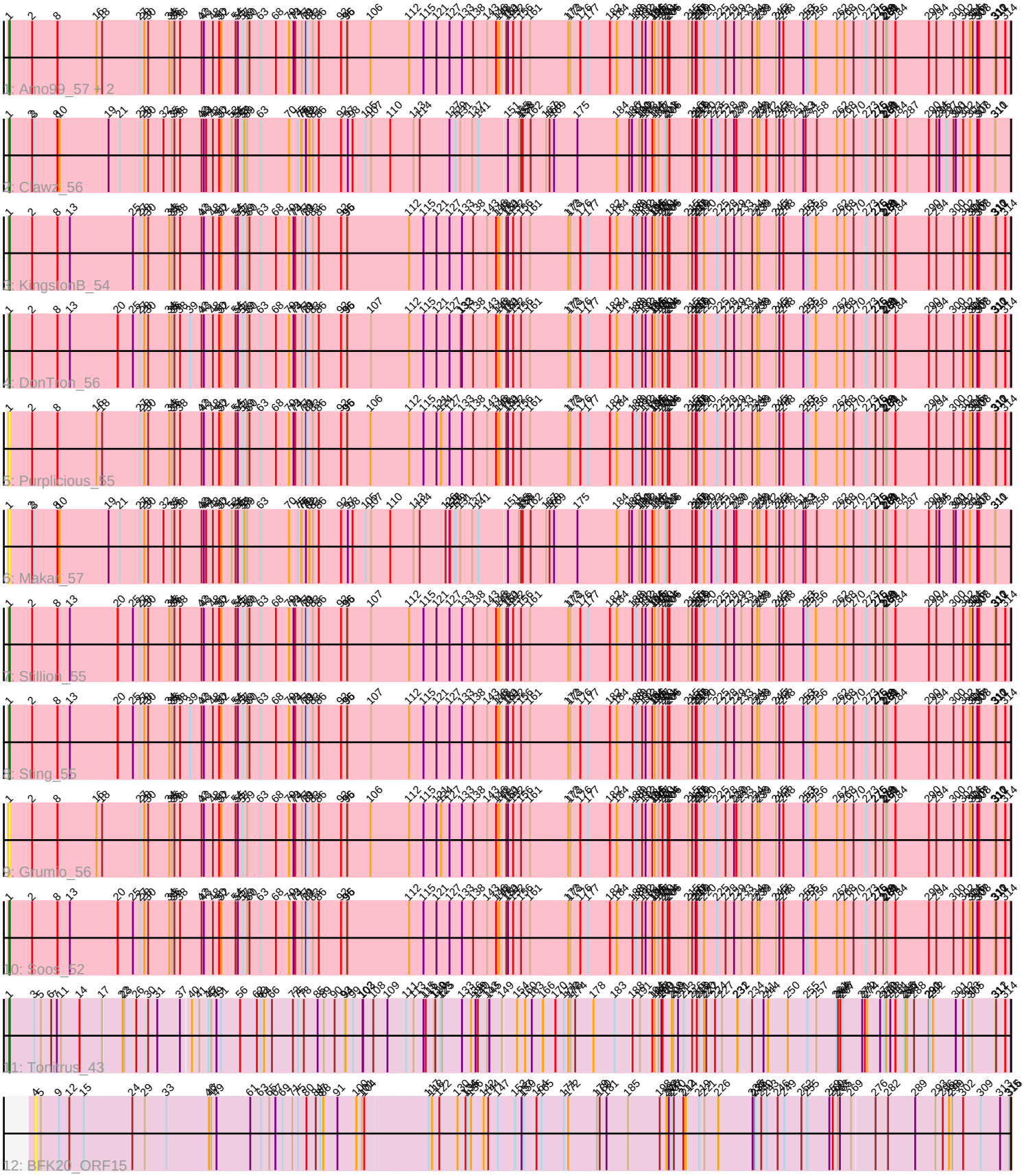
Pham 348154


1: Amo99_57 + 2
2: Clawz_56
3: KingstonB_54
4: DonTron_56
5: Purplicious_55
6: Makar_57
7: Stillion_55
8: Sting_55
9: Grumio_56
10: Soos_52
11: Tonitrus_43
12: BFK20_ORF15

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 348154 Report

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

Pham number 348154 has 14 members, 6 are drafts.

