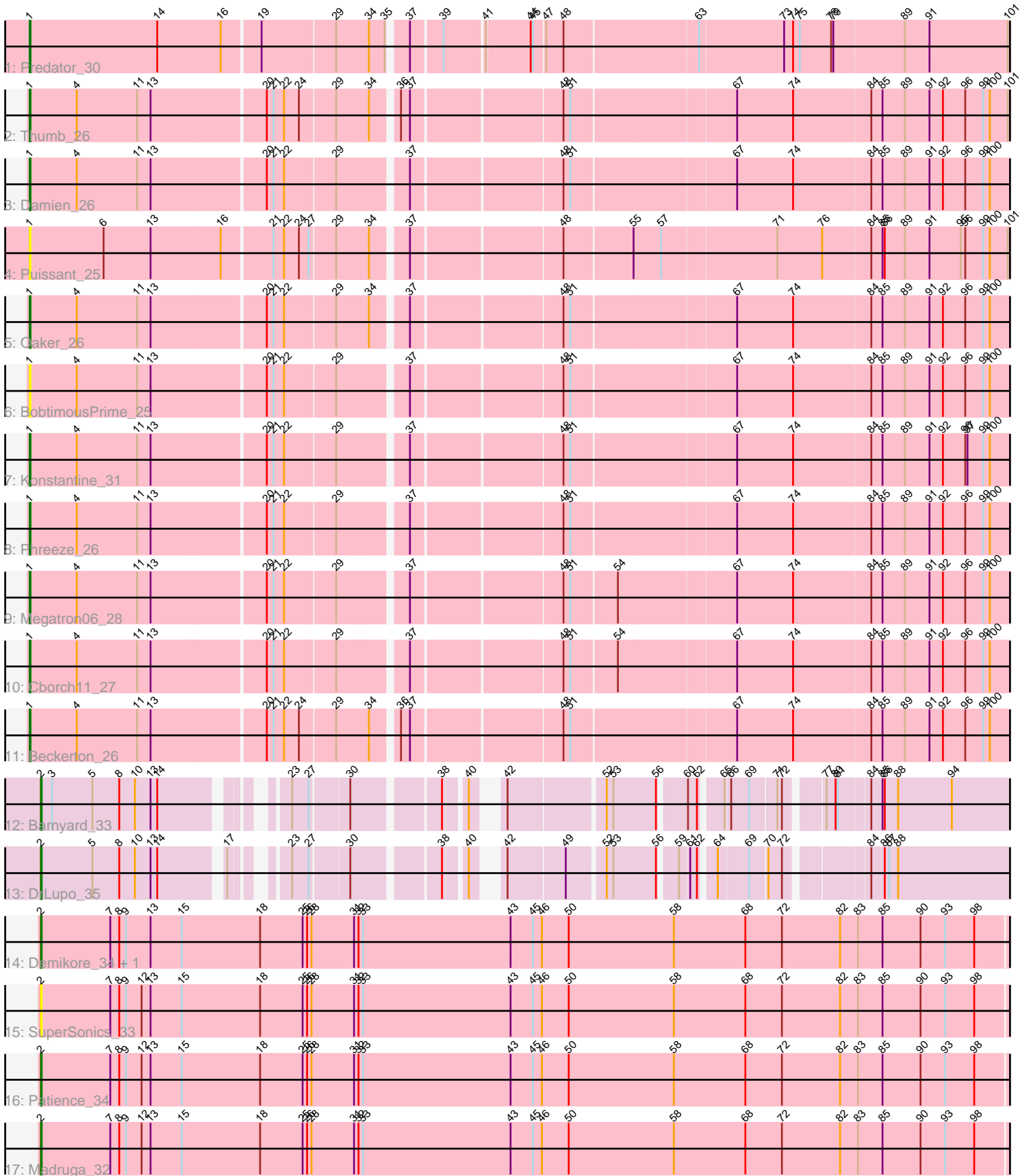


Zoomed Pham 295151



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 295151 Report

This analysis was run 04/18/26 on database version 643.

Pham number 295151 has 18 members, 4 are drafts.

Phages represented in each track:

- Track 1 : Predator_30
- Track 2 : Thumb_26
- Track 3 : Damien_26
- Track 4 : Puissant_25
- Track 5 : Oaker_26
- Track 6 : BobtimousPrime_25
- Track 7 : Konstantine_31
- Track 8 : Phreeze_26
- Track 9 : Megatron06_28
- Track 10 : Cborch11_27
- Track 11 : Beckerton_26
- Track 12 : Barnyard_33
- Track 13 : DrLupo_35
- Track 14 : Demikore_34, Labelle_33
- Track 15 : SuperSonics_33
- Track 16 : Patience_34
- Track 17 : Madruga_32

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 9 of the 14 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Beckerton_26, BobtimousPrime_25, Cborch11_27, Damien_26, Konstantine_31, Megatron06_28, Oaker_26, Phreeze_26, Predator_30, Puissant_25, Thumb_26,

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

-

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

- Barnyard_33, Demikore_34, DrLupo_35, Labelle_33, Madruga_32, Patience_34, SuperSonics_33,

