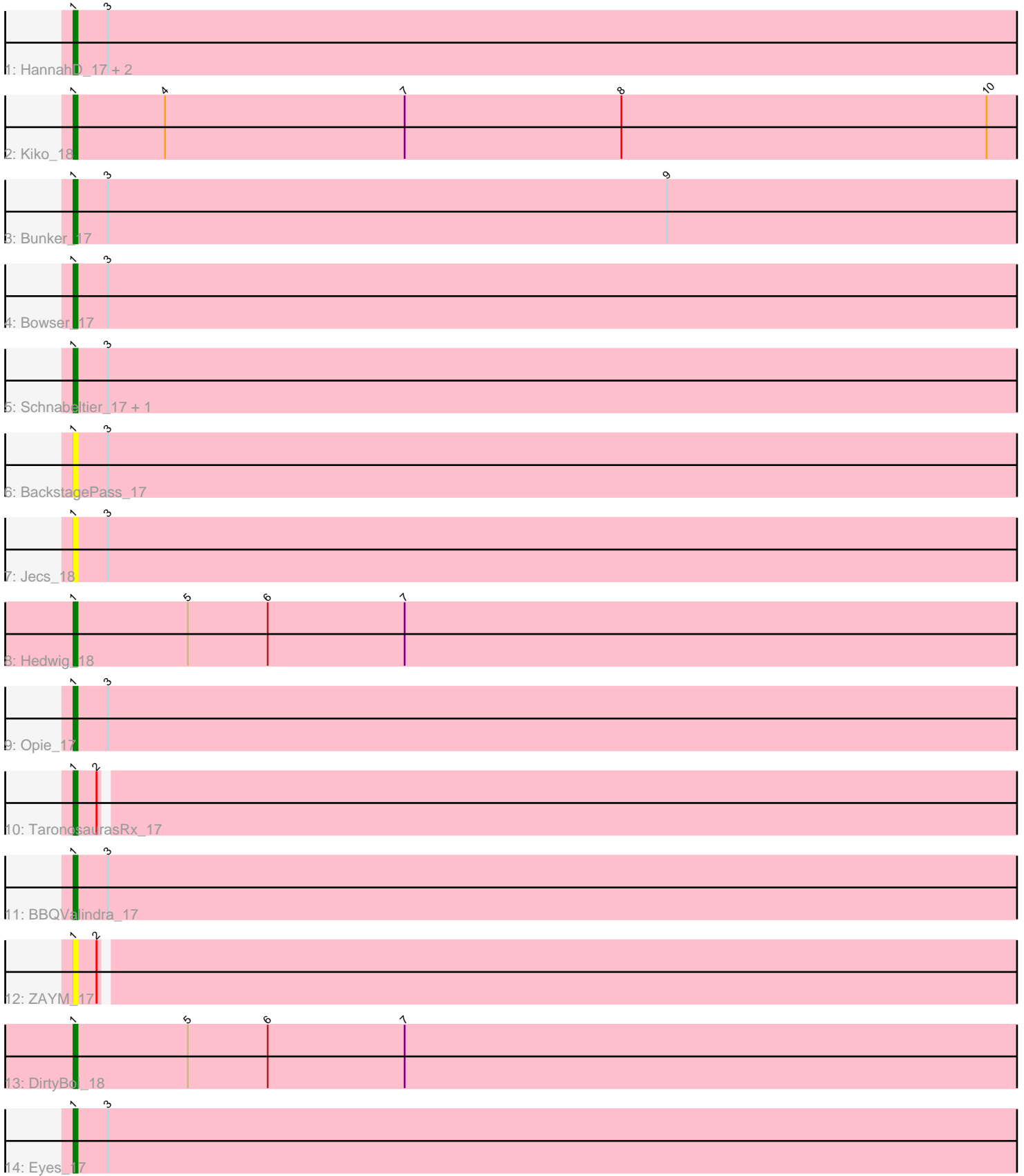


Zoomed Pham 297030



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 297030 Report

This analysis was run 04/25/26 on database version 644.

Pham number 297030 has 17 members, 4 are drafts.

