, 124548), (420, 124560), (432, 124689), (435, 124743), (445, 124857), (452, 124947), (456, 125031), (459, 125055), (464, 125142), (466, 125184), (472, 125226),

Gene: KSunshine22\_184 Start: 124825, Stop: 132135, Start Num: 37

Candidate Starts for KSunshine22\_184:

(Start: 1 @124342 has 3 MA's), (7, 124405), (10, 124435), (23, 124615), (32, 124774), (37, 124825), (47, 125014), (62, 125164), (63, 125167), (69, 125335), (89, 125551), (92, 125578), (96, 125656), (99, 125686), (107, 125800), (111, 125848), (119, 125974), (124, 126103), (128, 126136), (129, 126172), (141, 126301), (148, 126373), (169, 126700), (170, 126706), (172, 126712), (173, 126715), (176, 126757), (182, 126832), (184, 126844), (191, 126931), (204, 127066), (207, 127111), (210, 127162), (216, 127204), (245, 127468), (257, 127630), (259, 127639), (265, 127714), (318, 128320), (319,

128329), (339, 128596), (340, 128599), (364, 128824), (366, 128848), (372, 128905), (373, 128908), (377, 128968), (383, 129085), (384, 129091), (393, 129190), (395, 129214), (399, 129235), (444, 129748), (448, 129787), (460, 129994), (468, 130093), (470, 130117), (478, 130213), (479, 130219), (484, 130288), (488, 130378), (490, 130417), (497, 130537), (498, 130552), (499, 130558), (514, 130735), (519, 130804), (526, 130912), (528, 130930), (534, 131014), (542, 131170), (543, 131182), (544, 131212), (548, 131266), (551, 131293), (553, 131332), (554, 131341), (557, 131470), (558, 131473), (562, 131641), (565, 131695), (568, 131791), (569, 131827), (571, 131983),

Gene: Mimi\_188 Start: 125347, Stop: 130668, Start Num: 17

Candidate Starts for Mimi\_188:

(14, 125323), (Start: 17 @125347 has 4 MA's), (31, 125590), (38, 125662), (49, 125833), (65, 126016), (79, 126241), (80, 126262), (81, 126265), (105, 126493), (121, 126712), (127, 126778), (133, 126841), (136, 126880), (139, 126919), (140, 126925), (141, 126928), (146, 126979), (150, 127006), (160, 127231), (166, 127294), (167, 127312), (188, 127501), (199, 127597), (200, 127600), (225, 127873), (228, 127915), (243, 128017), (253, 128161), (261, 128239), (271, 128323), (286, 128473), (292, 128503), (300, 128686), (304, 128716), (305, 128728), (315, 128830), (324, 128956), (343, 129226), (365, 129445), (366, 129454), (372, 129511), (385, 129706), (389, 129724), (445, 130255), (449, 130309), (452, 130345), (466, 130582), (467, 130585),

Gene: Panchaali\_182 Start: 126457, Stop: 134247, Start Num: 1

Candidate Starts for Panchaali\_182:

(Start: 1 @126457 has 3 MA's), (2, 126472), (7, 126520), (10, 126550), (15, 126610), (22, 126727), (32, 126889), (34, 126919), (43, 127006), (53, 127198), (59, 127264), (63, 127282), (69, 127450), (85, 127645), (90, 127669), (92, 127687), (93, 127699), (94, 127717), (96, 127765), (111, 127957), (124, 128212), (129, 128281), (130, 128290), (141, 128410), (142, 128413), (144, 128443), (148, 128482), (169, 128809), (172, 128821), (182, 128944), (214, 129289), (220, 129340), (242, 129547), (245, 129574), (254, 129703), (259, 129745), (262, 129787), (265, 129820), (305, 130261), (325, 130495), (331, 130621), (334, 130672), (357, 130831), (361, 130924), (366, 130966), (367, 130969), (372, 131023), (375, 131047), (395, 131332), (399, 131353), (421, 131554), (430, 131656), (444, 131866), (450, 131944), (457, 132052), (469, 132229), (476, 132319), (484, 132403), (488, 132493), (489, 132526), (495, 132613), (500, 132676), (512, 132832), (515, 132853), (517, 132862), (521, 132958), (522, 132961), (524, 133000), (525, 133018), (528, 133042), (541, 133279), (544, 133324), (545, 133330), (546, 133333), (550, 133396), (554, 133456), (557, 133588), (558, 133591), (562, 133762), (564, 133810), (566, 133819), (567, 133852), (572, 134113), (573, 134116), (575, 134152),