Summary by start number:

Start 1:

- Found in 11 of 18 (61.1%) of genes in pham
- Manual Annotations of this start: 9 of 14
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beckerton_26 (H1), BobtimousPrime_25 (H1), Cborch11_27 (H1), Damien_26 (H1), Konstantine_31 (H1), Megatron06_28 (H1), Oaker_26 (H1), Phreeze_26 (H1), Predator_30 (H1), Puissant_25 (H1), Thumb_26 (H1),

Start 2:

- Found in 7 of 18 (38.9%) of genes in pham
- Manual Annotations of this start: 5 of 14
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard_33 (H2), Demikore_34 (U), DrLupo_35 (H2), Labelle_33 (U), Madruga_32 (U), Patience_34 (U), SuperSonics_33 (U),

Summary by clusters:

There are 3 clusters represented in this pham: H2, H1, U,

Info for manual annotations of cluster H1:

- Start number 1 was manually annotated 9 times for cluster H1.

Info for manual annotations of cluster H2:

- Start number 2 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster U:

- Start number 2 was manually annotated 3 times for cluster U.

Gene Information:

Gene: Barnyard_33 Start: 18111, Stop: 24254, Start Num: 2

Candidate Starts for Barnyard_33:

(Start: 2 @18111 has 5 MA's), (3, 18126), (5, 18180), (8, 18216), (10, 18237), (13, 18258), (14, 18267), (23, 18384), (27, 18405), (30, 18453), (38, 18555), (40, 18579), (42, 18600), (52, 18714), (53, 18723), (56, 18777), (60, 18807), (62, 18819), (65, 18843), (66, 18849), (69, 18870), (71, 18903), (72, 18909), (77, 18951), (80, 18963), (81, 18966), (84, 19005), (85, 19020), (86, 19023), (88, 19041), (94, 19113), (102, 19203), (103, 19206), (112, 19299), (113, 19302), (114, 19335), (115, 19356), (119, 19383), (121, 19389), (126, 19461), (129, 19491), (132, 19536), (134, 19551), (138, 19590), (141, 19653), (142, 19662), (144, 19692), (145, 19707), (146, 19743), (147, 19773), (148, 19794), (150, 19839), (152, 19863), (153, 19872), (154, 19887), (156, 19905), (157, 19908), (162, 19989), (163, 19995), (166, 20016), (170, 20076), (181, 20253), (189, 20328), (193, 20448), (194, 20463), (196, 20487), (197, 20496), (198, 20499), (200, 20550), (202, 20646), (207, 20814), (208, 20823), (209, 20844), (217, 20976), (222, 21150), (224, 21174), (225, 21210), (226, 21222), (227, 21234), (228, 21276), (229, 21285), (233, 21366), (236, 21387), (238, 21423), (239, 21429), (241, 21447), (245, 21549), (249, 21630), (250, 21681), (251, 21711), (252, 21804), (253, 21843), (257, 21984), (259, 22005), (264, 22095), (265, 22107), (268, 22188), (274, 22275), (275, 22302), (276, 22341), (279, 22359), (285, 22413), (287, 22425), (290, 22566), (291, 22614), (293, 22638), (295, 22728), (299, 22830),

(306, 22944), (308, 22956), (310, 22989), (314, 23043), (315, 23073), (321, 23172), (322, 23184), (323, 23232), (329, 23337), (332, 23367), (333, 23388), (336, 23487), (342, 23565), (344, 23586), (345, 23592), (347, 23604), (349, 23637), (350, 23688), (351, 23697), (353, 23733), (354, 23739), (361, 23823), (362, 23826), (364, 23880), (365, 23889), (367, 23901), (369, 23922), (370, 23931), (371, 23988), (373, 24036), (374, 24057), (376, 24078), (379, 24114), (381, 24153), (384, 24204), (385, 24207), (386, 24216),

Gene: Beckerton_26 Start: 16772, Stop: 23095, Start Num: 1

Candidate Starts for Beckerton_26:

(Start: 1 @16772 has 9 MA's), (4, 16835), (11, 16916), (13, 16934), (20, 17081), (21, 17090), (22, 17102), (24, 17120), (29, 17165), (34, 17207), (36, 17237), (37, 17249), (48, 17435), (51, 17444), (67, 17654), (74, 17729), (84, 17831), (85, 17846), (89, 17876), (91, 17909), (92, 17927), (96, 17957), (99, 17981), (100, 17990), (105, 18053), (107, 18074), (108, 18080), (110, 18104), (120, 18215), (122, 18233), (123, 18254), (125, 18281), (135, 18389), (141, 18482), (142, 18491), (145, 18536), (148, 18623), (152, 18692), (166, 18845), (172, 18932), (180, 19079), (183, 19121), (184, 19130), (186, 19142), (188, 19151), (202, 19475), (204, 19532), (207, 19643), (212, 19718), (218, 19808), (226, 20051), (230, 20135), (231, 20147), (240, 20267), (242, 20327), (245, 20375), (246, 20396), (249, 20456), (251, 20537), (254, 20687), (259, 20846), (260, 20867), (261, 20912), (267, 20966), (270, 21074), (277, 21170), (278, 21179), (282, 21209), (283, 21212), (294, 21527), (313, 21800), (314, 21809), (318, 21884), (319, 21917), (320, 21929), (321, 21938), (325, 22061), (330, 22181), (335, 22265), (338, 22331), (341, 22376), (343, 22403), (354, 22565), (355, 22568), (357, 22607), (358, 22619), (359, 22628), (371, 22835), (378, 22949), (381, 22994), (384, 23045), (385, 23048), (386, 23057), (387, 23072),

