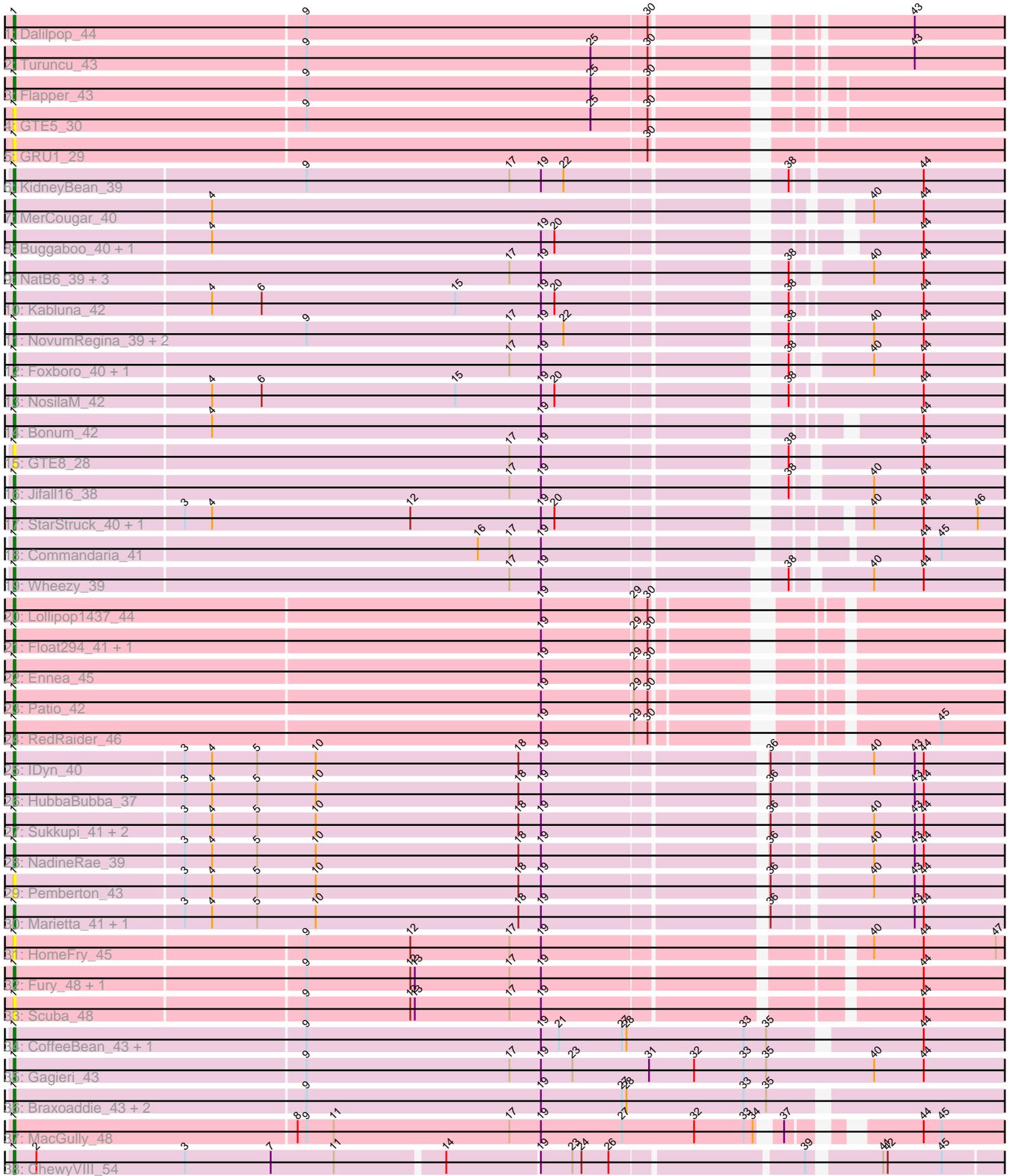Zoomed Pham 287947

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 287947 Report

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

Pham number 287947 has 54 members, 6 are drafts.

Phages represented in each track:
• Track 1 : Dalilpop_44
• Track 2 : Turuncu_43
• Track 3 : Flapper_43
• Track 4 : GTE5_30
• Track 5 : GRU1_29
• Track 6 : KidneyBean_39
• Track 7 : MerCougar_40
• Track 8 : Buggaboo_40, SuperSulley_40
• Track 9 : NatB6_39, Kurt_39, Phomeo_38, Emianna_39
• Track 10 : Kabluna_42
• Track 11 : NovumRegina_39, Arti_39, GrootJr_41
• Track 12 : Foxboro_40, Tracker_39
• Track 13 : NosilaM_42
• Track 14 : Bonum_42
• Track 15 : GTE8_28
• Track 16 : Jifall16_38
• Track 17 : StarStruck_40, Outis_40
• Track 18 : Commandaria_41
• Track 19 : Wheezy_39
• Track 20 : Lollipop1437_44
• Track 21 : Float294_41, Skysand_41
• Track 22 : Ennea_45
• Track 23 : Patio_42
• Track 24 : RedRaider_46
• Track 25 : IDyn_40
• Track 26 : HubbaBubba_37
• Track 27 : Sukkupi_41, Yndexa_41, BiPauneto_42
• Track 28 : NadineRae_39
• Track 29 : Pemberton_43
• Track 30 : Marietta_41, WhoseManz_41
• Track 31 : HomeFry_45
• Track 32 : Fury_48, Pleakley_48
• Track 33 : Scuba_48
• Track 34 : CoffeeBean_43, Maselop_43
• Track 35 : Gagieri_43
• Track 36 : Braxoaddie_43, Polyyuki_43, Apiary_43
• Track 37 : MacGully_48

• Track 38 : ChewyVIII_54

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 48 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Apiary_43, Arti_39, BiPauneto_42, Bonum_42, Braxoaddie_43, Buggaboo_40, ChewyVIII_54, CoffeeBean_43, Commandaria_41, Dalilpop_44, Emianna_39, Ennea_45, Flapper_43, Float294_41, Foxboro_40, Fury_48, GRU1_29, GTE5_30, GTE8_28, Gagieri_43, GrootJr_41, HomeFry_45, HubbaBubba_37, IDyn_40, Jifall16_38, Kabluna_42, KidneyBean_39, Kurt_39, Lollipop1437_44, MacGully_48, Marietta_41, Maselop_43, MerCougar_40, NadineRae_39, NatB6_39, NosilaM_42, NovumRegina_39, Outis_40, Patio_42, Pemberton_43, Phomeo_38, Pleakley_48, Polyyuki_43, RedRaider_46, Scuba_48, Skysand_41, StarStruck_40, Sukkupi_41, SuperSulley_40, Tracker_39, Turuncu_43, Wheezy_39, WhoseManz_41, Yndexa_41,

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

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

Summary by start number:

Start 1:
• Found in 54 of 54 (100.0%) of genes in pham
• Manual Annotations of this start: 48 of 48
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Apiary_43 (CR6), Arti_39 (CR2), BiPauneto_42 (CR4), Bonum_42 (CR2), Braxoaddie_43 (CR6), Buggaboo_40 (CR2), ChewyVIII_54 (singleton), CoffeeBean_43 (CR6), Commandaria_41 (CR2), Dalilpop_44 (CR1), Emianna_39 (CR2), Ennea_45 (CR3), Flapper_43 (CR1), Float294_41 (CR3), Foxboro_40 (CR2), Fury_48 (CR5), GRU1_29 (CR1), GTE5_30 (CR1), GTE8_28 (CR2), Gagieri_43 (CR6), GrootJr_41 (CR2), HomeFry_45 (CR5), HubbaBubba_37 (CR4), IDyn_40 (CR4), Jifall16_38 (CR2), Kabluna_42 (CR2), KidneyBean_39 (CR2), Kurt_39 (CR2), Lollipop1437_44 (CR3), MacGully_48 (CR7), Marietta_41 (CR4), Maselop_43 (CR6), MerCougar_40 (CR2), NadineRae_39 (CR4), NatB6_39 (CR2), NosilaM_42 (CR2), NovumRegina_39 (CR2), Outis_40 (CR2), Patio_42 (CR3), Pemberton_43 (CR4), Phomeo_38 (CR2), Pleakley_48 (CR5), Polyyuki_43 (CR6), RedRaider_46 (CR3), Scuba_48 (CR5), Skysand_41 (CR3), StarStruck_40 (CR2), Sukkupi_41 (CR4), SuperSulley_40 (CR2), Tracker_39 (CR2), Turuncu_43 (CR1), Wheezy_39 (CR2), WhoseManz_41 (CR4), Yndexa_41 (CR4),

Summary by clusters:

There are 8 clusters represented in this pham: CR2, CR3, singleton, CR1, CR6, CR7, CR4, CR5,

Info for manual annotations of cluster CR1:
•Start number 1 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:
•Start number 1 was manually annotated 21 times for cluster CR2.

Info for manual annotations of cluster CR3:
•Start number 1 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CR4:
•Start number 1 was manually annotated 8 times for cluster CR4.

Info for manual annotations of cluster CR5:
•Start number 1 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster CR6:
•Start number 1 was manually annotated 6 times for cluster CR6.

Info for manual annotations of cluster CR7:
•Start number 1 was manually annotated 1 time for cluster CR7.

Gene Information:

Gene: Apiary_43 Start: 25209, Stop: 30419, Start Num: 1
Candidate Starts for Apiary_43:
(Start: 1 @25209 has 48 MA's), (9, 25401), (19, 25557), (27, 25611), (28, 25614), (33, 25692), (35, 25707), (55, 25998), (59, 26118), (61, 26145), (70, 26343), (80, 26520), (82, 26562), (86, 26640), (88, 26646), (93, 26718), (94, 26730), (95, 26736), (98, 26757), (100, 26796), (106, 26853), (110, 26895), (111, 26904), (115, 26937), (116, 26955), (118, 26985), (125, 27111), (128, 27144), (131, 27177), (134, 27207), (138, 27255), (139, 27264), (144, 27318), (151, 27390), (152, 27411), (154, 27420), (169, 27576), (174, 27627), (181, 27675), (185, 27708), (190, 27747), (191, 27750), (200, 27801), (201, 27804), (206, 27837), (214, 27879), (218, 27891), (219, 27894), (220, 27903), (227, 27945), (228, 27948), (230, 27954), (232, 27966), (240, 28020), (242, 28032), (257, 28209), (258, 28218), (260, 28221), (266, 28266), (272, 28356), (275, 28374), (296, 28539), (299, 28569), (301, 28584), (315, 28740), (322, 28752), (324, 28776), (331, 28830), (334, 28863), (337, 28908), (345, 29001), (346, 29010), (348, 29022), (349, 29031), (352, 29052), (353, 29055), (359, 29127), (360, 29130), (363, 29151), (367, 29193), (380, 29343), (382, 29376), (383, 29385), (396, 29622), (401, 29667), (410, 29733), (412, 29739), (413, 29760), (414, 29769), (416, 29790), (420, 29811), (424, 29856), (429, 29997), (448, 30186), (449, 30219), (457, 30321), (458, 30333), (462, 30360),

Gene: Arti_39 Start: 23467, Stop: 28866, Start Num: 1
Candidate Starts for Arti_39:
(Start: 1 @23467 has 48 MA's), (9, 23659), (17, 23794), (19, 23815), (22, 23830), (38, 23959), (40, 24010), (44, 24043), (63, 24412), (65, 24469), (77, 24706), (79, 24736), (80, 24769), (86, 24889), (91, 24919), (99, 25009), (100, 25045), (104, 25093), (105, 25099), (108, 25123), (110, 25144), (111, 25153), (116, 25204), (118, 25234), (142, 25534), (145, 25576), (146, 25579), (151, 25639), (154, 25669), (172, 25807), (173, 25825), (175, 25852), (178, 25873), (179, 25879), (185, 25918), (186, 25921), (196, 25981), (199, 25993), (201, 26002), (210, 26053), (212, 26068), (238, 26206), (240, 26218), (249, 26293), (255, 26380), (265, 26485), (267, 26497), (273, 26590), (277, 26614), (279, 26662), (281, 26677), (285, 26698), (287, 26722), (288, 26731), (289, 26740), (291, 26746), (295,