Phages represented in each track:
• Track 1 : Amo99_57, Jollymon_56, ColdSoup_57
• Track 2 : Clawz_56
• Track 3 : KingstonB_54
• Track 4 : DonTron_56
• Track 5 : Purplicious_55
• Track 6 : Makar_57
• Track 7 : Stillion_55
• Track 8 : Sting_55
• Track 9 : Grumio_56
• Track 10 : Soos_52
• Track 11 : Tonitrus_43
• Track 12 : BFK20_ORF15

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 8 of the 8 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Amo99_57, Clawz_56, ColdSoup_57, DonTron_56, Grumio_56, Jollymon_56, KingstonB_54, Makar_57, Purplicious_55, Soos_52, Stillion_55, Sting_55, Tonitrus_43,

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

Genes that do not have the "Most Annotated" start:
• BFK20_ORF15,

Summary by start number:

Start 1:
• Found in 13 of 14 (92.9%) of genes in pham
• Manual Annotations of this start: 8 of 8

• Called 100.0% of time when present
• Phage (with cluster) where this start called: Amo99_57 (CP), Clawz_56 (CP), ColdSoup_57 (CP), DonTron_56 (CP), Grumio_56 (CP), Jollymon_56 (CP), KingstonB_54 (CP), Makar_57 (CP), Purplicious_55 (CP), Soos_52 (CP), Stillion_55 (CP), Sting_55 (CP), Tonitrus_43 (singleton),

Start 4:
• Found in 1 of 14 (7.1%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BFK20_ORF15 (singleton),

Summary by clusters:

There are 2 clusters represented in this pham: singleton, CP,

Info for manual annotations of cluster CP:
•Start number 1 was manually annotated 7 times for cluster CP.

Gene Information:

Gene: Amo99_57 Start: 30971, Stop: 36160, Start Num: 1
Candidate Starts for Amo99_57:
(Start: 1 @30971 has 8 MA's), (2, 31091), (8, 31223), (16, 31430), (18, 31460), (27, 31655), (28, 31676), (30, 31697), (34, 31808), (35, 31823), (36, 31835), (38, 31865), (42, 31979), (43, 31991), (48, 32039), (50, 32072), (52, 32084), (54, 32159), (55, 32171), (57, 32195), (59, 32219), (60, 32231), (63, 32288), (68, 32357), (70, 32426), (73, 32450), (74, 32459), (77, 32495), (79, 32516), (81, 32522), (83, 32552), (86, 32582), (92, 32696), (95, 32726), (96, 32729), (106, 32849), (112, 33053), (115, 33128), (121, 33194), (127, 33263), (133, 33326), (138, 33380), (143, 33449), (146, 33497), (148, 33512), (150, 33539), (151, 33548), (152, 33572), (156, 33611), (161, 33659), (172, 33842), (173, 33854), (176, 33902), (177, 33941), (182, 34052), (184, 34088), (188, 34172), (189, 34190), (192, 34223), (193, 34241), (194, 34277), (195, 34286), (196, 34289), (197, 34310), (200, 34331), (201, 34346), (204, 34358), (206, 34367), (215, 34466), (216, 34487), (217, 34505), (218, 34511), (219, 34523), (220, 34550), (225, 34616), (228, 34661), (229, 34706), (233, 34745), (234, 34802), (238, 34829), (239, 34841), (245, 34928), (247, 34946), (248, 34967), (253, 35072), (255, 35093), (256, 35138), (262, 35249), (268, 35285), (270, 35333), (273, 35402), (275, 35447), (276, 35450), (278, 35492), (279, 35498), (280, 35507), (281, 35510), (284, 35555), (290, 35732), (294, 35771), (300, 35861), (302, 35912), (304, 35948), (306, 35963), (307, 35987), (308, 35996), (310, 36077), (311, 36080), (312, 36083), (314, 36131),

Gene: BFK20_ORF15 Start: 9713, Stop: 14527, Start Num: 4
Candidate Starts for BFK20_ORF15:
(4, 9713), (5, 9740), (9, 9836), (12, 9890), (15, 9965), (24, 10205), (29, 10259), (33, 10364), (46, 10583), (47, 10595), (49, 10616), (61, 10787), (63, 10841), (65, 10886), (67, 10916), (69, 10955), (71, 11006), (75, 11036), (80, 11078), (84, 11126), (87, 11150), (88, 11165), (91, 11240), (100, 11336), (101, 11366), (104, 11378), (117, 11684), (118, 11702), (122, 11741), (130, 11837), (134, 11879), (135, 11888), (136, 11906), (142, 11966), (144, 11990), (147, 12041), (153, 12131), (157, 12164), (159, 12176), (164, 12239), (165, 12266), (171, 12377), (172, 12395), (179, 12533), (180, 12548), (181, 12584), (185, 12692), (198, 12845), (202, 12881), (205, 12893), (207, 12905), (210, 12920), (212, 12962), (214, 12974), (219, 13034), (221, 13058), (226, 13130), (235, 13307), (236, 13319), (237, 13322), (240, 13349), (243, 13373), (246, 13430), (249, 13457), (252, 13544), (255, 13574),