Gene: BobtimousPrime_25 Start: 16692, Stop: 23015, Start Num: 1

Candidate Starts for BobtimousPrime_25:

(Start: 1 @16692 has 9 MA's), (4, 16755), (11, 16836), (13, 16854), (20, 17001), (21, 17010), (22, 17022), (29, 17085), (37, 17169), (48, 17355), (51, 17364), (67, 17574), (74, 17649), (84, 17751), (85, 17766), (89, 17796), (91, 17829), (92, 17847), (96, 17877), (99, 17901), (100, 17910), (105, 17973), (107, 17994), (108, 18000), (110, 18024), (120, 18135), (122, 18153), (123, 18174), (125, 18201), (135, 18309), (141, 18402), (142, 18411), (145, 18456), (148, 18543), (152, 18612), (164, 18750), (166, 18765), (172, 18852), (180, 18999), (182, 19029), (183, 19041), (184, 19050), (186, 19062), (188, 19071), (202, 19395), (204, 19452), (207, 19563), (212, 19638), (218, 19728), (226, 19971), (230, 20055), (231, 20067), (240, 20187), (242, 20247), (245, 20295), (246, 20316), (249, 20376), (251, 20457), (254, 20607), (259, 20766), (260, 20787), (261, 20832), (267, 20886), (270, 20994), (277, 21090), (278, 21099), (282, 21129), (283, 21132), (294, 21447), (313, 21720), (314, 21729), (316, 21786), (318, 21804), (319, 21837), (320, 21849), (321, 21858), (325, 21981), (330, 22101), (335, 22185), (338, 22251), (341, 22296), (343, 22323), (354, 22485), (355, 22488), (357, 22527), (358, 22539), (359, 22548), (371, 22755), (378, 22869), (381, 22914), (384, 22965), (385, 22968), (386, 22977), (387, 22992),

Gene: Cborch11_27 Start: 16234, Stop: 22557, Start Num: 1

Candidate Starts for Cborch11_27:

(Start: 1 @16234 has 9 MA's), (4, 16297), (11, 16378), (13, 16396), (20, 16543), (21, 16552), (22, 16564), (29, 16627), (37, 16711), (48, 16897), (51, 16906), (54, 16963), (67, 17116), (74, 17191), (84, 17293), (85, 17308), (89, 17338), (91, 17371), (92, 17389), (96, 17419), (99, 17443), (100, 17452), (105, 17515), (107, 17536), (108, 17542), (110, 17566), (120, 17677), (122, 17695), (123, 17716), (125, 17743), (135, 17851), (141, 17944), (142, 17953), (145, 17998), (148, 18085), (152, 18154), (166, 18307), (172, 18394), (180, 18541), (183, 18583), (184, 18592), (186, 18604), (188, 18613), (202, 18937), (204, 18994), (207, 19105), (212, 19180), (218, 19270), (226, 19513), (231, 19609), (240, 19729), (242, 19789), (245, 19837), (246, 19858), (249, 19918), (251, 19999), (254, 20149), (259, 20308), (260, 20329), (261, 20374), (267, 20428), (270, 20536), (277, 20632), (278, 20641), (282, 20671), (283, 20674), (294, 20989), (313, 21262), (314, 21271), (318, 21346), (319, 21379),

(320, 21391), (321, 21400), (325, 21523), (330, 21643), (335, 21727), (338, 21793), (341, 21838), (343, 21865), (354, 22027), (355, 22030), (357, 22069), (358, 22081), (359, 22090), (371, 22297), (378, 22411), (381, 22456), (384, 22507), (385, 22510), (386, 22519), (387, 22534),

Gene: Damien_26 Start: 16235, Stop: 22558, Start Num: 1

Candidate Starts for Damien_26:

(Start: 1 @16235 has 9 MA's), (4, 16298), (11, 16379), (13, 16397), (20, 16544), (21, 16553), (22, 16565), (29, 16628), (37, 16712), (48, 16898), (51, 16907), (67, 17117), (74, 17192), (84, 17294), (85, 17309), (89, 17339), (91, 17372), (92, 17390), (96, 17420), (99, 17444), (100, 17453), (105, 17516), (107, 17537), (108, 17543), (110, 17567), (120, 17678), (122, 17696), (123, 17717), (125, 17744), (135, 17852), (141, 17945), (142, 17954), (145, 17999), (148, 18086), (152, 18155), (164, 18293), (166, 18308), (172, 18395), (180, 18542), (183, 18584), (184, 18593), (186, 18605), (188, 18614), (202, 18938), (204, 18995), (207, 19106), (212, 19181), (218, 19271), (226, 19514), (230, 19598), (231, 19610), (240, 19730), (242, 19790), (245, 19838), (246, 19859), (249, 19919), (251, 20000), (254, 20150), (259, 20309), (260, 20330), (261, 20375), (267, 20429), (270, 20537), (277, 20633), (278, 20642), (282, 20672), (283, 20675), (294, 20990), (313, 21263), (314, 21272), (318, 21347), (319, 21380), (320, 21392), (321, 21401), (325, 21524), (330, 21644), (335, 21728), (338, 21794), (341, 21839), (343, 21866), (354, 22028), (355, 22031), (357, 22070), (358, 22082), (359, 22091), (371, 22298), (378, 22412), (381, 22457), (384, 22508), (385, 22511), (386, 22520), (387, 22535),