26782), (297, 26809), (308, 26902), (317, 27010), (323, 27061), (325, 27085), (329, 27112), (333, 27145), (336, 27178), (340, 27235), (342, 27262), (343, 27277), (348, 27334), (355, 27400), (364, 27484), (373, 27592), (374, 27595), (375, 27625), (426, 28399), (430, 28438), (436, 28525), (448, 28633), (452, 28720), (455, 28744), (457, 28768), (460, 28798), (462, 28807),

Gene: BiPauneto_42 Start: 23233, Stop: 28638, Start Num: 1
Candidate Starts for BiPauneto_42:
(Start: 1 @23233 has 48 MA's), (3, 23344), (4, 23362), (5, 23392), (10, 23431), (18, 23566), (19, 23581), (36, 23719), (40, 23779), (43, 23806), (44, 23812), (56, 24058), (57, 24100), (61, 24163), (62, 24175), (63, 24181), (76, 24463), (80, 24538), (85, 24646), (91, 24688), (96, 24769), (100, 24814), (104, 24862), (108, 24892), (111, 24922), (116, 24973), (118, 25003), (129, 25183), (130, 25189), (131, 25195), (142, 25303), (146, 25348), (147, 25354), (155, 25444), (166, 25519), (173, 25594), (175, 25621), (178, 25642), (182, 25660), (185, 25687), (206, 25804), (209, 25816), (215, 25849), (217, 25855), (221, 25876), (225, 25891), (226, 25909), (232, 25933), (233, 25942), (245, 26020), (248, 26053), (253, 26122), (257, 26188), (273, 26359), (279, 26431), (281, 26446), (287, 26491), (288, 26500), (289, 26509), (304, 26632), (308, 26671), (311, 26707), (317, 26779), (318, 26782), (323, 26830), (325, 26854), (328, 26878), (329, 26881), (333, 26914), (336, 26947), (339, 27004), (340, 27007), (343, 27049), (348, 27106), (350, 27118), (355, 27172), (357, 27187), (362, 27238), (364, 27256), (366, 27280), (369, 27316), (373, 27376), (374, 27379), (375, 27409), (377, 27430), (388, 27640), (393, 27751), (430, 28210), (432, 28252), (452, 28492), (458, 28552), (460, 28570), (462, 28579),

Gene: Bonum_42 Start: 23809, Stop: 29223, Start Num: 1
Candidate Starts for Bonum_42:
(Start: 1 @23809 has 48 MA's), (4, 23938), (19, 24157), (44, 24370), (57, 24658), (61, 24721), (62, 24733), (63, 24739), (72, 24940), (77, 25033), (79, 25063), (80, 25096), (86, 25216), (91, 25246), (92, 25249), (99, 25336), (100, 25372), (104, 25420), (108, 25450), (109, 25459), (110, 25471), (111, 25480), (116, 25531), (118, 25561), (136, 25804), (138, 25831), (139, 25840), (142, 25861), (146, 25906), (151, 25966), (153, 25990), (155, 26002), (175, 26179), (182, 26218), (184, 26239), (188, 26263), (196, 26308), (201, 26329), (202, 26335), (209, 26374), (210, 26380), (213, 26401), (218, 26416), (222, 26437), (229, 26476), (232, 26491), (233, 26500), (235, 26509), (237, 26521), (241, 26551), (242, 26557), (243, 26560), (248, 26611), (250, 26635), (253, 26677), (254, 26689), (265, 26809), (267, 26821), (269, 26881), (273, 26914), (276, 26932), (277, 26938), (279, 26986), (281, 27001), (282, 27010), (283, 27013), (287, 27046), (288, 27055), (289, 27064), (290, 27067), (291, 27070), (308, 27226), (317, 27334), (318, 27337), (323, 27385), (325, 27409), (329, 27436), (333, 27469), (336, 27502), (340, 27559), (343, 27601), (348, 27658), (356, 27736), (364, 27808), (366, 27832), (369, 27865), (370, 27874), (373, 27916), (374, 27919), (375, 27949), (376, 27961), (381, 28021), (400, 28375), (423, 28609), (427, 28762), (430, 28795), (432, 28837), (437, 28888), (452, 29077), (457, 29125), (460, 29155), (462, 29164), (464, 29188),

Gene: Braxoaddie_43 Start: 25198, Stop: 30408, Start Num: 1
Candidate Starts for Braxoaddie_43:
(Start: 1 @25198 has 48 MA's), (9, 25390), (19, 25546), (27, 25600), (28, 25603), (33, 25681), (35, 25696), (55, 25987), (59, 26107), (61, 26134), (70, 26332), (80, 26509), (82, 26551), (86, 26629), (88, 26635), (93, 26707), (94, 26719), (95, 26725), (98, 26746), (100, 26785), (106, 26842), (110, 26884), (111, 26893), (115, 26926), (116, 26944), (118, 26974), (125, 27100), (128, 27133), (131, 27166), (134, 27196), (138, 27244), (139, 27253), (144, 27307), (151, 27379), (152, 27400), (154, 27409), (169, 27565), (174, 27616), (181, 27664), (185, 27697), (190, 27736), (191, 27739), (200, 27790), (201, 27793), (206, 27826), (214, 27868), (218, 27880), (219, 27883), (220, 27892), (227, 27934), (228, 27937), (230, 27943), (232, 27955), (240, 28009), (242, 28021), (257, 28198), (258, 28207), (260, 28210), (266, 28255), (272, 28345), (275, 28363), (296, 28528), (299, 28558), (301, 28573), (315, 28729), (322, 28741), (324, 28765), (331, 28819), (334, 28852), (337, 28897), (345, 28990), (346, 28999), (348, 29011), (349, 29020), (352, 29041), (353, 29044), (359, 29116), (360, 29119),

(363, 29140), (367, 29182), (380, 29332), (382, 29365), (383, 29374), (396, 29611), (401, 29656), (410, 29722), (412, 29728), (413, 29749), (414, 29758), (416, 29779), (420, 29800), (424, 29845), (429, 29986), (448, 30175), (449, 30208), (457, 30310), (458, 30322), (462, 30349),

Gene: Buggaboo_40 Start: 24297, Stop: 29702, Start Num: 1
Candidate Starts for Buggaboo_40:
(Start: 1 @24297 has 48 MA's), (4, 24426), (19, 24645), (20, 24654), (44, 24858), (57, 25146), (61, 25209), (62, 25221), (63, 25227), (77, 25521), (79, 25551), (80, 25584), (84, 25680), (86, 25704), (91, 25734), (99, 25824), (100, 25860), (104, 25908), (105, 25914), (107, 25923), (108, 25938), (110, 25959), (111, 25968), (116, 26019), (118, 26049), (136, 26292), (138, 26319), (139, 26328), (142, 26349), (146, 26394), (151, 26454), (153, 26478), (155, 26490), (175, 26667), (182, 26706), (184, 26727), (189, 26760), (195, 26793), (196, 26796), (201, 26817), (202, 26823), (209, 26862), (210, 26868), (213, 26889), (218, 26904), (222, 26925), (229, 26964), (232, 26979), (233, 26988), (235, 26997), (237, 27009), (241, 27039), (242, 27045), (243, 27048), (248, 27099), (250, 27123), (253, 27165), (254, 27177), (265, 27297), (267, 27309), (269, 27369), (273, 27402), (276, 27420), (277, 27426), (279, 27474), (281, 27489), (282, 27498), (283, 27501), (287, 27534), (288, 27543), (289, 27552), (291, 27558), (308, 27714), (317, 27822), (318, 27825), (323, 27873), (325, 27897), (329, 27924), (333, 27957), (336, 27990), (340, 28047), (343, 28089), (347, 28137), (348, 28146), (349, 28155), (356, 28224), (362, 28278), (364, 28296), (365, 28311), (369, 28353), (370, 28362), (373, 28404), (374, 28407), (375, 28437), (376, 28449), (427, 29241), (430, 29274), (432, 29316), (437, 29367), (452, 29556), (457, 29604), (460, 29634), (462, 29643), (464, 29667),

Gene: ChewyVIII_54 Start: 32390, Stop: 37234, Start Num: 1
Candidate Starts for ChewyVIII_54:
(Start: 1 @32390 has 48 MA's), (2, 32405), (3, 32504), (7, 32561), (11, 32603), (14, 32672), (19, 32732), (23, 32753), (24, 32759), (26, 32777), (39, 32894), (41, 32936), (42, 32939), (45, 32975), (48, 33056), (51, 33101), (53, 33113), (54, 33131), (58, 33236), (60, 33278), (61, 33296), (63, 33314), (69, 33494), (78, 33632), (80, 33674), (81, 33707), (87, 33800), (101, 33956), (102, 33986), (103, 33989), (112, 34064), (120, 34166), (122, 34229), (123, 34241), (126, 34274), (128, 34301), (132, 34346), (133, 34352), (136, 34370), (137, 34385), (158, 34580), (175, 34715), (180, 34742), (183, 34754), (185, 34772), (234, 34946), (236, 34958), (252, 35039), (286, 35390), (288, 35411), (292, 35435), (294, 35459), (298, 35486), (302, 35507), (305, 35543), (307, 35555), (309, 35573), (310, 35582), (313, 35630), (321, 35675), (330, 35738), (332, 35756), (336, 35786), (338, 35810), (344, 35852), (358, 35960), (367, 36053), (372, 36077), (385, 36239), (386, 36254), (391, 36413), (398, 36467), (403, 36524), (409, 36554), (419, 36638), (425, 36707), (440, 36932), (441, 36935), (443, 36944), (452, 37085), (456, 37121), (460, 37169), (461, 37175), (462, 37178),

Gene: CoffeeBean_43 Start: 25156, Stop: 30366, Start Num: 1
Candidate Starts for CoffeeBean_43:
(Start: 1 @25156 has 48 MA's), (9, 25348), (19, 25504), (21, 25516), (27, 25558), (28, 25561), (33, 25639), (35, 25654), (44, 25747), (55, 25945), (59, 26065), (61, 26092), (70, 26290), (80, 26467), (82, 26509), (86, 26587), (88, 26593), (93, 26665), (94, 26677), (95, 26683), (98, 26704), (100, 26743), (106, 26800), (110, 26842), (111, 26851), (115, 26884), (116, 26902), (118, 26932), (125, 27058), (128, 27091), (134, 27154), (138, 27202), (139, 27211), (144, 27265), (151, 27337), (152, 27358), (154, 27367), (169, 27523), (174, 27574), (181, 27622), (185, 27655), (190, 27694), (191, 27697), (200, 27748), (201, 27751), (206, 27784), (214, 27826), (218, 27838), (219, 27841), (220, 27850), (227, 27892), (228, 27895), (230, 27901), (232, 27913), (240, 27967), (242, 27979), (257, 28156), (258, 28165), (260, 28168), (266, 28213), (272, 28303), (275, 28321), (296, 28486), (299, 28516), (301, 28531), (315, 28687), (322, 28699), (324, 28723), (331, 28777), (334, 28810), (337, 28855), (345, 28948), (346, 28957), (348, 28969), (349, 28978), (352, 28999), (353, 29002), (359, 29074), (360, 29077), (363, 29098), (367, 29140), (380, 29290), (382, 29323), (383, 29332), (396, 29569), (401, 29614), (410, 29680), (412, 29686), (413, 29707), (414, 29716), (416, 29737), (420, 29758), (424, 29803), (429, 29944), (448, 30133), (449, 30166), (457, 30268), (458, 30280), (462, 30307),

Gene: Commandaria_41 Start: 24799, Stop: 30195, Start Num: 1
Candidate Starts for Commandaria_41:
(Start: 1 @24799 has 48 MA's), (16, 25105), (17, 25126), (19, 25147), (44, 25369), (45, 25381), (57, 25657), (61, 25720), (62, 25732), (63, 25738), (76, 26020), (77, 26032), (79, 26062), (80, 26095), (82, 26137), (85, 26203), (91, 26245), (96, 26326), (100, 26371), (108, 26449), (110, 26470), (111, 26479), (116, 26530), (117, 26554), (118, 26560), (136, 26803), (139, 26839), (142, 26860), (145, 26902), (146, 26905), (167, 27085), (173, 27151), (175, 27178), (179, 27205), (182, 27217), (186, 27247), (194, 27298), (199, 27319), (201, 27328), (204, 27352), (208, 27370), (214, 27403), (232, 27490), (238, 27532), (240, 27544), (251, 27646), (255, 27706), (268, 27826), (270, 27901), (273, 27916), (276, 27934), (277, 27940), (279, 27988), (281, 28003), (287, 28048), (288, 28057), (289, 28066), (291, 28072), (308, 28228), (317, 28336), (318, 28339), (323, 28387), (325, 28411), (329, 28438), (333, 28471), (336, 28504), (339, 28558), (340, 28561), (343, 28603), (348, 28660), (349, 28669), (351, 28684), (355, 28726), (356, 28738), (359, 28774), (362, 28792), (371, 28888), (373, 28930), (374, 28933), (375, 28963), (376, 28975), (377, 28984), (389, 29218), (400, 29353), (430, 29767), (438, 29863), (451, 30040), (452, 30049), (455, 30073), (460, 30127), (462, 30136),