(259, 13670), (260, 13688), (263, 13712), (265, 13724), (269, 13772), (276, 13874), (282, 13934), (289, 14057), (293, 14159), (296, 14198), (298, 14231), (299, 14249), (302, 14303), (309, 14378), (313, 14474), (315, 14516), (316, 14522),

Gene: Clawz_56 Start: 30772, Stop: 35955, Start Num: 1
Candidate Starts for Clawz_56:
(Start: 1 @30772 has 8 MA's), (2, 30892), (3, 30904), (8, 31024), (10, 31036), (19, 31294), (21, 31351), (27, 31456), (28, 31477), (30, 31498), (32, 31579), (35, 31624), (36, 31636), (38, 31666), (42, 31780), (43, 31792), (44, 31804), (48, 31840), (50, 31873), (52, 31885), (53, 31939), (54, 31960), (55, 31972), (57, 31996), (58, 32005), (59, 32020), (63, 32089), (70, 32227), (75, 32275), (76, 32293), (77, 32296), (79, 32317), (82, 32335), (83, 32353), (86, 32383), (92, 32497), (97, 32533), (98, 32548), (105, 32611), (107, 32641), (110, 32734), (113, 32854), (114, 32887), (127, 33040), (129, 33070), (131, 33094), (137, 33157), (141, 33190), (151, 33331), (155, 33388), (156, 33400), (158, 33409), (162, 33448), (167, 33529), (168, 33547), (169, 33571), (175, 33691), (184, 33880), (186, 33946), (187, 33961), (190, 34000), (191, 34003), (192, 34015), (193, 34033), (194, 34069), (196, 34081), (197, 34102), (201, 34138), (203, 34147), (206, 34159), (216, 34279), (217, 34297), (218, 34303), (219, 34315), (220, 34342), (223, 34381), (225, 34408), (228, 34453), (229, 34498), (230, 34510), (234, 34594), (238, 34621), (239, 34633), (242, 34669), (245, 34720), (247, 34738), (248, 34759), (251, 34819), (253, 34864), (254, 34876), (258, 34936), (262, 35041), (268, 35080), (270, 35128), (273, 35197), (275, 35242), (276, 35245), (278, 35287), (279, 35293), (280, 35302), (281, 35305), (284, 35350), (287, 35413), (290, 35527), (294, 35566), (295, 35581), (297, 35617), (300, 35656), (301, 35668), (302, 35707), (304, 35743), (307, 35782), (308, 35791), (310, 35872), (311, 35875),

Gene: ColdSoup_57 Start: 30971, Stop: 36160, Start Num: 1
Candidate Starts for ColdSoup_57:
(Start: 1 @30971 has 8 MA's), (2, 31091), (8, 31223), (16, 31430), (18, 31460), (27, 31655), (28, 31676), (30, 31697), (34, 31808), (35, 31823), (36, 31835), (38, 31865), (42, 31979), (43, 31991), (48, 32039), (50, 32072), (52, 32084), (54, 32159), (55, 32171), (57, 32195), (59, 32219), (60, 32231), (63, 32288), (68, 32357), (70, 32426), (73, 32450), (74, 32459), (77, 32495), (79, 32516), (81, 32522), (83, 32552), (86, 32582), (92, 32696), (95, 32726), (96, 32729), (106, 32849), (112, 33053), (115, 33128), (121, 33194), (127, 33263), (133, 33326), (138, 33380), (143, 33449), (146, 33497), (148, 33512), (150, 33539), (151, 33548), (152, 33572), (156, 33611), (161, 33659), (172, 33842), (173, 33854), (176, 33902), (177, 33941), (182, 34052), (184, 34088), (188, 34172), (189, 34190), (192, 34223), (193, 34241), (194, 34277), (195, 34286), (196, 34289), (197, 34310), (200, 34331), (201, 34346), (204, 34358), (206, 34367), (215, 34466), (216, 34487), (217, 34505), (218, 34511), (219, 34523), (220, 34550), (225, 34616), (228, 34661), (229, 34706), (233, 34745), (234, 34802), (238, 34829), (239, 34841), (245, 34928), (247, 34946), (248, 34967), (253, 35072), (255, 35093), (256, 35138), (262, 35249), (268, 35285), (270, 35333), (273, 35402), (275, 35447), (276, 35450), (278, 35492), (279, 35498), (280, 35507), (281, 35510), (284, 35555), (290, 35732), (294, 35771), (300, 35861), (302, 35912), (304, 35948), (306, 35963), (307, 35987), (308, 35996), (310, 36077), (311, 36080), (312, 36083), (314, 36131),