Gene: Demikore_34 Start: 19565, Stop: 26212, Start Num: 2

Candidate Starts for Demikore_34:

(Start: 2 @19565 has 5 MA's), (7, 19658), (8, 19670), (9, 19679), (13, 19712), (15, 19754), (18, 19859), (25, 19916), (26, 19922), (28, 19928), (31, 19985), (32, 19991), (33, 19997), (43, 20195), (45, 20225), (46, 20237), (50, 20273), (58, 20414), (68, 20510), (72, 20558), (82, 20636), (83, 20660), (85, 20693), (90, 20744), (93, 20777), (98, 20816), (106, 20906), (110, 20945), (111, 20957), (114, 21005), (117, 21038), (124, 21104), (130, 21173), (131, 21197), (133, 21215), (136, 21239), (140, 21320), (142, 21332), (148, 21467), (149, 21476), (154, 21560), (159, 21602), (165, 21680), (169, 21725), (177, 21881), (179, 21902), (180, 21944), (185, 22007), (193, 22163), (195, 22190), (197, 22211), (198, 22214), (199, 22253), (200, 22265), (203, 22400), (205, 22457), (210, 22583), (213, 22625), (214, 22676), (220, 22760), (225, 22931), (226, 22943), (232, 23051), (234, 23105), (236, 23117), (243, 23255), (255, 23618), (258, 23753), (262, 23837), (281, 24167), (284, 24200), (286, 24209), (302, 24719), (304, 24746), (309, 24794), (312, 24851), (317, 24950), (324, 25136), (334, 25322), (346, 25532), (354, 25673), (356, 25703), (363, 25805), (365, 25844), (368, 25859), (373, 25991), (375, 26015), (377, 26039), (380, 26099), (382, 26117), (383, 26150), (384, 26162), (385, 26165), (387, 26189),

Gene: DrLupo_35 Start: 18517, Stop: 24654, Start Num: 2

Candidate Starts for DrLupo_35:

(Start: 2 @18517 has 5 MA's), (5, 18586), (8, 18622), (10, 18643), (13, 18664), (14, 18673), (17, 18748), (23, 18790), (27, 18811), (30, 18859), (38, 18961), (40, 18985), (42, 19006), (49, 19078), (52, 19120), (53, 19129), (56, 19183), (59, 19204), (61, 19216), (62, 19225), (64, 19240), (69, 19276), (70, 19297), (72, 19315), (84, 19411), (86, 19429), (87, 19435), (88, 19447), (102, 19609), (103, 19612), (105, 19630), (112, 19705), (113, 19708), (117, 19774), (121, 19795), (128, 19882), (132, 19942), (133, 19951), (136, 19975), (137, 19984), (141, 20059), (142, 20068), (144, 20098), (145, 20113), (146, 20149), (147, 20179), (148, 20200), (151, 20248), (153, 20278), (158, 20323), (160, 20365), (162, 20395), (163, 20401), (170, 20482), (171, 20488), (174, 20530), (178, 20605), (185, 20713), (189, 20734), (190, 20740), (192, 20782), (193, 20854), (194, 20869), (196, 20893), (197, 20902), (198, 20905), (202, 21052), (206, 21178), (207, 21220), (208, 21229), (209, 21250), (211, 21289), (215, 21367), (216, 21376), (222, 21556), (224, 21580), (225, 21616), (226, 21628), (227, 21640), (229, 21691), (235, 21787), (236, 21793), (244, 21925), (245, 21955), (247, 21997), (248, 22030), (251, 22117), (259, 22411), (261, 22477), (266, 22522), (271, 22642), (272, 22657), (280, 22762), (282, 22780), (285, 22813), (290, 22966), (293, 23038), (296, 23167), (301, 23272), (307, 23347),

(308, 23356), (310, 23389), (311, 23401), (313, 23434), (314, 23443), (315, 23473), (319, 23551), (321, 23572), (322, 23584), (332, 23767), (339, 23917), (340, 23926), (342, 23965), (348, 24007), (349, 24037), (350, 24088), (351, 24097), (353, 24133), (354, 24139), (361, 24223), (365, 24289), (366, 24292), (367, 24301), (369, 24322), (371, 24388), (372, 24412), (373, 24436), (374, 24457), (376, 24478), (379, 24514), (382, 24559), (384, 24604), (385, 24607), (386, 24616),