Gene: Dalilpop_44 Start: 25804, Stop: 31200, Start Num: 1
Candidate Starts for Dalilpop_44:
(Start: 1 @25804 has 48 MA's), (9, 25996), (30, 26221), (43, 26368), (50, 26503), (61, 26725), (63, 26743), (71, 26926), (77, 27037), (79, 27067), (80, 27100), (91, 27250), (93, 27298), (96, 27331), (100, 27376), (104, 27424), (108, 27454), (111, 27484), (116, 27535), (118, 27565), (131, 27757), (136, 27808), (142, 27865), (145, 27907), (146, 27910), (163, 28060), (165, 28078), (175, 28183), (179, 28210), (183, 28231), (189, 28276), (193, 28291), (194, 28303), (199, 28324), (205, 28363), (213, 28405), (218, 28420), (223, 28444), (224, 28450), (231, 28486), (234, 28507), (240, 28549), (246, 28585), (265, 28816), (267, 28828), (273, 28921), (276, 28939), (277, 28945), (279, 28993), (281, 29008), (287, 29053), (288, 29062), (289, 29071), (291, 29077), (308, 29233), (311, 29269), (317, 29341), (323, 29392), (325, 29416), (329, 29443), (333, 29476), (336, 29509), (340, 29566), (342, 29593), (343, 29608), (348, 29665), (359, 29779), (362, 29797), (364, 29815), (365, 29830), (373, 29920), (374, 29923), (378, 29977), (384, 30076), (430, 30772), (444, 30910), (446, 30961), (452, 31054), (453, 31066), (457, 31102), (459, 31129), (462, 31141),

Gene: Emianna_39 Start: 24486, Stop: 29879, Start Num: 1
Candidate Starts for Emianna_39:
(Start: 1 @24486 has 48 MA's), (17, 24813), (19, 24834), (38, 24978), (40, 25023), (44, 25056), (49, 25176), (63, 25425), (65, 25482), (77, 25719), (79, 25749), (80, 25782), (86, 25902), (91, 25932), (99, 26022), (100, 26058), (104, 26106), (105, 26112), (108, 26136), (110, 26157), (111, 26166), (116, 26217), (118, 26247), (142, 26547), (145, 26589), (146, 26592), (151, 26652), (154, 26682), (172, 26820), (173, 26838), (175, 26865), (178, 26886), (179, 26892), (185, 26931), (186, 26934), (196, 26994), (199, 27006), (201, 27015), (210, 27066), (212, 27081), (238, 27219), (240, 27231), (249, 27306), (255, 27393), (265, 27498), (267, 27510), (273, 27603), (277, 27627), (279, 27675), (281, 27690), (285, 27711), (287, 27735), (288, 27744), (289, 27753), (291, 27759), (295, 27795), (297, 27822), (308, 27915), (317, 28023), (323, 28074), (325, 28098), (329, 28125), (333, 28158), (336, 28191), (340, 28248), (342, 28275), (343, 28290), (348, 28347), (355, 28413), (364, 28497), (373, 28605), (374, 28608), (375, 28638), (426, 29412), (430, 29451), (436, 29538), (448, 29646), (452, 29733), (455, 29757), (457, 29781), (460, 29811), (462, 29820),

Gene: Ennea_45 Start: 25122, Stop: 30548, Start Num: 1
Candidate Starts for Ennea_45:
(Start: 1 @25122 has 48 MA's), (19, 25470), (29, 25530), (30, 25539), (50, 25812), (61, 26034), (62, 26046), (63, 26052), (77, 26346), (79, 26376), (80, 26409), (91, 26559), (99, 26649), (100, 26685), (104, 26733), (105, 26739), (108, 26763), (110, 26784), (111, 26793), (116, 26844), (118, 26874), (136, 27117), (142, 27174), (146, 27219), (147, 27225), (161, 27357), (164, 27384), (175, 27492),

(178, 27513), (179, 27519), (186, 27561), (201, 27642), (202, 27648), (210, 27693), (212, 27708), (225, 27762), (240, 27858), (255, 28020), (257, 28059), (261, 28089), (267, 28137), (269, 28197), (273, 28230), (277, 28254), (279, 28302), (281, 28317), (282, 28326), (287, 28362), (288, 28371), (289, 28380), (290, 28383), (291, 28386), (308, 28542), (311, 28578), (317, 28650), (323, 28698), (329, 28749), (333, 28782), (336, 28815), (340, 28872), (341, 28887), (355, 29037), (356, 29049), (365, 29136), (370, 29187), (373, 29229), (374, 29232), (375, 29262), (390, 29556), (397, 29646), (399, 29667), (405, 29736), (415, 29823), (430, 30120), (433, 30168), (436, 30207), (452, 30402), (457, 30450), (458, 30462), (459, 30477), (462, 30489), (463, 30498),

Gene: Flapper_43 Start: 24865, Stop: 30267, Start Num: 1
Candidate Starts for Flapper_43:
(Start: 1 @24865 has 48 MA's), (9, 25057), (25, 25246), (30, 25282), (50, 25561), (61, 25783), (63, 25801), (67, 25915), (77, 26095), (79, 26125), (80, 26158), (91, 26308), (93, 26356), (96, 26389), (100, 26434), (104, 26482), (108, 26512), (111, 26542), (116, 26593), (118, 26623), (131, 26815), (142, 26923), (145, 26965), (146, 26968), (163, 27118), (175, 27241), (179, 27268), (189, 27334), (193, 27349), (194, 27361), (197, 27373), (199, 27382), (205, 27421), (223, 27502), (224, 27508), (226, 27529), (231, 27544), (234, 27565), (240, 27607), (246, 27643), (248, 27673), (265, 27874), (267, 27886), (273, 27979), (277, 28003), (279, 28051), (281, 28066), (287, 28111), (288, 28120), (289, 28129), (291, 28135), (308, 28291), (317, 28399), (318, 28402), (323, 28450), (325, 28474), (328, 28498), (329, 28501), (333, 28534), (336, 28567), (340, 28624), (341, 28639), (343, 28666), (348, 28723), (359, 28837), (362, 28855), (364, 28873), (365, 28888), (373, 28978), (378, 29035), (400, 29413), (430, 29839), (446, 30028), (452, 30121), (457, 30169), (459, 30196), (462, 30208),

Gene: Float294_41 Start: 24561, Stop: 29990, Start Num: 1
Candidate Starts for Float294_41:
(Start: 1 @24561 has 48 MA's), (19, 24909), (29, 24969), (30, 24978), (50, 25254), (54, 25296), (61, 25476), (62, 25488), (63, 25494), (73, 25713), (77, 25788), (79, 25818), (80, 25851), (91, 26001), (99, 26091), (100, 26127), (104, 26175), (105, 26181), (108, 26205), (110, 26226), (111, 26235), (116, 26286), (118, 26316), (136, 26559), (142, 26616), (143, 26628), (146, 26661), (147, 26667), (161, 26799), (164, 26826), (175, 26934), (178, 26955), (186, 27003), (201, 27084), (202, 27090), (210, 27135), (212, 27150), (225, 27204), (240, 27300), (255, 27462), (257, 27501), (261, 27531), (267, 27579), (269, 27639), (273, 27672), (277, 27696), (279, 27744), (281, 27759), (282, 27768), (287, 27804), (288, 27813), (289, 27822), (290, 27825), (291, 27828), (308, 27984), (311, 28020), (317, 28092), (323, 28140), (329, 28191), (333, 28224), (336, 28257), (340, 28314), (341, 28329), (355, 28479), (356, 28491), (365, 28578), (370, 28629), (373, 28671), (374, 28674), (375, 28704), (390, 28998), (397, 29088), (399, 29109), (405, 29178), (415, 29265), (430, 29562), (433, 29610), (436, 29649), (452, 29844), (457, 29892), (458, 29904), (459, 29919), (462, 29931), (463, 29940),

Gene: Foxboro_40 Start: 24992, Stop: 30385, Start Num: 1
Candidate Starts for Foxboro_40:
(Start: 1 @24992 has 48 MA's), (17, 25319), (19, 25340), (38, 25484), (40, 25529), (44, 25562), (49, 25682), (63, 25931), (65, 25988), (77, 26225), (79, 26255), (80, 26288), (86, 26408), (91, 26438), (99, 26528), (100, 26564), (104, 26612), (105, 26618), (108, 26642), (110, 26663), (111, 26672), (116, 26723), (118, 26753), (142, 27053), (145, 27095), (146, 27098), (151, 27158), (154, 27188), (172, 27326), (173, 27344), (175, 27371), (178, 27392), (179, 27398), (185, 27437), (186, 27440), (196, 27500), (199, 27512), (201, 27521), (210, 27572), (212, 27587), (233, 27692), (238, 27725), (240, 27737), (249, 27812), (255, 27899), (265, 28004), (267, 28016), (273, 28109), (277, 28133), (279, 28181), (281, 28196), (285, 28217), (287, 28241), (288, 28250), (289, 28259), (291, 28265), (295, 28301), (297, 28328), (308, 28421), (317, 28529), (323, 28580), (325, 28604), (329, 28631), (333, 28664), (336, 28697), (340, 28754), (342, 28781), (343, 28796), (348, 28853), (355, 28919), (364, 29003), (373, 29111), (374, 29114), (375, 29144), (426, 29918), (430, 29957), (436, 30044), (448, 30152), (452, 30239), (455, 30263), (457, 30287), (460, 30317), (462, 30326),

Gene: Fury_48 Start: 24214, Stop: 29757, Start Num: 1
Candidate Starts for Fury_48:
(Start: 1 @24214 has 48 MA's), (9, 24403), (12, 24472), (13, 24475), (17, 24538), (19, 24559), (44, 24787), (61, 25138), (63, 25156), (66, 25243), (67, 25270), (72, 25357), (74, 25396), (77, 25450), (79, 25480), (80, 25513), (81, 25546), (85, 25621), (100, 25789), (108, 25867), (110, 25888), (111, 25897), (114, 25921), (116, 25948), (118, 25978), (138, 26248), (142, 26278), (146, 26323), (173, 26569), (175, 26596), (176, 26602), (183, 26644), (189, 26689), (197, 26728), (202, 26752), (209, 26791), (210, 26797), (218, 26833), (220, 26845), (221, 26851), (222, 26854), (226, 26884), (229, 26893), (232, 26908), (241, 26968), (244, 26986), (253, 27097), (257, 27163), (267, 27241), (273, 27358), (277, 27382), (279, 27430), (281, 27445), (284, 27463), (287, 27490), (293, 27541), (300, 27595), (306, 27655), (312, 27742), (314, 27763), (327, 27886), (354, 28204), (355, 28228), (356, 28240), (373, 28420), (392, 28801), (397, 28855), (404, 28945), (431, 29341), (436, 29416), (447, 29521), (452, 29611), (458, 29671), (459, 29686), (462, 29698), (463, 29707),

Gene: GRU1_29 Start: 16753, Stop: 22167, Start Num: 1
Candidate Starts for GRU1_29:
(Start: 1 @16753 has 48 MA's), (30, 17170), (50, 17461), (61, 17683), (63, 17701), (77, 17995), (79, 18025), (80, 18058), (89, 18196), (91, 18208), (93, 18256), (96, 18289), (100, 18334), (104, 18382), (108, 18412), (111, 18442), (116, 18493), (118, 18523), (131, 18715), (136, 18766), (142, 18823), (145, 18865), (146, 18868), (163, 19018), (175, 19141), (179, 19168), (183, 19189), (189, 19234), (193, 19249), (194, 19261), (199, 19282), (205, 19321), (213, 19363), (218, 19378), (223, 19402), (224, 19408), (231, 19444), (234, 19465), (240, 19507), (246, 19543), (265, 19774), (267, 19786), (273, 19879), (277, 19903), (279, 19951), (281, 19966), (287, 20011), (288, 20020), (289, 20029), (291, 20035), (308, 20191), (311, 20227), (317, 20299), (323, 20350), (325, 20374), (328, 20398), (329, 20401), (333, 20434), (336, 20467), (340, 20524), (341, 20539), (343, 20566), (348, 20623), (359, 20737), (362, 20755), (364, 20773), (365, 20788), (373, 20878), (374, 20881), (378, 20935), (430, 21739), (445, 21910), (446, 21928), (452, 22021), (457, 22069), (459, 22096), (462, 22108),