Gene: DonTron_56 Start: 31012, Stop: 36201, Start Num: 1
Candidate Starts for DonTron_56:
(Start: 1 @31012 has 8 MA's), (2, 31132), (8, 31264), (13, 31330), (20, 31579), (25, 31657), (27, 31696), (28, 31717), (30, 31738), (34, 31849), (35, 31864), (36, 31876), (38, 31906), (39, 31960), (42, 32020), (43, 32032), (48, 32080), (50, 32113), (52, 32125), (54, 32200), (55, 32212), (57, 32236), (59, 32260), (60, 32272), (63, 32329), (68, 32398), (70, 32467), (73, 32491), (74, 32500), (77, 32536), (79, 32557), (81, 32563), (83, 32593), (86, 32623), (92, 32737), (95, 32767), (96, 32770), (107, 32893), (112, 33094), (115, 33169), (121, 33235), (127, 33304), (132, 33361), (133, 33367), (138, 33421), (143, 33490), (146, 33538), (148, 33553), (150, 33580), (151, 33589), (152, 33613), (156, 33652), (161, 33700), (172, 33883), (173, 33895), (176, 33943), (177, 33982), (182, 34093), (184, 34129), (188, 34213), (189, 34231), (192, 34264), (193, 34282), (194, 34318), (195, 34327), (196, 34330),

(197, 34351), (200, 34372), (201, 34387), (204, 34399), (206, 34408), (215, 34507), (216, 34528), (217, 34546), (218, 34552), (219, 34564), (220, 34591), (225, 34657), (228, 34702), (229, 34747), (233, 34786), (234, 34843), (238, 34870), (239, 34882), (245, 34969), (247, 34987), (248, 35008), (253, 35113), (255, 35134), (256, 35179), (262, 35290), (268, 35326), (270, 35374), (273, 35443), (275, 35488), (276, 35491), (278, 35533), (279, 35539), (280, 35548), (281, 35551), (284, 35596), (290, 35773), (294, 35812), (300, 35902), (302, 35953), (304, 35989), (306, 36004), (307, 36028), (308, 36037), (310, 36118), (311, 36121), (312, 36124), (314, 36172),

Gene: Grumio_56 Start: 30450, Stop: 35642, Start Num: 1
Candidate Starts for Grumio_56:
(Start: 1 @30450 has 8 MA's), (2, 30570), (8, 30702), (16, 30909), (18, 30939), (27, 31134), (28, 31155), (30, 31176), (34, 31287), (35, 31302), (36, 31314), (38, 31344), (42, 31458), (43, 31470), (48, 31518), (50, 31551), (52, 31563), (54, 31638), (55, 31650), (57, 31674), (59, 31698), (63, 31767), (68, 31836), (70, 31905), (73, 31929), (74, 31938), (77, 31974), (79, 31995), (81, 32001), (83, 32031), (86, 32061), (92, 32175), (95, 32205), (96, 32208), (106, 32328), (112, 32532), (115, 32607), (121, 32673), (124, 32697), (127, 32742), (133, 32805), (138, 32859), (143, 32928), (146, 32976), (148, 32991), (150, 33018), (151, 33027), (152, 33051), (156, 33090), (161, 33138), (172, 33321), (173, 33333), (176, 33381), (177, 33420), (182, 33531), (184, 33567), (188, 33651), (189, 33669), (192, 33702), (193, 33720), (194, 33756), (195, 33765), (196, 33768), (197, 33789), (200, 33810), (201, 33825), (204, 33837), (206, 33846), (215, 33945), (216, 33966), (217, 33984), (218, 33990), (219, 34002), (220, 34029), (225, 34095), (228, 34140), (229, 34185), (230, 34197), (233, 34224), (234, 34281), (238, 34308), (239, 34320), (245, 34407), (247, 34425), (248, 34446), (253, 34551), (255, 34572), (256, 34617), (262, 34728), (268, 34764), (270, 34812), (273, 34881), (275, 34926), (276, 34929), (278, 34971), (279, 34977), (280, 34986), (281, 34989), (284, 35034), (290, 35211), (294, 35250), (300, 35340), (302, 35391), (304, 35427), (306, 35442), (307, 35466), (308, 35475), (310, 35559), (311, 35562), (312, 35565), (314, 35613),