Gene: Konstantine_31 Start: 17436, Stop: 23759, Start Num: 1

Candidate Starts for Konstantine_31:

(Start: 1 @17436 has 9 MA's), (4, 17499), (11, 17580), (13, 17598), (20, 17745), (21, 17754), (22, 17766), (29, 17829), (37, 17913), (48, 18099), (51, 18108), (67, 18318), (74, 18393), (84, 18495), (85, 18510), (89, 18540), (91, 18573), (92, 18591), (96, 18621), (97, 18624), (99, 18645), (100, 18654), (105, 18717), (107, 18738), (108, 18744), (110, 18768), (120, 18879), (122, 18897), (123, 18918), (125, 18945), (135, 19053), (141, 19146), (142, 19155), (145, 19200), (148, 19287), (152, 19356), (164, 19494), (166, 19509), (172, 19596), (180, 19743), (183, 19785), (184, 19794), (186, 19806), (188, 19815), (202, 20139), (204, 20196), (207, 20307), (212, 20382), (218, 20472), (226, 20715), (231, 20811), (240, 20931), (242, 20991), (245, 21039), (246, 21060), (249, 21120), (251, 21201), (254, 21351), (259, 21510), (260, 21531), (261, 21576), (267, 21630), (270, 21738), (277, 21834), (278, 21843), (282, 21873), (283, 21876), (294, 22191), (313, 22464), (314, 22473), (318, 22548), (319, 22581), (320, 22593), (321, 22602), (325, 22725), (330, 22845), (335, 22929), (338, 22995), (341, 23040), (343, 23067), (354, 23229), (355, 23232), (357, 23271), (358, 23283), (359, 23292), (371, 23499), (378, 23613), (381, 23658), (384, 23709), (385, 23712), (386, 23721), (387, 23736),

Gene: Labelle_33 Start: 19567, Stop: 26214, Start Num: 2

Candidate Starts for Labelle_33:

(Start: 2 @19567 has 5 MA's), (7, 19660), (8, 19672), (9, 19681), (13, 19714), (15, 19756), (18, 19861), (25, 19918), (26, 19924), (28, 19930), (31, 19987), (32, 19993), (33, 19999), (43, 20197), (45, 20227), (46, 20239), (50, 20275), (58, 20416), (68, 20512), (72, 20560), (82, 20638), (83, 20662), (85, 20695), (90, 20746), (93, 20779), (98, 20818), (106, 20908), (110, 20947), (111, 20959), (114, 21007), (117, 21040), (124, 21106), (130, 21175), (131, 21199), (133, 21217), (136, 21241), (140, 21322), (142, 21334), (148, 21469), (149, 21478), (154, 21562), (159, 21604), (165, 21682), (169, 21727), (177, 21883), (179, 21904), (180, 21946), (185, 22009), (193, 22165), (195, 22192), (197, 22213), (198, 22216), (199, 22255), (200, 22267), (203, 22402), (205, 22459), (210, 22585), (213, 22627), (214, 22678), (220, 22762), (225, 22933), (226, 22945), (232, 23053), (234, 23107), (236, 23119), (243, 23257), (255, 23620), (258, 23755), (262, 23839), (281, 24169), (284, 24202), (286, 24211), (302, 24721), (304, 24748), (309, 24796), (312, 24853), (317, 24952), (324, 25138), (334, 25324), (346, 25534), (354, 25675), (356, 25705), (363, 25807), (365, 25846), (368, 25861), (373, 25993), (375, 26017), (377, 26041), (380, 26101), (382, 26119), (383, 26152), (384, 26164), (385, 26167), (387, 26191),

Gene: Madruga_32 Start: 19236, Stop: 25883, Start Num: 2

Candidate Starts for Madruga_32:

(Start: 2 @19236 has 5 MA's), (7, 19329), (8, 19341), (9, 19350), (12, 19371), (13, 19383), (15, 19425), (18, 19530), (25, 19587), (26, 19593), (28, 19599), (31, 19656), (32, 19662), (33, 19668), (43, 19866), (45, 19896), (46, 19908), (50, 19944), (58, 20085), (68, 20181), (72, 20229), (82, 20307), (83, 20331), (85, 20364), (90, 20415), (93, 20448), (98, 20487), (106, 20577), (110, 20616), (111, 20628), (114, 20676), (117, 20709), (124, 20775), (130, 20844), (131, 20868), (133, 20886), (136, 20910), (140, 20991), (142, 21003), (148, 21138), (149, 21147), (154, 21231), (159, 21273), (165, 21351), (169, 21396), (177, 21552), (179, 21573), (180, 21615), (185, 21678), (193, 21834), (195, 21861), (197, 21882), (198, 21885), (199, 21924), (200, 21936), (203, 22071), (205, 22128), (210, 22254), (213, 22296), (214, 22347), (220, 22431), (225, 22602), (226, 22614), (234, 22776), (236, 22788), (243, 22926), (255, 23289), (258, 23424), (262, 23508), (281, 23838), (284, 23871), (286, 23880), (288, 23934), (302, 24390), (304, 24417), (309, 24465), (312, 24522), (317, 24621), (324, 24807), (334, 24993), (346, 25203), (354, 25344), (356, 25374), (363, 25476), (365, 25515), (368, 25530), (373,