Gene: GTE5_30 Start: 17717, Stop: 23122, Start Num: 1
Candidate Starts for GTE5_30:
(Start: 1 @17717 has 48 MA's), (9, 17909), (25, 18098), (30, 18134), (50, 18413), (61, 18635), (63, 18653), (77, 18947), (79, 18977), (80, 19010), (91, 19160), (93, 19208), (96, 19241), (100, 19286), (104, 19334), (108, 19364), (111, 19394), (116, 19445), (118, 19475), (131, 19667), (136, 19718), (142, 19775), (145, 19817), (146, 19820), (163, 19970), (175, 20093), (179, 20120), (183, 20141), (189, 20186), (193, 20201), (194, 20213), (197, 20225), (199, 20234), (205, 20273), (223, 20354), (224, 20360), (231, 20396), (234, 20417), (240, 20459), (246, 20495), (265, 20726), (273, 20831), (277, 20855), (279, 20903), (281, 20918), (287, 20963), (288, 20972), (289, 20981), (291, 20987), (295, 21023), (308, 21143), (317, 21251), (318, 21254), (323, 21302), (325, 21326), (328, 21350), (329, 21353), (333, 21386), (336, 21419), (339, 21476), (340, 21479), (343, 21521), (348, 21578), (359, 21692), (362, 21710), (364, 21728), (365, 21743), (373, 21833), (378, 21890), (395, 22229), (400, 22268), (430, 22694), (446, 22883), (452, 22976), (453, 22988), (457, 23024), (459, 23051), (462, 23063),

Gene: GTE8_28 Start: 17751, Stop: 23138, Start Num: 1
Candidate Starts for GTE8_28:
(Start: 1 @17751 has 48 MA's), (17, 18078), (19, 18099), (38, 18243), (44, 18321), (63, 18690), (65, 18747), (77, 18984), (79, 19014), (80, 19047), (86, 19167), (91, 19197), (97, 19278), (100, 19323), (104, 19371), (105, 19377), (108, 19401), (110, 19422), (111, 19431), (116, 19482), (118, 19512), (136, 19755), (142, 19812), (145, 19854), (146, 19857), (151, 19917), (175, 20130), (178, 20151), (179, 20157), (186, 20199), (201, 20280), (202, 20286), (210, 20331), (212, 20346), (215, 20358), (249, 20571), (255, 20658), (265, 20763), (267, 20775), (273, 20868), (276, 20886), (277, 20892), (279, 20940), (281, 20955), (287, 21000), (288, 21009), (289, 21018), (291, 21024), (297, 21087), (308, 21180), (316, 21285), (317, 21288), (319, 21300), (323, 21333), (325, 21357), (328, 21381),

(329, 21384), (333, 21417), (336, 21450), (340, 21507), (343, 21549), (355, 21672), (356, 21684), (364, 21756), (366, 21780), (373, 21864), (374, 21867), (375, 21897), (426, 22671), (430, 22710), (436, 22797), (442, 22836), (452, 22992), (455, 23016), (457, 23040), (460, 23070), (462, 23079),

Gene: Gagieri_43 Start: 25032, Stop: 30248, Start Num: 1
Candidate Starts for Gagieri_43:
(Start: 1 @25032 has 48 MA's), (9, 25224), (17, 25359), (19, 25380), (23, 25401), (31, 25452), (32, 25482), (33, 25515), (35, 25530), (40, 25602), (44, 25635), (49, 25755), (55, 25833), (56, 25875), (61, 25980), (70, 26178), (80, 26355), (82, 26397), (86, 26475), (93, 26553), (95, 26571), (98, 26592), (100, 26631), (106, 26688), (110, 26730), (111, 26739), (115, 26772), (116, 26790), (118, 26820), (124, 26940), (127, 26961), (128, 26979), (131, 27012), (134, 27042), (138, 27090), (141, 27114), (146, 27165), (151, 27225), (152, 27246), (154, 27255), (160, 27318), (162, 27345), (163, 27351), (168, 27396), (169, 27411), (171, 27429), (174, 27462), (181, 27510), (190, 27582), (191, 27585), (196, 27615), (200, 27636), (201, 27639), (206, 27672), (211, 27699), (214, 27714), (218, 27726), (219, 27729), (220, 27738), (227, 27780), (228, 27783), (230, 27789), (232, 27801), (239, 27846), (240, 27855), (242, 27867), (256, 28020), (257, 28044), (258, 28053), (260, 28056), (263, 28068), (272, 28191), (275, 28209), (299, 28404), (301, 28419), (303, 28434), (304, 28452), (315, 28569), (331, 28659), (334, 28692), (337, 28737), (345, 28830), (346, 28839), (348, 28851), (349, 28860), (359, 28956), (363, 28980), (367, 29022), (382, 29202), (383, 29211), (396, 29448), (401, 29493), (410, 29559), (412, 29565), (413, 29586), (414, 29595), (416, 29616), (417, 29619), (420, 29637), (424, 29682), (425, 29715), (429, 29823), (448, 30012), (449, 30045), (450, 30078), (452, 30099), (457, 30147), (458, 30159), (462, 30186),

Gene: GrootJr_41 Start: 23862, Stop: 29261, Start Num: 1
Candidate Starts for GrootJr_41:
(Start: 1 @23862 has 48 MA's), (9, 24054), (17, 24189), (19, 24210), (22, 24225), (38, 24354), (40, 24405), (44, 24438), (63, 24807), (65, 24864), (77, 25101), (79, 25131), (80, 25164), (86, 25284), (91, 25314), (99, 25404), (100, 25440), (104, 25488), (105, 25494), (108, 25518), (110, 25539), (111, 25548), (116, 25599), (118, 25629), (142, 25929), (145, 25971), (146, 25974), (151, 26034), (154, 26064), (172, 26202), (173, 26220), (175, 26247), (178, 26268), (179, 26274), (185, 26313), (186, 26316), (196, 26376), (199, 26388), (201, 26397), (210, 26448), (212, 26463), (238, 26601), (240, 26613), (249, 26688), (255, 26775), (265, 26880), (267, 26892), (273, 26985), (277, 27009), (279, 27057), (281, 27072), (285, 27093), (287, 27117), (288, 27126), (289, 27135), (291, 27141), (295, 27177), (297, 27204), (308, 27297), (317, 27405), (323, 27456), (325, 27480), (329, 27507), (333, 27540), (336, 27573), (340, 27630), (342, 27657), (343, 27672), (348, 27729), (355, 27795), (364, 27879), (373, 27987), (374, 27990), (375, 28020), (426, 28794), (430, 28833), (436, 28920), (448, 29028), (452, 29115), (455, 29139), (457, 29163), (460, 29193), (462, 29202),

Gene: HomeFry_45 Start: 22840, Stop: 28359, Start Num: 1
Candidate Starts for HomeFry_45:
(Start: 1 @22840 has 48 MA's), (9, 23029), (12, 23098), (17, 23164), (19, 23185), (40, 23377), (44, 23410), (47, 23458), (61, 23761), (63, 23779), (66, 23866), (67, 23893), (74, 24019), (77, 24073), (79, 24103), (80, 24136), (81, 24169), (90, 24280), (94, 24346), (100, 24412), (108, 24490), (116, 24571), (118, 24601), (138, 24871), (142, 24901), (146, 24946), (159, 25072), (173, 25192), (175, 25219), (176, 25225), (183, 25267), (189, 25312), (197, 25351), (202, 25375), (209, 25414), (210, 25420), (218, 25456), (220, 25468), (221, 25474), (222, 25477), (229, 25516), (232, 25531), (241, 25591), (244, 25609), (253, 25720), (254, 25732), (257, 25786), (267, 25864), (273, 25981), (277, 26005), (279, 26053), (281, 26068), (287, 26113), (293, 26164), (300, 26218), (306, 26278), (312, 26365), (327, 26509), (355, 26845), (356, 26857), (373, 27037), (387, 27277), (392, 27421), (394, 27454), (431, 27943), (436, 28018), (452, 28213), (458, 28273), (459, 28288), (462, 28300), (463, 28309),

Gene: HubbaBubba_37 Start: 20251, Stop: 25650, Start Num: 1
Candidate Starts for HubbaBubba_37:

(Start: 1 @20251 has 48 MA's), (3, 20362), (4, 20380), (5, 20410), (10, 20449), (18, 20584), (19, 20599), (36, 20737), (43, 20824), (44, 20830), (57, 21118), (61, 21181), (62, 21193), (63, 21199), (76, 21481), (80, 21556), (85, 21664), (91, 21706), (96, 21787), (100, 21832), (104, 21880), (108, 21910), (111, 21940), (116, 21991), (118, 22021), (129, 22201), (131, 22213), (142, 22321), (146, 22366), (147, 22372), (166, 22537), (168, 22558), (173, 22612), (175, 22639), (178, 22660), (182, 22678), (185, 22705), (201, 22789), (206, 22822), (209, 22834), (215, 22867), (217, 22873), (221, 22894), (225, 22909), (226, 22927), (233, 22960), (245, 23038), (253, 23140), (257, 23206), (273, 23377), (279, 23449), (281, 23464), (287, 23509), (288, 23518), (289, 23527), (304, 23650), (308, 23689), (316, 23794), (317, 23797), (320, 23809), (328, 23890), (329, 23893), (333, 23926), (336, 23959), (339, 24016), (340, 24019), (348, 24118), (350, 24130), (355, 24184), (357, 24199), (362, 24250), (364, 24268), (366, 24292), (369, 24328), (373, 24388), (374, 24391), (375, 24421), (377, 24442), (393, 24763), (430, 25222), (432, 25264), (452, 25504), (458, 25564), (460, 25582), (462, 25591),

Gene: IDyn_40 Start: 21647, Stop: 27046, Start Num: 1
Candidate Starts for IDyn_40:
(Start: 1 @21647 has 48 MA's), (3, 21758), (4, 21776), (5, 21806), (10, 21845), (18, 21980), (19, 21995), (36, 22133), (40, 22193), (43, 22220), (44, 22226), (57, 22514), (61, 22577), (62, 22589), (63, 22595), (76, 22877), (80, 22952), (85, 23060), (91, 23102), (93, 23150), (96, 23183), (100, 23228), (104, 23276), (108, 23306), (111, 23336), (116, 23387), (118, 23417), (129, 23597), (142, 23717), (146, 23762), (147, 23768), (155, 23858), (166, 23933), (173, 24008), (175, 24035), (178, 24056), (182, 24074), (185, 24101), (206, 24218), (209, 24230), (215, 24263), (217, 24269), (221, 24290), (225, 24305), (226, 24323), (232, 24347), (233, 24356), (245, 24434), (253, 24536), (257, 24602), (273, 24773), (279, 24845), (281, 24860), (287, 24905), (288, 24914), (289, 24923), (304, 25046), (308, 25085), (316, 25190), (317, 25193), (320, 25205), (328, 25286), (329, 25289), (333, 25322), (336, 25355), (339, 25412), (340, 25415), (348, 25514), (350, 25526), (355, 25580), (357, 25595), (362, 25646), (364, 25664), (366, 25688), (369, 25724), (373, 25784), (374, 25787), (375, 25817), (377, 25838), (388, 26048), (393, 26159), (430, 26618), (432, 26660), (452, 26900), (458, 26960), (460, 26978), (462, 26987),