Gene: Patbob\_187 Start: 126457, Stop: 131883, Start Num: 17

Candidate Starts for Patbob\_187:

(5, 126340), (9, 126361), (Start: 17 @126457 has 4 MA's), (72, 127294), (75, 127369), (80, 127420), (87, 127453), (112, 127750), (113, 127786), (118, 127831), (141, 128116), (147, 128176), (154, 128344), (157, 128365), (159, 128389), (160, 128419), (164, 128455), (167, 128503), (185, 128662), (188, 128692), (190, 128710), (201, 128818), (203, 128842), (209, 128932), (221, 129016), (222, 129058), (244, 129238), (252, 129376), (269, 129526), (283, 129667), (288, 129697), (292, 129721), (296, 129853), (301, 129916), (305, 129946), (317, 130099), (335, 130390), (339, 130417), (343, 130441), (345, 130453), (351, 130501), (366, 130672), (372, 130729), (373, 130732), (379, 130852), (411, 131101), (418, 131161), (420, 131173), (435, 131356), (445, 131470), (452, 131560), (456, 131644), (459, 131668), (464, 131755), (466, 131797), (472, 131839),

Gene: Rockabye\_191 Start: 118145, Stop: 125200, Start Num: 1

Candidate Starts for Rockabye\_191:

(Start: 1 @118145 has 3 MA's), (7, 118208), (8, 118217), (11, 118241), (15, 118298), (19, 118376), (23, 118418), (48, 118820), (50, 118832), (53, 118880), (55, 118889), (84, 119315), (94, 119390), (97, 119432), (98, 119453), (102, 119480), (114, 119660), (116, 119681), (117, 119684), (122, 119798), (128, 119870), (131, 119915), (138, 119993), (143, 120026), (162, 120308), (165, 120347), (189,

120557), (191, 120587), (202, 120707), (211, 120827), (215, 120863), (237, 121037), (247, 121202), (249, 121217), (251, 121235), (266, 121394), (272, 121442), (273, 121445), (294, 121688), (307, 121844), (356, 122381), (366, 122519), (372, 122573), (380, 122714), (395, 122852), (399, 122873), (401, 122897), (402, 122900), (406, 122933), (416, 123029), (429, 123164), (443, 123371), (481, 123872), (483, 123905), (488, 123998), (492, 124073), (516, 124364), (520, 124430), (523, 124481), (527, 124538), (528, 124550), (530, 124568), (535, 124646), (536, 124649), (537, 124712), (544, 124826), (549, 124886), (552, 124943), (556, 125036), (557, 125090), (559, 125183),

Gene: SJReid\_191 Start: 116232, Stop: 122984, Start Num: 4

Candidate Starts for SJReid\_191:

(Start: 4 @116232 has 1 MA's), (21, 116436), (25, 116493), (33, 116622), (44, 116766), (54, 116910), (61, 116985), (64, 117003), (70, 117162), (71, 117165), (73, 117201), (82, 117312), (92, 117381), (106, 117603), (108, 117618), (120, 117843), (125, 117915), (136, 118032), (140, 118077), (141, 118080), (145, 118116), (147, 118137), (148, 118149), (149, 118152), (152, 118281), (155, 118317), (168, 118458), (173, 118476), (174, 118479), (179, 118542), (194, 118704), (195, 118707), (205, 118860), (219, 119004), (233, 119166), (238, 119208), (239, 119223), (264, 119529), (265, 119556), (274, 119622), (281, 119706), (282, 119724), (293, 119844), (297, 119934), (298, 119961), (321, 120240), (322, 120246), (323, 120252), (326, 120297), (334, 120471), (349, 120576), (360, 120696), (362, 120723), (366, 120762), (372, 120816), (386, 121020), (388, 121026), (392, 121068), (399, 121116), (400, 121128), (403, 121161), (404, 121167), (405, 121170), (410, 121206), (437, 121503), (447, 121617), (450, 121653), (451, 121665), (454, 121680), (469, 121917), (473, 121956), (480, 122040), (486, 122094), (487, 122127), (493, 122253), (494, 122277), (503, 122418), (504, 122424), (509, 122445), (510, 122472), (511, 122505), (518, 122583), (533, 122823), (538, 122937), (539, 122940),