Gene: Jollymon_56 Start: 30971, Stop: 36160, Start Num: 1
Candidate Starts for Jollymon_56:
(Start: 1 @30971 has 8 MA's), (2, 31091), (8, 31223), (16, 31430), (18, 31460), (27, 31655), (28, 31676), (30, 31697), (34, 31808), (35, 31823), (36, 31835), (38, 31865), (42, 31979), (43, 31991), (48, 32039), (50, 32072), (52, 32084), (54, 32159), (55, 32171), (57, 32195), (59, 32219), (60, 32231), (63, 32288), (68, 32357), (70, 32426), (73, 32450), (74, 32459), (77, 32495), (79, 32516), (81, 32522), (83, 32552), (86, 32582), (92, 32696), (95, 32726), (96, 32729), (106, 32849), (112, 33053), (115, 33128), (121, 33194), (127, 33263), (133, 33326), (138, 33380), (143, 33449), (146, 33497), (148, 33512), (150, 33539), (151, 33548), (152, 33572), (156, 33611), (161, 33659), (172, 33842), (173, 33854), (176, 33902), (177, 33941), (182, 34052), (184, 34088), (188, 34172), (189, 34190), (192, 34223), (193, 34241), (194, 34277), (195, 34286), (196, 34289), (197, 34310), (200, 34331), (201, 34346), (204, 34358), (206, 34367), (215, 34466), (216, 34487), (217, 34505), (218, 34511), (219, 34523), (220, 34550), (225, 34616), (228, 34661), (229, 34706), (233, 34745), (234, 34802), (238, 34829), (239, 34841), (245, 34928), (247, 34946), (248, 34967), (253, 35072), (255, 35093), (256, 35138), (262, 35249), (268, 35285), (270, 35333), (273, 35402), (275, 35447), (276, 35450), (278, 35492), (279, 35498), (280, 35507), (281, 35510), (284, 35555), (290, 35732), (294, 35771), (300, 35861), (302, 35912), (304, 35948), (306, 35963), (307, 35987), (308, 35996), (310, 36077), (311, 36080), (312, 36083), (314, 36131),

Gene: KingstonB_54 Start: 30450, Stop: 35639, Start Num: 1
Candidate Starts for KingstonB_54:
(Start: 1 @30450 has 8 MA's), (2, 30570), (8, 30702), (13, 30768), (25, 31095), (27, 31134), (28, 31155), (30, 31176), (34, 31287), (35, 31302), (36, 31314), (38, 31344), (42, 31458), (43, 31470), (48, 31518), (50, 31551), (52, 31563), (54, 31638), (55, 31650), (57, 31674), (59, 31698), (60, 31710), (63, 31767), (68, 31836), (70, 31905), (73, 31929), (74, 31938), (77, 31974), (79, 31995), (81, 32001), (83, 32031), (86, 32061), (92, 32175), (95, 32205), (96, 32208), (112, 32532), (115, 32607), (121, 32673),

(127, 32742), (133, 32805), (138, 32859), (143, 32928), (146, 32976), (148, 32991), (150, 33018), (151, 33027), (152, 33051), (156, 33090), (161, 33138), (172, 33321), (173, 33333), (176, 33381), (177, 33420), (182, 33531), (184, 33567), (188, 33651), (189, 33669), (192, 33702), (193, 33720), (194, 33756), (195, 33765), (196, 33768), (197, 33789), (200, 33810), (201, 33825), (204, 33837), (206, 33846), (215, 33945), (216, 33966), (217, 33984), (218, 33990), (219, 34002), (220, 34029), (225, 34095), (228, 34140), (229, 34185), (233, 34224), (234, 34281), (238, 34308), (239, 34320), (245, 34407), (247, 34425), (248, 34446), (253, 34551), (255, 34572), (256, 34617), (262, 34728), (268, 34764), (270, 34812), (273, 34881), (275, 34926), (276, 34929), (278, 34971), (279, 34977), (280, 34986), (281, 34989), (284, 35034), (290, 35211), (294, 35250), (300, 35340), (302, 35391), (304, 35427), (306, 35442), (307, 35466), (308, 35475), (310, 35556), (311, 35559), (312, 35562), (314, 35610),