Gene: Jifall16_38 Start: 24140, Stop: 29533, Start Num: 1
Candidate Starts for Jifall16_38:
(Start: 1 @24140 has 48 MA's), (17, 24467), (19, 24488), (38, 24632), (40, 24677), (44, 24710), (49, 24830), (63, 25079), (65, 25136), (77, 25373), (79, 25403), (80, 25436), (86, 25556), (91, 25586), (99, 25676), (100, 25712), (104, 25760), (105, 25766), (108, 25790), (110, 25811), (111, 25820), (116, 25871), (118, 25901), (142, 26201), (145, 26243), (146, 26246), (151, 26306), (154, 26336), (172, 26474), (173, 26492), (175, 26519), (178, 26540), (179, 26546), (185, 26585), (186, 26588), (196, 26648), (199, 26660), (201, 26669), (210, 26720), (212, 26735), (238, 26873), (240, 26885), (249, 26960), (255, 27047), (265, 27152), (267, 27164), (273, 27257), (277, 27281), (279, 27329), (281, 27344), (285, 27365), (287, 27389), (288, 27398), (289, 27407), (291, 27413), (295, 27449), (297, 27476), (308, 27569), (317, 27677), (323, 27728), (325, 27752), (329, 27779), (333, 27812), (336, 27845), (340, 27902), (342, 27929), (343, 27944), (348, 28001), (355, 28067), (364, 28151), (373, 28259), (374, 28262), (375, 28292), (426, 29066), (430, 29105), (436, 29192), (448, 29300), (452, 29387), (454, 29402), (455, 29411), (457, 29435), (460, 29465), (462, 29474),

Gene: Kabluna_42 Start: 23212, Stop: 28638, Start Num: 1
Candidate Starts for Kabluna_42:
(Start: 1 @23212 has 48 MA's), (4, 23341), (6, 23374), (15, 23503), (19, 23560), (20, 23569), (38, 23704), (44, 23785), (57, 24073), (61, 24136), (62, 24148), (63, 24154), (77, 24448), (79, 24478), (80, 24511), (86, 24631), (91, 24661), (92, 24664), (99, 24751), (100, 24787), (104, 24835), (108, 24865), (110, 24886), (111, 24895), (116, 24946), (118, 24976), (136, 25219), (138, 25246), (139, 25255), (142, 25276), (146, 25321), (150, 25372), (151, 25381), (153, 25405), (175, 25594), (182, 25633), (184, 25654), (188, 25678), (196, 25723), (201, 25744), (202, 25750), (209, 25789), (210, 25795), (213, 25816), (222, 25852), (229, 25891), (232, 25906), (233, 25915), (235, 25924), (237, 25936),

(241, 25966), (242, 25972), (243, 25975), (248, 26026), (250, 26050), (253, 26092), (254, 26104),
(265, 26224), (267, 26236), (269, 26296), (273, 26329), (276, 26347), (277, 26353), (279, 26401),
(281, 26416), (282, 26425), (283, 26428), (287, 26461), (288, 26470), (289, 26479), (290, 26482),
(291, 26485), (308, 26641), (317, 26749), (318, 26752), (323, 26800), (325, 26824), (329, 26851),
(333, 26884), (336, 26917), (340, 26974), (343, 27016), (348, 27073), (356, 27151), (364, 27223),
(366, 27247), (370, 27289), (373, 27331), (374, 27334), (375, 27364), (376, 27376), (381, 27436),
(400, 27790), (423, 28024), (427, 28177), (430, 28210), (432, 28252), (437, 28303), (452, 28492),
(457, 28540), (460, 28570), (462, 28579), (464, 28603),

Gene: KidneyBean_39 Start: 24261, Stop: 29657, Start Num: 1
Candidate Starts for KidneyBean_39:
(Start: 1 @24261 has 48 MA's), (9, 24453), (17, 24588), (19, 24609), (22, 24624), (38, 24753), (44,
24834), (63, 25203), (73, 25422), (77, 25497), (79, 25527), (80, 25560), (89, 25698), (91, 25710), (96,
25791), (100, 25836), (104, 25884), (108, 25914), (111, 25944), (113, 25962), (116, 25995), (118,
26025), (136, 26268), (138, 26295), (142, 26325), (145, 26367), (146, 26370), (148, 26385), (154,
26460), (156, 26478), (170, 26583), (173, 26616), (174, 26628), (175, 26643), (176, 26649), (179,
26670), (183, 26691), (189, 26736), (193, 26751), (194, 26763), (195, 26769), (198, 26781), (199,
26784), (203, 26805), (205, 26823), (216, 26874), (231, 26946), (233, 26964), (234, 26967), (241,
27015), (242, 27021), (257, 27210), (264, 27261), (265, 27276), (267, 27288), (273, 27381), (277,
27405), (279, 27453), (281, 27468), (287, 27513), (288, 27522), (289, 27531), (291, 27537), (297,
27600), (308, 27693), (317, 27801), (318, 27804), (323, 27852), (325, 27876), (329, 27903), (333,
27936), (336, 27969), (340, 28026), (343, 28068), (348, 28125), (355, 28191), (364, 28275), (365,
28290), (368, 28320), (373, 28383), (374, 28386), (375, 28416), (430, 29229), (436, 29316), (448,
29424), (452, 29511), (455, 29535), (457, 29559), (460, 29589), (462, 29598),

Gene: Kurt_39 Start: 24501, Stop: 29894, Start Num: 1
Candidate Starts for Kurt_39:
(Start: 1 @24501 has 48 MA's), (17, 24828), (19, 24849), (38, 24993), (40, 25038), (44, 25071), (49,
25191), (63, 25440), (65, 25497), (77, 25734), (79, 25764), (80, 25797), (86, 25917), (91, 25947), (99,
26037), (100, 26073), (104, 26121), (105, 26127), (108, 26151), (110, 26172), (111, 26181), (116,
26232), (118, 26262), (142, 26562), (145, 26604), (146, 26607), (151, 26667), (154, 26697), (172,
26835), (173, 26853), (175, 26880), (178, 26901), (179, 26907), (185, 26946), (186, 26949), (196,
27009), (199, 27021), (201, 27030), (210, 27081), (212, 27096), (238, 27234), (240, 27246), (249,
27321), (255, 27408), (265, 27513), (267, 27525), (273, 27618), (277, 27642), (279, 27690), (281,
27705), (285, 27726), (287, 27750), (288, 27759), (289, 27768), (291, 27774), (295, 27810), (297,
27837), (308, 27930), (317, 28038), (323, 28089), (325, 28113), (329, 28140), (333, 28173), (336,
28206), (340, 28263), (342, 28290), (343, 28305), (348, 28362), (355, 28428), (364, 28512), (373,
28620), (374, 28623), (375, 28653), (426, 29427), (430, 29466), (436, 29553), (448, 29661), (452,
29748), (455, 29772), (457, 29796), (460, 29826), (462, 29835),

Gene: Lollipop1437_44 Start: 25110, Stop: 30536, Start Num: 1
Candidate Starts for Lollipop1437_44:
(Start: 1 @25110 has 48 MA's), (19, 25458), (29, 25518), (30, 25527), (50, 25800), (61, 26022), (62,
26034), (63, 26040), (77, 26334), (79, 26364), (80, 26397), (91, 26547), (99, 26637), (100, 26673),
(104, 26721), (105, 26727), (108, 26751), (110, 26772), (111, 26781), (116, 26832), (118, 26862),
(136, 27105), (142, 27162), (143, 27174), (146, 27207), (147, 27213), (161, 27345), (164, 27372),
(175, 27480), (178, 27501), (179, 27507), (186, 27549), (201, 27630), (202, 27636), (210, 27681),
(212, 27696), (225, 27750), (240, 27846), (255, 28008), (257, 28047), (261, 28077), (267, 28125),
(269, 28185), (273, 28218), (277, 28242), (279, 28290), (281, 28305), (287, 28350), (288, 28359),
(289, 28368), (290, 28371), (291, 28374), (308, 28530), (311, 28566), (317, 28638), (323, 28686),
(329, 28737), (333, 28770), (336, 28803), (340, 28860), (341, 28875), (355, 29025), (356, 29037),
(365, 29124), (370, 29175), (373, 29217), (374, 29220), (375, 29250), (390, 29544), (397, 29634),
(399, 29655), (405, 29724), (415, 29811), (430, 30108), (433, 30156), (436, 30195), (452, 30390),

(457, 30438), (458, 30450), (459, 30465), (462, 30477), (463, 30486),

Gene: MacGully_48 Start: 25696, Stop: 30690, Start Num: 1
Candidate Starts for MacGully_48:
(Start: 1 @25696 has 48 MA's), (8, 25882), (9, 25888), (11, 25906), (17, 26023), (19, 26044), (27, 26098), (32, 26146), (33, 26179), (34, 26185), (37, 26194), (44, 26257), (45, 26269), (49, 26377), (52, 26407), (61, 26602), (64, 26668), (70, 26800), (75, 26881), (80, 26977), (81, 27010), (82, 27019), (83, 27061), (93, 27175), (95, 27193), (98, 27214), (108, 27331), (115, 27394), (116, 27412), (118, 27442), (128, 27601), (131, 27634), (142, 27742), (146, 27787), (157, 27898), (173, 28033), (175, 28060), (178, 28081), (182, 28099), (186, 28129), (192, 28162), (200, 28198), (201, 28201), (204, 28222), (207, 28234), (220, 28285), (231, 28330), (234, 28348), (240, 28381), (247, 28426), (259, 28573), (262, 28585), (271, 28678), (274, 28696), (280, 28762), (299, 28909), (301, 28924), (303, 28939), (304, 28957), (315, 29071), (322, 29083), (326, 29137), (331, 29161), (334, 29194), (335, 29203), (348, 29329), (349, 29338), (353, 29362), (359, 29440), (367, 29506), (379, 29638), (402, 29950), (406, 29980), (411, 30001), (420, 30082), (421, 30088), (422, 30097), (424, 30127), (425, 30160), (428, 30253), (429, 30265), (434, 30325), (439, 30373), (458, 30601), (460, 30619), (462, 30628),

Gene: Marietta_41 Start: 21563, Stop: 26962, Start Num: 1
Candidate Starts for Marietta_41:
(Start: 1 @21563 has 48 MA's), (3, 21674), (4, 21692), (5, 21722), (10, 21761), (18, 21896), (19, 21911), (36, 22049), (43, 22136), (44, 22142), (57, 22430), (61, 22493), (62, 22505), (63, 22511), (76, 22793), (80, 22868), (85, 22976), (91, 23018), (96, 23099), (100, 23144), (104, 23192), (108, 23222), (111, 23252), (116, 23303), (118, 23333), (129, 23513), (130, 23519), (131, 23525), (142, 23633), (146, 23678), (147, 23684), (166, 23849), (168, 23870), (173, 23924), (175, 23951), (178, 23972), (182, 23990), (185, 24017), (206, 24134), (209, 24146), (215, 24179), (217, 24185), (221, 24206), (225, 24221), (226, 24239), (232, 24263), (233, 24272), (245, 24350), (253, 24452), (257, 24518), (273, 24689), (279, 24761), (281, 24776), (287, 24821), (288, 24830), (289, 24839), (304, 24962), (308, 25001), (316, 25106), (317, 25109), (320, 25121), (328, 25202), (329, 25205), (333, 25238), (336, 25271), (339, 25328), (340, 25331), (343, 25373), (348, 25430), (350, 25442), (355, 25496), (357, 25511), (362, 25562), (364, 25580), (366, 25604), (369, 25640), (373, 25700), (374, 25703), (375, 25733), (377, 25754), (388, 25964), (393, 26075), (430, 26534), (432, 26576), (452, 26816), (458, 26876), (460, 26894), (462, 26903),

Gene: Maselop_43 Start: 25232, Stop: 30442, Start Num: 1
Candidate Starts for Maselop_43:
(Start: 1 @25232 has 48 MA's), (9, 25424), (19, 25580), (21, 25592), (27, 25634), (28, 25637), (33, 25715), (35, 25730), (44, 25823), (55, 26021), (59, 26141), (61, 26168), (70, 26366), (80, 26543), (82, 26585), (86, 26663), (88, 26669), (93, 26741), (94, 26753), (95, 26759), (98, 26780), (100, 26819), (106, 26876), (110, 26918), (111, 26927), (115, 26960), (116, 26978), (118, 27008), (125, 27134), (128, 27167), (134, 27230), (138, 27278), (139, 27287), (144, 27341), (151, 27413), (152, 27434), (154, 27443), (169, 27599), (174, 27650), (181, 27698), (185, 27731), (190, 27770), (191, 27773), (200, 27824), (201, 27827), (206, 27860), (214, 27902), (218, 27914), (219, 27917), (220, 27926), (227, 27968), (228, 27971), (230, 27977), (232, 27989), (240, 28043), (242, 28055), (257, 28232), (258, 28241), (260, 28244), (266, 28289), (272, 28379), (275, 28397), (296, 28562), (299, 28592), (301, 28607), (315, 28763), (322, 28775), (324, 28799), (331, 28853), (334, 28886), (337, 28931), (345, 29024), (346, 29033), (348, 29045), (349, 29054), (352, 29075), (353, 29078), (359, 29150), (360, 29153), (363, 29174), (367, 29216), (380, 29366), (382, 29399), (383, 29408), (396, 29645), (401, 29690), (410, 29756), (412, 29762), (413, 29783), (414, 29792), (416, 29813), (420, 29834), (424, 29879), (429, 30020), (448, 30209), (449, 30242), (457, 30344), (458, 30356), (462, 30383),