25662), (375, 25686), (377, 25710), (380, 25770), (382, 25788), (383, 25821), (384, 25833), (385, 25836), (387, 25860),

Gene: Megatron06_28 Start: 16768, Stop: 23091, Start Num: 1

Candidate Starts for Megatron06_28:

(Start: 1 @16768 has 9 MA's), (4, 16831), (11, 16912), (13, 16930), (20, 17077), (21, 17086), (22, 17098), (29, 17161), (37, 17245), (48, 17431), (51, 17440), (54, 17497), (67, 17650), (74, 17725), (84, 17827), (85, 17842), (89, 17872), (91, 17905), (92, 17923), (96, 17953), (99, 17977), (100, 17986), (105, 18049), (107, 18070), (108, 18076), (110, 18100), (120, 18211), (122, 18229), (123, 18250), (125, 18277), (135, 18385), (141, 18478), (142, 18487), (145, 18532), (148, 18619), (152, 18688), (166, 18841), (172, 18928), (180, 19075), (183, 19117), (184, 19126), (186, 19138), (188, 19147), (202, 19471), (204, 19528), (212, 19714), (218, 19804), (226, 20047), (230, 20131), (231, 20143), (240, 20263), (242, 20323), (245, 20371), (246, 20392), (249, 20452), (251, 20533), (254, 20683), (256, 20761), (259, 20842), (260, 20863), (261, 20908), (267, 20962), (270, 21070), (277, 21166), (278, 21175), (282, 21205), (283, 21208), (294, 21523), (313, 21796), (314, 21805), (318, 21880), (319, 21913), (320, 21925), (321, 21934), (325, 22057), (330, 22177), (335, 22261), (338, 22327), (341, 22372), (343, 22399), (354, 22561), (355, 22564), (357, 22603), (358, 22615), (359, 22624), (371, 22831), (378, 22945), (381, 22990), (384, 23041), (385, 23044), (386, 23053), (387, 23068),

Gene: Oaker_26 Start: 16492, Stop: 22815, Start Num: 1

Candidate Starts for Oaker_26:

(Start: 1 @16492 has 9 MA's), (4, 16555), (11, 16636), (13, 16654), (20, 16801), (21, 16810), (22, 16822), (29, 16885), (34, 16927), (37, 16969), (48, 17155), (51, 17164), (67, 17374), (74, 17449), (84, 17551), (85, 17566), (89, 17596), (91, 17629), (92, 17647), (96, 17677), (99, 17701), (100, 17710), (105, 17773), (107, 17794), (108, 17800), (110, 17824), (120, 17935), (122, 17953), (123, 17974), (125, 18001), (135, 18109), (141, 18202), (142, 18211), (145, 18256), (148, 18343), (152, 18412), (164, 18550), (166, 18565), (172, 18652), (180, 18799), (183, 18841), (184, 18850), (186, 18862), (188, 18871), (202, 19195), (204, 19252), (207, 19363), (212, 19438), (218, 19528), (226, 19771), (230, 19855), (231, 19867), (240, 19987), (242, 20047), (245, 20095), (246, 20116), (249, 20176), (251, 20257), (254, 20407), (259, 20566), (260, 20587), (261, 20632), (267, 20686), (270, 20794), (277, 20890), (278, 20899), (282, 20929), (283, 20932), (294, 21247), (313, 21520), (314, 21529), (318, 21604), (319, 21637), (320, 21649), (321, 21658), (325, 21781), (330, 21901), (335, 21985), (338, 22051), (341, 22096), (343, 22123), (354, 22285), (355, 22288), (357, 22327), (358, 22339), (359, 22348), (371, 22555), (378, 22669), (381, 22714), (384, 22765), (385, 22768), (386, 22777), (387, 22792),

Gene: Patience_34 Start: 20117, Stop: 26764, Start Num: 2

Candidate Starts for Patience_34:

(Start: 2 @20117 has 5 MA's), (7, 20210), (8, 20222), (9, 20231), (12, 20252), (13, 20264), (15, 20306), (18, 20411), (25, 20468), (26, 20474), (28, 20480), (31, 20537), (32, 20543), (33, 20549), (43, 20747), (45, 20777), (46, 20789), (50, 20825), (58, 20966), (68, 21062), (72, 21110), (82, 21188), (83, 21212), (85, 21245), (90, 21296), (93, 21329), (98, 21368), (106, 21458), (110, 21497), (111, 21509), (114, 21557), (117, 21590), (124, 21656), (130, 21725), (131, 21749), (133, 21767), (136, 21791), (140, 21872), (142, 21884), (148, 22019), (149, 22028), (154, 22112), (165, 22232), (169, 22277), (177, 22433), (179, 22454), (180, 22496), (185, 22559), (193, 22715), (195, 22742), (197, 22763), (198, 22766), (199, 22805), (200, 22817), (203, 22952), (205, 23009), (210, 23135), (213, 23177), (214, 23228), (220, 23312), (225, 23483), (226, 23495), (232, 23603), (234, 23657), (236, 23669), (243, 23807), (255, 24170), (258, 24305), (262, 24389), (281, 24719), (284, 24752), (286, 24761), (288, 24815), (302, 25271), (304, 25298), (309, 25346), (312, 25403), (317, 25502), (324, 25688), (334, 25874), (346, 26084), (354, 26225), (356, 26255), (363, 26357), (368, 26411), (373, 26543), (375, 26567), (377, 26591), (380, 26651), (382, 26669), (383, 26702), (384, 26714), (385, 26717), (387, 26741),