Gene: Makar_57 Start: 30799, Stop: 35982, Start Num: 1
Candidate Starts for Makar_57:
(Start: 1 @30799 has 8 MA's), (2, 30919), (3, 30931), (8, 31051), (10, 31063), (19, 31321), (21, 31378), (27, 31483), (28, 31504), (30, 31525), (32, 31606), (35, 31651), (36, 31663), (38, 31693), (42, 31807), (43, 31819), (44, 31831), (48, 31867), (50, 31900), (52, 31912), (53, 31966), (54, 31987), (55, 31999), (57, 32023), (58, 32032), (59, 32047), (63, 32116), (70, 32254), (75, 32302), (76, 32320), (77, 32323), (79, 32344), (82, 32362), (83, 32380), (86, 32410), (92, 32524), (97, 32560), (98, 32575), (105, 32638), (107, 32668), (110, 32761), (113, 32881), (114, 32914), (126, 33046), (127, 33067), (128, 33070), (129, 33097), (131, 33121), (137, 33184), (141, 33217), (151, 33358), (155, 33415), (156, 33427), (158, 33436), (162, 33475), (167, 33556), (168, 33574), (169, 33598), (175, 33718), (184, 33907), (186, 33973), (187, 33988), (190, 34027), (191, 34030), (192, 34042), (193, 34060), (194, 34096), (196, 34108), (197, 34129), (201, 34165), (203, 34174), (206, 34186), (216, 34306), (217, 34324), (218, 34330), (219, 34342), (220, 34369), (223, 34408), (225, 34435), (228, 34480), (229, 34525), (230, 34537), (234, 34621), (238, 34648), (239, 34660), (242, 34696), (245, 34747), (247, 34765), (248, 34786), (251, 34846), (253, 34891), (254, 34903), (258, 34963), (262, 35068), (268, 35107), (270, 35155), (273, 35224), (275, 35269), (276, 35272), (278, 35314), (279, 35320), (280, 35329), (281, 35332), (284, 35377), (287, 35440), (290, 35554), (294, 35593), (295, 35608), (300, 35683), (301, 35695), (302, 35734), (304, 35770), (307, 35809), (308, 35818), (310, 35899), (311, 35902),

Gene: Purplicious_55 Start: 30218, Stop: 35407, Start Num: 1
Candidate Starts for Purplicious_55:
(Start: 1 @30218 has 8 MA's), (2, 30338), (8, 30470), (16, 30677), (18, 30707), (27, 30902), (28, 30923), (30, 30944), (34, 31055), (35, 31070), (36, 31082), (38, 31112), (42, 31226), (43, 31238), (48, 31286), (50, 31319), (52, 31331), (54, 31406), (55, 31418), (57, 31442), (59, 31466), (60, 31478), (63, 31535), (68, 31604), (70, 31673), (73, 31697), (74, 31706), (77, 31742), (79, 31763), (81, 31769), (83, 31799), (86, 31829), (92, 31943), (95, 31973), (96, 31976), (106, 32096), (112, 32300), (115, 32375), (121, 32441), (124, 32465), (127, 32510), (133, 32573), (138, 32627), (143, 32696), (146, 32744), (148, 32759), (150, 32786), (151, 32795), (152, 32819), (156, 32858), (161, 32906), (172, 33089), (173, 33101), (176, 33149), (177, 33188), (182, 33299), (184, 33335), (188, 33419), (189, 33437), (192, 33470), (193, 33488), (194, 33524), (195, 33533), (196, 33536), (197, 33557), (200, 33578), (201, 33593), (204, 33605), (206, 33614), (215, 33713), (216, 33734), (217, 33752), (218, 33758), (219, 33770), (220, 33797), (225, 33863), (228, 33908), (229, 33953), (233, 33992), (234, 34049), (238, 34076), (239, 34088), (245, 34175), (247, 34193), (248, 34214), (253, 34319), (255, 34340), (256, 34385), (262, 34496), (268, 34532), (270, 34580), (273, 34649), (275, 34694), (276, 34697), (278, 34739), (279, 34745), (280, 34754), (281, 34757), (284, 34802), (290, 34979), (294, 35018), (300, 35108), (302, 35159), (304, 35195), (306, 35210), (307, 35234), (308, 35243), (310, 35324), (311, 35327), (312, 35330), (314, 35378),