Gene: MerCougar_40 Start: 24411, Stop: 29816, Start Num: 1
Candidate Starts for MerCougar_40:

(Start: 1 @24411 has 48 MA's), (4, 24540), (40, 24939), (44, 24972), (57, 25260), (61, 25323), (62, 25335), (63, 25341), (77, 25635), (79, 25665), (80, 25698), (86, 25818), (100, 25974), (104, 26022), (108, 26052), (111, 26082), (116, 26133), (118, 26163), (129, 26343), (136, 26406), (138, 26433), (140, 26454), (142, 26463), (146, 26508), (151, 26568), (154, 26598), (155, 26604), (175, 26781), (177, 26799), (179, 26808), (183, 26829), (187, 26853), (193, 26889), (194, 26901), (198, 26919), (199, 26922), (216, 27012), (226, 27069), (233, 27102), (234, 27105), (241, 27153), (242, 27159), (267, 27426), (269, 27486), (273, 27519), (276, 27537), (277, 27543), (279, 27591), (281, 27606), (282, 27615), (283, 27618), (287, 27651), (288, 27660), (289, 27669), (290, 27672), (291, 27675), (297, 27738), (308, 27831), (317, 27939), (318, 27942), (323, 27990), (325, 28014), (329, 28041), (333, 28074), (336, 28107), (340, 28164), (343, 28206), (348, 28263), (355, 28329), (356, 28341), (364, 28413), (373, 28518), (426, 29346), (430, 29388), (432, 29430), (437, 29481), (448, 29583), (457, 29718), (460, 29748), (462, 29757),

Gene: NadineRae_39 Start: 20810, Stop: 26215, Start Num: 1
Candidate Starts for NadineRae_39:
(Start: 1 @20810 has 48 MA's), (3, 20921), (4, 20939), (5, 20969), (10, 21008), (18, 21143), (19, 21158), (36, 21296), (40, 21356), (43, 21383), (44, 21389), (57, 21677), (61, 21740), (62, 21752), (63, 21758), (76, 22040), (80, 22115), (85, 22223), (91, 22265), (96, 22346), (100, 22391), (104, 22439), (108, 22469), (111, 22499), (116, 22550), (118, 22580), (119, 22592), (129, 22760), (142, 22880), (146, 22925), (147, 22931), (166, 23096), (173, 23171), (175, 23198), (178, 23219), (182, 23237), (185, 23264), (206, 23381), (209, 23393), (215, 23426), (217, 23432), (221, 23453), (225, 23468), (226, 23486), (232, 23510), (233, 23519), (245, 23597), (253, 23699), (257, 23765), (273, 23936), (276, 23954), (279, 24008), (281, 24023), (287, 24068), (288, 24077), (289, 24086), (308, 24248), (311, 24284), (317, 24356), (318, 24359), (323, 24407), (325, 24431), (328, 24455), (329, 24458), (333, 24491), (336, 24524), (339, 24581), (340, 24584), (343, 24626), (348, 24683), (350, 24695), (355, 24749), (357, 24764), (362, 24815), (364, 24833), (366, 24857), (369, 24893), (373, 24953), (374, 24956), (375, 24986), (377, 25007), (388, 25217), (393, 25328), (430, 25787), (432, 25829), (452, 26069), (458, 26129), (460, 26147), (462, 26156),

Gene: NatB6_39 Start: 23537, Stop: 28930, Start Num: 1
Candidate Starts for NatB6_39:
(Start: 1 @23537 has 48 MA's), (17, 23864), (19, 23885), (38, 24029), (40, 24074), (44, 24107), (49, 24227), (63, 24476), (65, 24533), (77, 24770), (79, 24800), (80, 24833), (86, 24953), (91, 24983), (99, 25073), (100, 25109), (104, 25157), (105, 25163), (108, 25187), (110, 25208), (111, 25217), (116, 25268), (118, 25298), (142, 25598), (145, 25640), (146, 25643), (151, 25703), (154, 25733), (172, 25871), (173, 25889), (175, 25916), (178, 25937), (179, 25943), (185, 25982), (186, 25985), (196, 26045), (199, 26057), (201, 26066), (210, 26117), (212, 26132), (238, 26270), (240, 26282), (249, 26357), (255, 26444), (265, 26549), (267, 26561), (273, 26654), (277, 26678), (279, 26726), (281, 26741), (285, 26762), (287, 26786), (288, 26795), (289, 26804), (291, 26810), (295, 26846), (297, 26873), (308, 26966), (317, 27074), (323, 27125), (325, 27149), (329, 27176), (333, 27209), (336, 27242), (340, 27299), (342, 27326), (343, 27341), (348, 27398), (355, 27464), (364, 27548), (373, 27656), (374, 27659), (375, 27689), (426, 28463), (430, 28502), (436, 28589), (448, 28697), (452, 28784), (455, 28808), (457, 28832), (460, 28862), (462, 28871),

Gene: NosilaM_42 Start: 24109, Stop: 29535, Start Num: 1
Candidate Starts for NosilaM_42:
(Start: 1 @24109 has 48 MA's), (4, 24238), (6, 24271), (15, 24400), (19, 24457), (20, 24466), (38, 24601), (44, 24682), (57, 24970), (61, 25033), (62, 25045), (63, 25051), (77, 25345), (79, 25375), (80, 25408), (86, 25528), (91, 25558), (92, 25561), (99, 25648), (100, 25684), (104, 25732), (108, 25762), (110, 25783), (111, 25792), (116, 25843), (118, 25873), (135, 26107), (136, 26116), (138, 26143), (139, 26152), (142, 26173), (146, 26218), (151, 26278), (153, 26302), (155, 26314), (175, 26491), (182, 26530), (184, 26551), (188, 26575), (196, 26620), (201, 26641), (202, 26647), (209, 26686), (210, 26692), (213, 26713), (218, 26728), (222, 26749), (229, 26788), (232, 26803), (233, 26812),

(235, 26821), (237, 26833), (241, 26863), (242, 26869), (243, 26872), (248, 26923), (250, 26947),
(253, 26989), (254, 27001), (265, 27121), (267, 27133), (269, 27193), (273, 27226), (276, 27244),
(277, 27250), (279, 27298), (281, 27313), (282, 27322), (283, 27325), (287, 27358), (288, 27367),
(289, 27376), (290, 27379), (291, 27382), (308, 27538), (317, 27646), (318, 27649), (323, 27697),
(325, 27721), (329, 27748), (333, 27781), (336, 27814), (340, 27871), (348, 27970), (356, 28048),
(364, 28120), (366, 28144), (369, 28177), (370, 28186), (374, 28231), (375, 28261), (376, 28273),
(400, 28687), (423, 28921), (427, 29074), (430, 29107), (432, 29149), (437, 29200), (452, 29389),
(457, 29437), (460, 29467), (462, 29476), (464, 29500),

Gene: NovumRegina_39 Start: 23861, Stop: 29260, Start Num: 1
Candidate Starts for NovumRegina_39:
(Start: 1 @23861 has 48 MA's), (9, 24053), (17, 24188), (19, 24209), (22, 24224), (38, 24353), (40,
24404), (44, 24437), (63, 24806), (65, 24863), (77, 25100), (79, 25130), (80, 25163), (86, 25283), (91,
25313), (99, 25403), (100, 25439), (104, 25487), (105, 25493), (108, 25517), (110, 25538), (111,
25547), (116, 25598), (118, 25628), (142, 25928), (145, 25970), (146, 25973), (151, 26033), (154,
26063), (172, 26201), (173, 26219), (175, 26246), (178, 26267), (179, 26273), (185, 26312), (186,
26315), (196, 26375), (199, 26387), (201, 26396), (210, 26447), (212, 26462), (238, 26600), (240,
26612), (249, 26687), (255, 26774), (265, 26879), (267, 26891), (273, 26984), (277, 27008), (279,
27056), (281, 27071), (285, 27092), (287, 27116), (288, 27125), (289, 27134), (291, 27140), (295,
27176), (297, 27203), (308, 27296), (317, 27404), (323, 27455), (325, 27479), (329, 27506), (333,
27539), (336, 27572), (340, 27629), (342, 27656), (343, 27671), (348, 27728), (355, 27794), (364,
27878), (373, 27986), (374, 27989), (375, 28019), (426, 28793), (430, 28832), (436, 28919), (448,
29027), (452, 29114), (455, 29138), (457, 29162), (460, 29192), (462, 29201),

Gene: Outis_40 Start: 24099, Stop: 29510, Start Num: 1
Candidate Starts for Outis_40:
(Start: 1 @24099 has 48 MA's), (3, 24210), (4, 24228), (12, 24360), (19, 24447), (20, 24456), (40,
24633), (44, 24666), (46, 24702), (57, 24954), (61, 25017), (62, 25029), (63, 25035), (77, 25329), (79,
25359), (80, 25392), (86, 25512), (99, 25632), (100, 25668), (104, 25716), (108, 25746), (111, 25776),
(116, 25827), (118, 25857), (129, 26037), (136, 26100), (138, 26127), (142, 26157), (146, 26202),
(149, 26244), (151, 26262), (154, 26292), (155, 26298), (175, 26475), (179, 26502), (183, 26523),
(188, 26559), (193, 26583), (194, 26595), (198, 26613), (199, 26616), (216, 26706), (226, 26763),
(233, 26796), (234, 26799), (241, 26847), (242, 26853), (246, 26877), (265, 27108), (267, 27120),
(269, 27180), (273, 27213), (276, 27231), (277, 27237), (278, 27279), (279, 27285), (281, 27300),
(282, 27309), (283, 27312), (287, 27345), (288, 27354), (289, 27363), (290, 27366), (291, 27369),
(308, 27525), (317, 27633), (318, 27636), (323, 27684), (325, 27708), (329, 27735), (333, 27768),
(336, 27801), (340, 27858), (343, 27900), (348, 27957), (356, 28035), (364, 28107), (373, 28212),
(426, 29040), (430, 29082), (432, 29124), (437, 29175), (448, 29277), (457, 29412), (460, 29442),
(462, 29451),

Gene: Patio_42 Start: 24346, Stop: 29772, Start Num: 1
Candidate Starts for Patio_42:
(Start: 1 @24346 has 48 MA's), (19, 24694), (29, 24754), (30, 24763), (50, 25036), (61, 25258), (62,
25270), (63, 25276), (73, 25495), (77, 25570), (79, 25600), (80, 25633), (91, 25783), (99, 25873), (100,
25909), (104, 25957), (105, 25963), (108, 25987), (110, 26008), (111, 26017), (116, 26068), (118,
26098), (136, 26341), (142, 26398), (146, 26443), (147, 26449), (161, 26581), (164, 26608), (175,
26716), (178, 26737), (179, 26743), (186, 26785), (201, 26866), (202, 26872), (210, 26917), (212,
26932), (225, 26986), (240, 27082), (255, 27244), (257, 27283), (261, 27313), (267, 27361), (269,
27421), (273, 27454), (277, 27478), (279, 27526), (281, 27541), (287, 27586), (288, 27595), (289,
27604), (290, 27607), (291, 27610), (308, 27766), (311, 27802), (317, 27874), (323, 27922), (329,
27973), (333, 28006), (336, 28039), (340, 28096), (341, 28111), (355, 28261), (356, 28273), (365,
28360), (370, 28411), (373, 28453), (374, 28456), (375, 28486), (390, 28780), (397, 28870), (399,
28891), (405, 28960), (415, 29047), (430, 29344), (433, 29392), (436, 29431), (452, 29626), (457,