Gene: Stewart25555\_182 Start: 125560, Stop: 131241, Start Num: 12

Candidate Starts for Stewart25555\_182:

(3, 125482), (6, 125512), (12, 125560), (16, 125608), (26, 125794), (30, 125860), (36, 125926), (42, 125980), (45, 126064), (52, 126151), (57, 126223), (68, 126409), (69, 126424), (70, 126439), (73, 126478), (78, 126562), (83, 126595), (86, 126622), (96, 126739), (106, 126880), (107, 126883), (109, 126901), (125, 127195), (132, 127276), (135, 127309), (141, 127363), (149, 127435), (158, 127627), (173, 127759), (193, 127987), (195, 127993), (196, 127996), (206, 128170), (212, 128245), (213, 128251), (223, 128356), (226, 128386), (227, 128410), (232, 128458), (234, 128470), (236, 128494), (257, 128749), (260, 128764), (276, 128944), (277, 128953), (285, 129022), (290, 129055), (294, 129136), (302, 129247), (329, 129535), (336, 129703), (338, 129724), (342, 129739), (344, 129760), (346, 129769), (348, 129781), (352, 129817), (356, 129850), (366, 129988), (369, 130024), (381, 130171), (407, 130342), (408, 130351), (433, 130570), (436, 130588), (440, 130648), (446, 130699), (458, 130843), (473, 131041), (474, 131053), (477, 131089),

Gene: Talia1610\_189 Start: 125642, Stop: 131137, Start Num: 17

Candidate Starts for Talia1610\_189:

(Start: 17 @125642 has 4 MA's), (28, 125864), (32, 125903), (56, 126242), (104, 126839), (115, 126980), (118, 127007), (177, 127748), (180, 127778), (188, 127868), (190, 127886), (197, 127928), (218, 128147), (224, 128222), (231, 128297), (241, 128363), (243, 128378), (246, 128483), (251, 128516), (254, 128528), (256, 128555), (267, 128660), (278, 128762), (279, 128777), (284, 128816), (287, 128840), (303, 129077), (312, 129158), (313, 129203), (325, 129356), (333, 129542), (341, 129587), (344, 129608), (352, 129665), (396, 130190), (413, 130331), (422, 130409), (423, 130457), (425, 130469), (427, 130475), (434, 130577), (442, 130685), (452, 130799), (453, 130802), (472, 131093),

Gene: WaddleDee\_176 Start: 124507, Stop: 132312, Start Num: 1

Candidate Starts for WaddleDee\_176:

(Start: 1 @124507 has 3 MA's), (7, 124570), (10, 124600), (23, 124780), (37, 124990), (47, 125179), (62, 125329), (63, 125332), (69, 125500), (89, 125716), (92, 125743), (96, 125821), (99, 125851), (106, 125962), (107, 125965), (110, 125986), (119, 126139), (124, 126268), (128, 126301), (129, 126337), (141, 126466), (148, 126538), (169, 126865), (170, 126871), (172, 126877), (173, 126880), (184, 127009), (191, 127096), (204, 127231), (207, 127276), (216, 127369), (245, 127633), (257, 127795), (259, 127804), (265, 127879), (270, 127915), (319, 128494), (330, 128620), (331, 128680), (353, 128869), (358, 128932), (363, 128992), (365, 129016), (366, 129025), (370, 129070), (372, 129082), (375, 129106), (384, 129268), (409, 129514), (419, 129607), (439, 129880), (460, 130171), (468, 130270), (470, 130294), (476, 130381), (484, 130465), (485, 130468), (488, 130555), (490, 130594), (497, 130714), (498, 130729), (499, 130735), (514, 130912), (519, 130981), (528, 131107), (534, 131191), (540, 131332), (544, 131389), (548, 131443), (555, 131542), (557, 131647), (558, 131650), (560, 131782), (561, 131791), (563, 131863), (565, 131872), (568, 131968), (569, 132004), (570, 132154), (571, 132160), (574, 132187), (575, 132217),