Gene: Soos_52 Start: 30179, Stop: 35368, Start Num: 1
Candidate Starts for Soos_52:

(Start: 1 @30179 has 8 MA's), (2, 30299), (8, 30431), (13, 30497), (20, 30746), (25, 30824), (27, 30863), (28, 30884), (30, 30905), (34, 31016), (35, 31031), (36, 31043), (38, 31073), (42, 31187), (43, 31199), (48, 31247), (50, 31280), (52, 31292), (54, 31367), (55, 31379), (57, 31403), (59, 31427), (60, 31439), (63, 31496), (68, 31565), (70, 31634), (73, 31658), (74, 31667), (77, 31703), (79, 31724), (81, 31730), (83, 31760), (86, 31790), (92, 31904), (95, 31934), (96, 31937), (112, 32261), (115, 32336), (121, 32402), (127, 32471), (133, 32534), (138, 32588), (143, 32657), (146, 32705), (148, 32720), (150, 32747), (151, 32756), (152, 32780), (156, 32819), (161, 32867), (172, 33050), (173, 33062), (176, 33110), (177, 33149), (182, 33260), (184, 33296), (188, 33380), (189, 33398), (192, 33431), (193, 33449), (194, 33485), (195, 33494), (196, 33497), (197, 33518), (200, 33539), (201, 33554), (204, 33566), (206, 33575), (215, 33674), (216, 33695), (217, 33713), (218, 33719), (219, 33731), (220, 33758), (225, 33824), (228, 33869), (229, 33914), (233, 33953), (234, 34010), (238, 34037), (239, 34049), (245, 34136), (247, 34154), (248, 34175), (253, 34280), (255, 34301), (256, 34346), (262, 34457), (268, 34493), (270, 34541), (273, 34610), (275, 34655), (276, 34658), (278, 34700), (279, 34706), (280, 34715), (281, 34718), (284, 34763), (290, 34940), (294, 34979), (300, 35069), (302, 35120), (304, 35156), (306, 35171), (307, 35195), (308, 35204), (310, 35285), (311, 35288), (312, 35291), (314, 35339),

Gene: Stillion_55 Start: 30776, Stop: 35965, Start Num: 1
Candidate Starts for Stillion_55:
(Start: 1 @30776 has 8 MA's), (2, 30896), (8, 31028), (13, 31094), (20, 31343), (25, 31421), (27, 31460), (28, 31481), (30, 31502), (34, 31613), (35, 31628), (36, 31640), (38, 31670), (42, 31784), (43, 31796), (48, 31844), (50, 31877), (52, 31889), (54, 31964), (55, 31976), (57, 32000), (59, 32024), (60, 32036), (63, 32093), (68, 32162), (70, 32231), (73, 32255), (74, 32264), (77, 32300), (79, 32321), (81, 32327), (83, 32357), (86, 32387), (92, 32501), (95, 32531), (96, 32534), (107, 32657), (112, 32858), (115, 32933), (121, 32999), (127, 33068), (133, 33131), (138, 33185), (143, 33254), (146, 33302), (148, 33317), (150, 33344), (151, 33353), (152, 33377), (156, 33416), (161, 33464), (172, 33647), (173, 33659), (176, 33707), (177, 33746), (182, 33857), (184, 33893), (188, 33977), (189, 33995), (192, 34028), (193, 34046), (194, 34082), (195, 34091), (196, 34094), (197, 34115), (200, 34136), (201, 34151), (204, 34163), (206, 34172), (215, 34271), (216, 34292), (217, 34310), (218, 34316), (219, 34328), (220, 34355), (225, 34421), (228, 34466), (229, 34511), (233, 34550), (234, 34607), (238, 34634), (239, 34646), (245, 34733), (247, 34751), (248, 34772), (253, 34877), (255, 34898), (256, 34943), (262, 35054), (268, 35090), (270, 35138), (273, 35207), (275, 35252), (276, 35255), (278, 35297), (279, 35303), (280, 35312), (281, 35315), (284, 35360), (290, 35537), (294, 35576), (300, 35666), (302, 35717), (304, 35753), (306, 35768), (307, 35792), (308, 35801), (310, 35882), (311, 35885), (312, 35888), (314, 35936),