29674), (458, 29686), (459, 29701), (462, 29713), (463, 29722),

Gene: Pemberton_43 Start: 21550, Stop: 26955, Start Num: 1
Candidate Starts for Pemberton_43:
(Start: 1 @21550 has 48 MA's), (3, 21661), (4, 21679), (5, 21709), (10, 21748), (18, 21883), (19, 21898), (36, 22036), (40, 22096), (43, 22123), (44, 22129), (56, 22375), (57, 22417), (61, 22480), (62, 22492), (63, 22498), (76, 22780), (80, 22855), (85, 22963), (91, 23005), (96, 23086), (100, 23131), (104, 23179), (108, 23209), (111, 23239), (116, 23290), (118, 23320), (129, 23500), (130, 23506), (131, 23512), (142, 23620), (146, 23665), (147, 23671), (155, 23761), (166, 23836), (173, 23911), (175, 23938), (178, 23959), (182, 23977), (185, 24004), (201, 24088), (204, 24112), (206, 24121), (209, 24133), (215, 24166), (217, 24172), (221, 24193), (225, 24208), (226, 24226), (229, 24235), (232, 24250), (233, 24259), (245, 24337), (248, 24370), (253, 24439), (257, 24505), (273, 24676), (279, 24748), (281, 24763), (287, 24808), (288, 24817), (289, 24826), (304, 24949), (308, 24988), (311, 25024), (317, 25096), (318, 25099), (323, 25147), (325, 25171), (328, 25195), (329, 25198), (333, 25231), (336, 25264), (339, 25321), (340, 25324), (343, 25366), (348, 25423), (350, 25435), (355, 25489), (357, 25504), (362, 25555), (364, 25573), (366, 25597), (369, 25633), (373, 25693), (374, 25696), (375, 25726), (377, 25747), (388, 25957), (393, 26068), (430, 26527), (432, 26569), (452, 26809), (458, 26869), (460, 26887), (462, 26896),

Gene: Phomeo_38 Start: 24136, Stop: 29529, Start Num: 1
Candidate Starts for Phomeo_38:
(Start: 1 @24136 has 48 MA's), (17, 24463), (19, 24484), (38, 24628), (40, 24673), (44, 24706), (49, 24826), (63, 25075), (65, 25132), (77, 25369), (79, 25399), (80, 25432), (86, 25552), (91, 25582), (99, 25672), (100, 25708), (104, 25756), (105, 25762), (108, 25786), (110, 25807), (111, 25816), (116, 25867), (118, 25897), (142, 26197), (145, 26239), (146, 26242), (151, 26302), (154, 26332), (172, 26470), (173, 26488), (175, 26515), (178, 26536), (179, 26542), (185, 26581), (186, 26584), (196, 26644), (199, 26656), (201, 26665), (210, 26716), (212, 26731), (238, 26869), (240, 26881), (249, 26956), (255, 27043), (265, 27148), (267, 27160), (273, 27253), (277, 27277), (279, 27325), (281, 27340), (285, 27361), (287, 27385), (288, 27394), (289, 27403), (291, 27409), (295, 27445), (297, 27472), (308, 27565), (317, 27673), (323, 27724), (325, 27748), (329, 27775), (333, 27808), (336, 27841), (340, 27898), (342, 27925), (343, 27940), (348, 27997), (355, 28063), (364, 28147), (373, 28255), (374, 28258), (375, 28288), (426, 29062), (430, 29101), (436, 29188), (448, 29296), (452, 29383), (455, 29407), (457, 29431), (460, 29461), (462, 29470),

Gene: Pleakley_48 Start: 24215, Stop: 29758, Start Num: 1
Candidate Starts for Pleakley_48:
(Start: 1 @24215 has 48 MA's), (9, 24404), (12, 24473), (13, 24476), (17, 24539), (19, 24560), (44, 24788), (61, 25139), (63, 25157), (66, 25244), (67, 25271), (72, 25358), (74, 25397), (77, 25451), (79, 25481), (80, 25514), (81, 25547), (85, 25622), (100, 25790), (108, 25868), (110, 25889), (111, 25898), (114, 25922), (116, 25949), (118, 25979), (138, 26249), (142, 26279), (146, 26324), (173, 26570), (175, 26597), (176, 26603), (183, 26645), (189, 26690), (197, 26729), (202, 26753), (209, 26792), (210, 26798), (218, 26834), (220, 26846), (221, 26852), (222, 26855), (226, 26885), (229, 26894), (232, 26909), (241, 26969), (244, 26987), (253, 27098), (257, 27164), (267, 27242), (273, 27359), (277, 27383), (279, 27431), (281, 27446), (284, 27464), (287, 27491), (293, 27542), (300, 27596), (306, 27656), (312, 27743), (314, 27764), (327, 27887), (354, 28205), (355, 28229), (356, 28241), (373, 28421), (392, 28802), (397, 28856), (404, 28946), (431, 29342), (436, 29417), (447, 29522), (452, 29612), (458, 29672), (459, 29687), (462, 29699), (463, 29708),

Gene: Polyyuki_43 Start: 25221, Stop: 30431, Start Num: 1
Candidate Starts for Polyyuki_43:
(Start: 1 @25221 has 48 MA's), (9, 25413), (19, 25569), (27, 25623), (28, 25626), (33, 25704), (35, 25719), (55, 26010), (59, 26130), (61, 26157), (70, 26355), (80, 26532), (82, 26574), (86, 26652), (88, 26658), (93, 26730), (94, 26742), (95, 26748), (98, 26769), (100, 26808), (106, 26865), (110, 26907),

(111, 26916), (115, 26949), (116, 26967), (118, 26997), (125, 27123), (128, 27156), (131, 27189),
(134, 27219), (138, 27267), (139, 27276), (144, 27330), (151, 27402), (152, 27423), (154, 27432),
(169, 27588), (174, 27639), (181, 27687), (185, 27720), (190, 27759), (191, 27762), (200, 27813),
(201, 27816), (206, 27849), (214, 27891), (218, 27903), (219, 27906), (220, 27915), (227, 27957),
(228, 27960), (230, 27966), (232, 27978), (240, 28032), (242, 28044), (257, 28221), (258, 28230),
(260, 28233), (266, 28278), (272, 28368), (275, 28386), (296, 28551), (299, 28581), (301, 28596),
(315, 28752), (322, 28764), (324, 28788), (331, 28842), (334, 28875), (337, 28920), (345, 29013),
(346, 29022), (348, 29034), (349, 29043), (352, 29064), (353, 29067), (359, 29139), (360, 29142),
(363, 29163), (367, 29205), (380, 29355), (382, 29388), (383, 29397), (396, 29634), (401, 29679),
(410, 29745), (412, 29751), (413, 29772), (414, 29781), (416, 29802), (420, 29823), (424, 29868),
(429, 30009), (448, 30198), (449, 30231), (457, 30333), (458, 30345), (462, 30372),

Gene: RedRaider_46 Start: 26371, Stop: 31794, Start Num: 1
Candidate Starts for RedRaider_46:
(Start: 1 @26371 has 48 MA's), (19, 26719), (29, 26779), (30, 26788), (45, 26944), (50, 27061), (61,
27283), (62, 27295), (63, 27301), (74, 27541), (77, 27595), (79, 27625), (80, 27658), (91, 27808), (99,
27898), (100, 27934), (104, 27982), (108, 28012), (110, 28033), (111, 28042), (116, 28093), (118,
28123), (121, 28168), (136, 28366), (142, 28423), (146, 28468), (147, 28474), (151, 28528), (153,
28552), (164, 28633), (175, 28741), (178, 28762), (186, 28810), (199, 28882), (201, 28891), (202,
28897), (210, 28942), (212, 28957), (225, 29011), (229, 29038), (240, 29107), (255, 29269), (261,
29338), (267, 29386), (269, 29446), (273, 29479), (277, 29503), (279, 29551), (281, 29566), (282,
29575), (283, 29578), (287, 29611), (288, 29620), (289, 29629), (290, 29632), (291, 29635), (308,
29791), (311, 29827), (317, 29899), (323, 29947), (329, 29998), (333, 30031), (336, 30064), (340,
30121), (341, 30136), (355, 30286), (356, 30298), (370, 30436), (373, 30478), (374, 30481), (375,
30511), (390, 30805), (392, 30841), (397, 30895), (399, 30916), (405, 30985), (408, 31009), (430,
31366), (433, 31414), (435, 31426), (436, 31453), (438, 31462), (447, 31558), (452, 31648), (457,
31696), (458, 31708), (459, 31723), (462, 31735), (463, 31744),

Gene: Scuba_48 Start: 24292, Stop: 29835, Start Num: 1
Candidate Starts for Scuba_48:
(Start: 1 @24292 has 48 MA's), (9, 24481), (12, 24550), (13, 24553), (17, 24616), (19, 24637), (44,
24865), (61, 25216), (63, 25234), (66, 25321), (67, 25348), (68, 25402), (74, 25474), (77, 25528), (79,
25558), (80, 25591), (81, 25624), (85, 25699), (100, 25867), (108, 25945), (111, 25975), (114, 25999),
(116, 26026), (117, 26050), (118, 26056), (138, 26326), (142, 26356), (143, 26368), (146, 26401),
(173, 26647), (175, 26674), (176, 26680), (183, 26722), (189, 26767), (197, 26806), (202, 26830),
(209, 26869), (210, 26875), (218, 26911), (220, 26923), (221, 26929), (222, 26932), (226, 26962),
(229, 26971), (232, 26986), (241, 27046), (244, 27064), (253, 27175), (257, 27241), (267, 27319),
(273, 27436), (277, 27460), (279, 27508), (281, 27523), (284, 27541), (287, 27568), (293, 27619),
(300, 27673), (306, 27733), (312, 27820), (314, 27841), (327, 27964), (354, 28282), (355, 28306),
(356, 28318), (361, 28363), (373, 28498), (392, 28879), (397, 28933), (404, 29023), (407, 29047),
(431, 29419), (436, 29494), (447, 29599), (452, 29689), (458, 29749), (459, 29764), (462, 29776),
(463, 29785),

Gene: Skysand_41 Start: 24563, Stop: 29992, Start Num: 1
Candidate Starts for Skysand_41:
(Start: 1 @24563 has 48 MA's), (19, 24911), (29, 24971), (30, 24980), (50, 25256), (54, 25298), (61,
25478), (62, 25490), (63, 25496), (73, 25715), (77, 25790), (79, 25820), (80, 25853), (91, 26003), (99,
26093), (100, 26129), (104, 26177), (105, 26183), (108, 26207), (110, 26228), (111, 26237), (116,
26288), (118, 26318), (136, 26561), (142, 26618), (143, 26630), (146, 26663), (147, 26669), (161,
26801), (164, 26828), (175, 26936), (178, 26957), (186, 27005), (201, 27086), (202, 27092), (210,
27137), (212, 27152), (225, 27206), (240, 27302), (255, 27464), (257, 27503), (261, 27533), (267,
27581), (269, 27641), (273, 27674), (277, 27698), (279, 27746), (281, 27761), (282, 27770), (287,
27806), (288, 27815), (289, 27824), (290, 27827), (291, 27830), (308, 27986), (311, 28022), (317,

28094), (323, 28142), (329, 28193), (333, 28226), (336, 28259), (340, 28316), (341, 28331), (355, 28481), (356, 28493), (365, 28580), (370, 28631), (373, 28673), (374, 28676), (375, 28706), (390, 29000), (397, 29090), (399, 29111), (405, 29180), (415, 29267), (430, 29564), (433, 29612), (436, 29651), (452, 29846), (457, 29894), (458, 29906), (459, 29921), (462, 29933), (463, 29942),

Gene: StarStruck_40 Start: 24099, Stop: 29510, Start Num: 1
Candidate Starts for StarStruck_40:
(Start: 1 @24099 has 48 MA's), (3, 24210), (4, 24228), (12, 24360), (19, 24447), (20, 24456), (40, 24633), (44, 24666), (46, 24702), (57, 24954), (61, 25017), (62, 25029), (63, 25035), (77, 25329), (79, 25359), (80, 25392), (86, 25512), (99, 25632), (100, 25668), (104, 25716), (108, 25746), (111, 25776), (116, 25827), (118, 25857), (129, 26037), (136, 26100), (138, 26127), (142, 26157), (146, 26202), (149, 26244), (151, 26262), (154, 26292), (155, 26298), (175, 26475), (179, 26502), (183, 26523), (188, 26559), (193, 26583), (194, 26595), (198, 26613), (199, 26616), (216, 26706), (226, 26763), (233, 26796), (234, 26799), (241, 26847), (242, 26853), (246, 26877), (265, 27108), (267, 27120), (269, 27180), (273, 27213), (276, 27231), (277, 27237), (278, 27279), (279, 27285), (281, 27300), (282, 27309), (283, 27312), (287, 27345), (288, 27354), (289, 27363), (290, 27366), (291, 27369), (308, 27525), (317, 27633), (318, 27636), (323, 27684), (325, 27708), (329, 27735), (333, 27768), (336, 27801), (340, 27858), (343, 27900), (348, 27957), (356, 28035), (364, 28107), (373, 28212), (426, 29040), (430, 29082), (432, 29124), (437, 29175), (448, 29277), (457, 29412), (460, 29442), (462, 29451),