Gene: Phreeze_26 Start: 16235, Stop: 22558, Start Num: 1

Candidate Starts for Phreeze_26:

(Start: 1 @16235 has 9 MA's), (4, 16298), (11, 16379), (13, 16397), (20, 16544), (21, 16553), (22, 16565), (29, 16628), (37, 16712), (48, 16898), (51, 16907), (67, 17117), (74, 17192), (84, 17294), (85, 17309), (89, 17339), (91, 17372), (92, 17390), (96, 17420), (99, 17444), (100, 17453), (105, 17516), (107, 17537), (108, 17543), (110, 17567), (120, 17678), (122, 17696), (123, 17717), (125, 17744), (135, 17852), (141, 17945), (142, 17954), (145, 17999), (148, 18086), (152, 18155), (164, 18293), (166, 18308), (171, 18374), (172, 18395), (174, 18416), (180, 18542), (183, 18584), (184, 18593), (186, 18605), (188, 18614), (202, 18938), (204, 18995), (207, 19106), (212, 19181), (217, 19268), (218, 19271), (219, 19286), (226, 19514), (227, 19526), (231, 19610), (237, 19679), (240, 19730), (242, 19790), (245, 19838), (246, 19859), (249, 19919), (251, 20000), (254, 20150), (256, 20228), (259, 20309), (260, 20330), (261, 20375), (267, 20429), (270, 20537), (277, 20633), (278, 20642), (282, 20672), (283, 20675), (294, 20990), (313, 21263), (314, 21272), (316, 21329), (318, 21347), (319, 21380), (320, 21392), (321, 21401), (325, 21524), (330, 21644), (335, 21728), (338, 21794), (341, 21839), (343, 21866), (354, 22028), (355, 22031), (357, 22070), (359, 22091), (371, 22298), (378, 22412), (381, 22457), (384, 22508), (385, 22511), (386, 22520), (387, 22535),

Gene: Predator_30 Start: 17750, Stop: 24115, Start Num: 1

Candidate Starts for Predator_30:

(Start: 1 @17750 has 9 MA's), (14, 17921), (16, 18005), (19, 18053), (29, 18143), (34, 18185), (35, 18206), (37, 18227), (39, 18266), (41, 18317), (44, 18374), (45, 18377), (47, 18389), (48, 18410), (63, 18581), (73, 18692), (74, 18704), (75, 18713), (78, 18755), (79, 18758), (89, 18851), (91, 18884), (101, 18989), (104, 19019), (109, 19073), (112, 19103), (113, 19106), (116, 19163), (118, 19187), (122, 19208), (123, 19229), (127, 19271), (132, 19340), (135, 19364), (139, 19403), (141, 19457), (142, 19466), (146, 19547), (148, 19598), (152, 19667), (159, 19733), (161, 19784), (166, 19820), (167, 19841), (172, 19907), (173, 19916), (175, 19946), (176, 19988), (182, 20084), (187, 20123), (190, 20135), (191, 20138), (206, 20591), (207, 20636), (215, 20783), (218, 20801), (221, 20876), (226, 21044), (227, 21056), (231, 21140), (248, 21443), (256, 21779), (257, 21839), (259, 21860), (260, 21881), (261, 21926), (263, 21929), (267, 21980), (269, 22067), (270, 22088), (273, 22109), (277, 22184), (278, 22193), (279, 22202), (280, 22205), (289, 22370), (292, 22463), (293, 22472), (297, 22592), (298, 22613), (300, 22658), (303, 22691), (305, 22721), (314, 22826), (315, 22856), (320, 22946), (321, 22955), (326, 23099), (330, 23198), (331, 23201), (333, 23231), (335, 23282), (337, 23345), (341, 23393), (343, 23420), (352, 23543), (354, 23582), (357, 23624), (371, 23852), (372, 23873), (373, 23897), (378, 23966), (381, 24014), (382, 24020), (384, 24065), (385, 24068), (386, 24077), (387, 24092),

Gene: Puissant_25 Start: 16698, Stop: 23021, Start Num: 1

Candidate Starts for Puissant_25:

(Start: 1 @16698 has 9 MA's), (6, 16797), (13, 16860), (16, 16953), (21, 17016), (22, 17028), (24, 17046), (27, 17058), (29, 17091), (34, 17133), (37, 17175), (48, 17361), (55, 17448), (57, 17484), (71, 17634), (76, 17694), (84, 17757), (85, 17772), (86, 17775), (89, 17802), (91, 17835), (95, 17877), (96, 17883), (99, 17907), (100, 17916), (101, 17940), (105, 17979), (107, 18000), (110, 18030), (120, 18141), (122, 18159), (123, 18180), (125, 18207), (135, 18315), (141, 18408), (142, 18417), (145, 18462), (148, 18549), (152, 18618), (155, 18651), (161, 18735), (166, 18771), (168, 18801), (172, 18858), (180, 19005), (182, 19035), (183, 19047), (184, 19056), (186, 19068), (188, 19077), (201, 19314), (202, 19401), (204, 19458), (207, 19569), (212, 19644), (218, 19734), (223, 19914), (226, 19977), (227, 19989), (231, 20073), (237, 20142), (240, 20193), (242, 20253), (245, 20301), (246, 20322), (249, 20382), (251, 20463), (256, 20691), (259, 20772), (260, 20793), (261, 20838), (267, 20892), (270, 21000), (277, 21096), (278, 21105), (294, 21453), (311, 21693), (313, 21726), (314, 21735), (315, 21765), (319, 21843), (321, 21864), (325, 21987), (327, 22014), (328, 22032), (329, 22056), (330, 22107), (333, 22140), (335, 22191), (341, 22302), (343, 22329), (354, 22491), (359, 22554), (360, 22578), (381, 22920), (382, 22926), (384, 22971), (385, 22974), (386, 22983), (387, 22998),

Gene: SuperSonics_33 Start: 19293, Stop: 25940, Start Num: 2

Candidate Starts for SuperSonics_33:

(Start: 2 @19293 has 5 MA's), (7, 19386), (8, 19398), (9, 19407), (12, 19428), (13, 19440), (15, 19482), (18, 19587), (25, 19644), (26, 19650), (28, 19656), (31, 19713), (32, 19719), (33, 19725), (43, 19923), (45, 19953), (46, 19965), (50, 20001), (58, 20142), (68, 20238), (72, 20286), (82, 20364), (83, 20388), (85, 20421), (90, 20472), (93, 20505), (98, 20544), (106, 20634), (110, 20673), (111, 20685), (114, 20733), (117, 20766), (124, 20832), (130, 20901), (131, 20925), (133, 20943), (136, 20967), (140, 21048), (142, 21060), (148, 21195), (149, 21204), (154, 21288), (165, 21408), (169, 21453), (177, 21609), (179, 21630), (180, 21672), (185, 21735), (193, 21891), (195, 21918), (197, 21939), (198, 21942), (199, 21981), (200, 21993), (203, 22128), (205, 22185), (210, 22311), (213, 22353), (214, 22404), (220, 22488), (225, 22659), (226, 22671), (232, 22779), (234, 22833), (236, 22845), (243, 22983), (255, 23346), (258, 23481), (262, 23565), (281, 23895), (284, 23928), (286, 23937), (302, 24447), (304, 24474), (309, 24522), (312, 24579), (317, 24678), (324, 24864), (334, 25050), (346, 25260), (354, 25401), (356, 25431), (363, 25533), (365, 25572), (368, 25587), (373, 25719), (375, 25743), (377, 25767), (380, 25827), (382, 25845), (383, 25878), (384, 25890), (385, 25893), (387, 25917),

Gene: Thumb_26 Start: 16235, Stop: 22558, Start Num: 1

Candidate Starts for Thumb_26:

(Start: 1 @16235 has 9 MA's), (4, 16298), (11, 16379), (13, 16397), (20, 16544), (21, 16553), (22, 16565), (24, 16583), (29, 16628), (34, 16670), (36, 16700), (37, 16712), (48, 16898), (51, 16907), (67, 17117), (74, 17192), (84, 17294), (85, 17309), (89, 17339), (91, 17372), (92, 17390), (96, 17420), (99, 17444), (100, 17453), (101, 17477), (105, 17516), (107, 17537), (108, 17543), (110, 17567), (120, 17678), (122, 17696), (123, 17717), (125, 17744), (135, 17852), (141, 17945), (142, 17954), (143, 17966), (145, 17999), (148, 18086), (152, 18155), (164, 18293), (166, 18308), (171, 18374), (172, 18395), (174, 18416), (180, 18542), (183, 18584), (184, 18593), (186, 18605), (188, 18614), (202, 18938), (204, 18995), (207, 19106), (212, 19181), (217, 19268), (218, 19271), (219, 19286), (226, 19514), (227, 19526), (231, 19610), (237, 19679), (240, 19730), (242, 19790), (245, 19838), (246, 19859), (249, 19919), (251, 20000), (254, 20150), (256, 20228), (259, 20309), (260, 20330), (261, 20375), (267, 20429), (270, 20537), (277, 20633), (278, 20642), (282, 20672), (283, 20675), (294, 20990), (313, 21263), (314, 21272), (315, 21302), (318, 21347), (319, 21380), (320, 21392), (321, 21401), (325, 21524), (330, 21644), (333, 21677), (335, 21728), (338, 21794), (340, 21815), (341, 21839), (343, 21866), (354, 22028), (355, 22031), (357, 22070), (359, 22091), (371, 22298), (378, 22412), (381, 22457), (384, 22508), (385, 22511), (386, 22520), (387, 22535),