Gene: Sting_55 Start: 30618, Stop: 35807, Start Num: 1
Candidate Starts for Sting_55:
(Start: 1 @30618 has 8 MA's), (2, 30738), (8, 30870), (13, 30936), (20, 31185), (25, 31263), (27, 31302), (28, 31323), (30, 31344), (34, 31455), (35, 31470), (36, 31482), (38, 31512), (39, 31566), (42, 31626), (43, 31638), (48, 31686), (50, 31719), (52, 31731), (54, 31806), (55, 31818), (57, 31842), (59, 31866), (60, 31878), (63, 31935), (68, 32004), (70, 32073), (73, 32097), (74, 32106), (77, 32142), (79, 32163), (81, 32169), (83, 32199), (86, 32229), (92, 32343), (95, 32373), (96, 32376), (107, 32499), (112, 32700), (115, 32775), (121, 32841), (127, 32910), (133, 32973), (138, 33027), (143, 33096), (146, 33144), (148, 33159), (150, 33186), (151, 33195), (152, 33219), (156, 33258), (161, 33306), (172, 33489), (173, 33501), (176, 33549), (177, 33588), (182, 33699), (184, 33735), (188, 33819), (189, 33837), (192, 33870), (193, 33888), (194, 33924), (195, 33933), (196, 33936), (197, 33957), (200, 33978), (201, 33993), (204, 34005), (206, 34014), (215, 34113), (216, 34134), (217, 34152), (218, 34158), (219, 34170), (220, 34197), (225, 34263), (228, 34308), (229, 34353), (233, 34392), (234, 34449), (238, 34476), (239, 34488), (245, 34575), (247, 34593), (248, 34614), (253, 34719), (255, 34740), (256, 34785), (262, 34896), (268, 34932), (270, 34980), (273, 35049), (275, 35094), (276, 35097), (278, 35139), (279, 35145), (280, 35154), (281, 35157), (284, 35202), (290, 35379), (294, 35418), (300, 35508), (302, 35559), (304, 35595), (306, 35610), (307, 35634), (308, 35643),

(310, 35724), (311, 35727), (312, 35730), (314, 35778),

Gene: Tonitrus_43 Start: 28674, Stop: 33584, Start Num: 1
Candidate Starts for Tonitrus_43:
(Start: 1 @28674 has 8 MA's), (3, 28806), (5, 28839), (6, 28893), (7, 28917), (11, 28938), (14, 29022), (17, 29127), (22, 29214), (23, 29223), (26, 29286), (30, 29337), (31, 29376), (37, 29487), (40, 29535), (41, 29571), (45, 29616), (47, 29631), (49, 29652), (51, 29673), (56, 29772), (62, 29859), (63, 29880), (64, 29895), (66, 29937), (72, 30048), (75, 30075), (78, 30105), (85, 30174), (89, 30207), (90, 30261), (93, 30312), (94, 30318), (99, 30354), (102, 30402), (103, 30405), (108, 30459), (109, 30525), (111, 30621), (113, 30660), (115, 30711), (116, 30723), (119, 30765), (120, 30771), (123, 30798), (125, 30807), (133, 30912), (136, 30957), (139, 30978), (140, 30990), (143, 31035), (145, 31047), (149, 31113), (154, 31179), (160, 31218), (163, 31254), (166, 31311), (170, 31371), (171, 31413), (172, 31428), (173, 31440), (174, 31461), (178, 31539), (183, 31644), (188, 31722), (191, 31758), (194, 31824), (196, 31836), (197, 31857), (199, 31872), (200, 31878), (208, 31926), (209, 31935), (211, 31959), (213, 31989), (216, 32034), (218, 32058), (219, 32070), (220, 32097), (222, 32109), (224, 32139), (227, 32172), (231, 32244), (232, 32247), (234, 32316), (241, 32373), (244, 32397), (250, 32493), (255, 32592), (257, 32628), (261, 32727), (264, 32736), (266, 32748), (267, 32757), (271, 32841), (272, 32853), (274, 32865), (277, 32928), (279, 32952), (280, 32961), (283, 32979), (284, 33006), (285, 33051), (286, 33060), (287, 33069), (288, 33102), (290, 33180), (291, 33183), (292, 33201), (301, 33321), (302, 33360), (303, 33375), (305, 33393), (311, 33504), (312, 33507), (314, 33555),