Gene: Sukkupi_41 Start: 23124, Stop: 28529, Start Num: 1
Candidate Starts for Sukkupi_41:
(Start: 1 @23124 has 48 MA's), (3, 23235), (4, 23253), (5, 23283), (10, 23322), (18, 23457), (19, 23472), (36, 23610), (40, 23670), (43, 23697), (44, 23703), (56, 23949), (57, 23991), (61, 24054), (62, 24066), (63, 24072), (76, 24354), (80, 24429), (85, 24537), (91, 24579), (96, 24660), (100, 24705), (104, 24753), (108, 24783), (111, 24813), (116, 24864), (118, 24894), (129, 25074), (130, 25080), (131, 25086), (142, 25194), (146, 25239), (147, 25245), (155, 25335), (166, 25410), (173, 25485), (175, 25512), (178, 25533), (182, 25551), (185, 25578), (206, 25695), (209, 25707), (215, 25740), (217, 25746), (221, 25767), (225, 25782), (226, 25800), (232, 25824), (233, 25833), (245, 25911), (248, 25944), (253, 26013), (257, 26079), (273, 26250), (279, 26322), (281, 26337), (287, 26382), (288, 26391), (289, 26400), (304, 26523), (308, 26562), (311, 26598), (317, 26670), (318, 26673), (323, 26721), (325, 26745), (328, 26769), (329, 26772), (333, 26805), (336, 26838), (339, 26895), (340, 26898), (343, 26940), (348, 26997), (350, 27009), (355, 27063), (357, 27078), (362, 27129), (364, 27147), (366, 27171), (369, 27207), (373, 27267), (374, 27270), (375, 27300), (377, 27321), (388, 27531), (393, 27642), (430, 28101), (432, 28143), (452, 28383), (458, 28443), (460, 28461), (462, 28470),

Gene: SuperSulley_40 Start: 24297, Stop: 29702, Start Num: 1
Candidate Starts for SuperSulley_40:
(Start: 1 @24297 has 48 MA's), (4, 24426), (19, 24645), (20, 24654), (44, 24858), (57, 25146), (61, 25209), (62, 25221), (63, 25227), (77, 25521), (79, 25551), (80, 25584), (84, 25680), (86, 25704), (91, 25734), (99, 25824), (100, 25860), (104, 25908), (105, 25914), (107, 25923), (108, 25938), (110, 25959), (111, 25968), (116, 26019), (118, 26049), (136, 26292), (138, 26319), (139, 26328), (142, 26349), (146, 26394), (151, 26454), (153, 26478), (155, 26490), (175, 26667), (182, 26706), (184, 26727), (189, 26760), (195, 26793), (196, 26796), (201, 26817), (202, 26823), (209, 26862), (210, 26868), (213, 26889), (218, 26904), (222, 26925), (229, 26964), (232, 26979), (233, 26988), (235, 26997), (237, 27009), (241, 27039), (242, 27045), (243, 27048), (248, 27099), (250, 27123), (253, 27165), (254, 27177), (265, 27297), (267, 27309), (269, 27369), (273, 27402), (276, 27420), (277, 27426), (279, 27474), (281, 27489), (282, 27498), (283, 27501), (287, 27534), (288, 27543), (289, 27552), (291, 27558), (308, 27714), (317, 27822), (318, 27825), (323, 27873), (325, 27897), (329, 27924), (333, 27957), (336, 27990), (340, 28047), (343, 28089), (347, 28137), (348, 28146), (349, 28155), (356, 28224), (362, 28278), (364, 28296), (365, 28311), (369, 28353), (370, 28362), (373,

28404), (374, 28407), (375, 28437), (376, 28449), (427, 29241), (430, 29274), (432, 29316), (437, 29367), (452, 29556), (457, 29604), (460, 29634), (462, 29643), (464, 29667),

Gene: Tracker_39 Start: 23264, Stop: 28657, Start Num: 1
Candidate Starts for Tracker_39:
(Start: 1 @23264 has 48 MA's), (17, 23591), (19, 23612), (38, 23756), (40, 23801), (44, 23834), (49, 23954), (63, 24203), (65, 24260), (77, 24497), (79, 24527), (80, 24560), (86, 24680), (91, 24710), (99, 24800), (100, 24836), (104, 24884), (105, 24890), (108, 24914), (110, 24935), (111, 24944), (116, 24995), (118, 25025), (142, 25325), (145, 25367), (146, 25370), (151, 25430), (154, 25460), (172, 25598), (173, 25616), (175, 25643), (178, 25664), (179, 25670), (185, 25709), (186, 25712), (196, 25772), (199, 25784), (201, 25793), (210, 25844), (212, 25859), (233, 25964), (238, 25997), (240, 26009), (249, 26084), (255, 26171), (265, 26276), (267, 26288), (273, 26381), (277, 26405), (279, 26453), (281, 26468), (285, 26489), (287, 26513), (288, 26522), (289, 26531), (291, 26537), (295, 26573), (297, 26600), (308, 26693), (317, 26801), (323, 26852), (325, 26876), (329, 26903), (333, 26936), (336, 26969), (340, 27026), (342, 27053), (343, 27068), (348, 27125), (355, 27191), (364, 27275), (373, 27383), (374, 27386), (375, 27416), (426, 28190), (430, 28229), (436, 28316), (448, 28424), (452, 28511), (455, 28535), (457, 28559), (460, 28589), (462, 28598),

Gene: Turuncu_43 Start: 24570, Stop: 29978, Start Num: 1
Candidate Starts for Turuncu_43:
(Start: 1 @24570 has 48 MA's), (9, 24762), (25, 24951), (30, 24987), (43, 25134), (50, 25269), (61, 25491), (63, 25509), (77, 25803), (79, 25833), (80, 25866), (91, 26016), (93, 26064), (96, 26097), (100, 26142), (104, 26190), (108, 26220), (111, 26250), (116, 26301), (118, 26331), (131, 26523), (136, 26574), (142, 26631), (145, 26673), (146, 26676), (163, 26826), (175, 26949), (179, 26976), (183, 26997), (193, 27057), (194, 27069), (197, 27081), (199, 27090), (205, 27129), (223, 27210), (224, 27216), (226, 27237), (231, 27252), (234, 27273), (240, 27315), (246, 27351), (265, 27582), (267, 27594), (273, 27687), (277, 27711), (279, 27759), (281, 27774), (287, 27819), (288, 27828), (289, 27837), (291, 27843), (308, 27999), (317, 28107), (318, 28110), (323, 28158), (325, 28182), (328, 28206), (329, 28209), (333, 28242), (336, 28275), (339, 28332), (340, 28335), (343, 28377), (348, 28434), (359, 28548), (362, 28566), (364, 28584), (365, 28599), (373, 28689), (378, 28746), (400, 29124), (418, 29301), (430, 29550), (446, 29739), (452, 29832), (457, 29880), (459, 29907), (462, 29919),

Gene: Wheezy_39 Start: 23469, Stop: 28862, Start Num: 1
Candidate Starts for Wheezy_39:
(Start: 1 @23469 has 48 MA's), (17, 23796), (19, 23817), (38, 23961), (40, 24006), (44, 24039), (49, 24159), (63, 24408), (65, 24465), (72, 24609), (77, 24702), (79, 24732), (80, 24765), (86, 24885), (91, 24915), (99, 25005), (100, 25041), (104, 25089), (105, 25095), (108, 25119), (110, 25140), (111, 25149), (116, 25200), (118, 25230), (142, 25530), (145, 25572), (146, 25575), (151, 25635), (154, 25665), (172, 25803), (173, 25821), (175, 25848), (178, 25869), (179, 25875), (185, 25914), (186, 25917), (196, 25977), (199, 25989), (201, 25998), (210, 26049), (212, 26064), (238, 26202), (240, 26214), (249, 26289), (255, 26376), (265, 26481), (267, 26493), (273, 26586), (277, 26610), (279, 26658), (281, 26673), (285, 26694), (287, 26718), (288, 26727), (289, 26736), (291, 26742), (295, 26778), (308, 26898), (317, 27006), (323, 27057), (325, 27081), (329, 27108), (333, 27141), (336, 27174), (340, 27231), (342, 27258), (343, 27273), (348, 27330), (355, 27396), (364, 27480), (373, 27588), (374, 27591), (375, 27621), (426, 28395), (430, 28434), (436, 28521), (448, 28629), (452, 28716), (455, 28740), (457, 28764), (460, 28794), (462, 28803),

Gene: WhoseManz_41 Start: 21176, Stop: 26575, Start Num: 1
Candidate Starts for WhoseManz_41:
(Start: 1 @21176 has 48 MA's), (3, 21287), (4, 21305), (5, 21335), (10, 21374), (18, 21509), (19, 21524), (36, 21662), (43, 21749), (44, 21755), (57, 22043), (61, 22106), (62, 22118), (63, 22124), (76, 22406), (80, 22481), (85, 22589), (91, 22631), (96, 22712), (100, 22757), (104, 22805), (108, 22835),

(111, 22865), (116, 22916), (118, 22946), (129, 23126), (130, 23132), (131, 23138), (142, 23246), (146, 23291), (147, 23297), (166, 23462), (168, 23483), (173, 23537), (175, 23564), (178, 23585), (182, 23603), (185, 23630), (206, 23747), (209, 23759), (215, 23792), (217, 23798), (221, 23819), (225, 23834), (226, 23852), (232, 23876), (233, 23885), (245, 23963), (253, 24065), (257, 24131), (273, 24302), (279, 24374), (281, 24389), (287, 24434), (288, 24443), (289, 24452), (304, 24575), (308, 24614), (316, 24719), (317, 24722), (320, 24734), (328, 24815), (329, 24818), (333, 24851), (336, 24884), (339, 24941), (340, 24944), (343, 24986), (348, 25043), (350, 25055), (355, 25109), (357, 25124), (362, 25175), (364, 25193), (366, 25217), (369, 25253), (373, 25313), (374, 25316), (375, 25346), (377, 25367), (388, 25577), (393, 25688), (430, 26147), (432, 26189), (452, 26429), (458, 26489), (460, 26507), (462, 26516),

Gene: Yndexa_41 Start: 23124, Stop: 28529, Start Num: 1
Candidate Starts for Yndexa_41:
(Start: 1 @23124 has 48 MA's), (3, 23235), (4, 23253), (5, 23283), (10, 23322), (18, 23457), (19, 23472), (36, 23610), (40, 23670), (43, 23697), (44, 23703), (56, 23949), (57, 23991), (61, 24054), (62, 24066), (63, 24072), (76, 24354), (80, 24429), (85, 24537), (91, 24579), (96, 24660), (100, 24705), (104, 24753), (108, 24783), (111, 24813), (116, 24864), (118, 24894), (129, 25074), (130, 25080), (131, 25086), (142, 25194), (146, 25239), (147, 25245), (155, 25335), (166, 25410), (173, 25485), (175, 25512), (178, 25533), (182, 25551), (185, 25578), (206, 25695), (209, 25707), (215, 25740), (217, 25746), (221, 25767), (225, 25782), (226, 25800), (232, 25824), (233, 25833), (245, 25911), (248, 25944), (253, 26013), (257, 26079), (273, 26250), (279, 26322), (281, 26337), (287, 26382), (288, 26391), (289, 26400), (304, 26523), (308, 26562), (311, 26598), (317, 26670), (318, 26673), (323, 26721), (325, 26745), (328, 26769), (329, 26772), (333, 26805), (336, 26838), (339, 26895), (340, 26898), (343, 26940), (348, 26997), (350, 27009), (355, 27063), (357, 27078), (362, 27129), (364, 27147), (366, 27171), (369, 27207), (373, 27267), (374, 27270), (375, 27300), (377, 27321), (388, 27531), (393, 27642), (430, 28101), (432, 28143), (452, 28383), (458, 28443), (460, 28461), (462, 28470),