Phages represented in each track:

- Track 1 : HannahD_17, GEazy_17, NaLuna_17
- Track 2 : Kiko_18
- Track 3 : Bunker_17
- Track 4 : Bowser_17
- Track 5 : Schnabeltier_17, MagicMan_17
- Track 6 : BackstagePass_17
- Track 7 : Jecs_18
- Track 8 : Hedwig_18
- Track 9 : Opie_17
- Track 10 : TaronosaurusRx_17
- Track 11 : BBQValindra_17
- Track 12 : ZAYM_17
- Track 13 : DirtyBoi_18
- Track 14 : Eyes_17

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 13 of the 13 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BBQValindra_17, BackstagePass_17, Bowser_17, Bunker_17, DirtyBoi_18, Eyes_17, GEazy_17, HannahD_17, Hedwig_18, Jecs_18, Kiko_18, MagicMan_17, NaLuna_17, Opie_17, Schnabeltier_17, TaronosaurusRx_17, ZAYM_17,

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 17 of 17 (100.0%) of genes in pham
- Manual Annotations of this start: 13 of 13
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BBQValindra_17 (DB), BackstagePass_17 (DB), Bowser_17 (DB), Bunker_17 (DB), DirtyBoi_18 (DB), Eyes_17 (DB), GEazy_17 (DB), HannahD_17 (DB), Hedwig_18 (DB), Jecs_18 (DB), Kiko_18 (DB), MagicMan_17 (DB), NaLuna_17 (DB), Opie_17 (DB), Schnabeltier_17 (DB), TaronosaurusRx_17 (DB), ZAYM_17 (DB),

Summary by clusters:

There is one cluster represented in this pham: DB

Info for manual annotations of cluster DB:

- Start number 1 was manually annotated 13 times for cluster DB.

Gene Information:

Gene: BBQValindra_17 Start: 10583, Stop: 15709, Start Num: 1

Candidate Starts for BBQValindra_17:

(Start: 1 @10583 has 13 MA's), (3, 10592), (13, 10865), (14, 10874), (15, 10904), (21, 10970), (33, 11126), (35, 11144), (43, 11297), (46, 11339), (48, 11426), (51, 11618), (56, 11735), (58, 11774), (59, 11858), (60, 11867), (61, 11891), (62, 11900), (63, 11909), (64, 11942), (65, 11954), (66, 11978), (68, 12023), (69, 12032), (70, 12068), (74, 12104), (75, 12116), (76, 12134), (78, 12170), (82, 12293), (86, 12335), (88, 12359), (93, 12470), (94, 12473), (95, 12476), (97, 12491), (100, 12545), (104, 12584), (112, 12665), (115, 12680), (117, 12701), (118, 12716), (119, 12728), (120, 12764), (123, 12800), (134, 12962), (141, 13019), (146, 13031), (147, 13034), (149, 13067), (150, 13073), (151, 13085), (155, 13160), (156, 13166), (157, 13172), (158, 13193), (159, 13196), (160, 13199), (165, 13262), (166, 13298), (168, 13313), (169, 13337), (171, 13352), (172, 13355), (175, 13415), (176, 13514), (177, 13556), (179, 13634), (183, 13703), (184, 13721), (186, 13829), (187, 13832), (188, 13838), (189, 13856), (190, 13859), (191, 13880), (192, 13898), (193, 13901), (194, 13910), (196, 14015), (197, 14045), (198, 14063), (199, 14069), (204, 14129), (207, 14189), (209, 14237), (210, 14267), (213, 14315), (215, 14327), (217, 14387), (220, 14444), (223, 14462), (224, 14507), (225, 14534), (226, 14552), (227, 14582), (228, 14591), (230, 14630), (231, 14636), (232, 14645), (239, 14804), (240, 14846), (245, 15038), (246, 15041), (247, 15098), (248, 15107), (249, 15119), (250, 15140), (255, 15353), (256, 15392), (258, 15461), (259, 15515), (263, 15668), (265, 15692),

Gene: BackstagePass_17 Start: 10561, Stop: 15849, Start Num: 1

Candidate Starts for BackstagePass_17:

(Start: 1 @10561 has 13 MA's), (3, 10570), (13, 10843), (14, 10852), (15, 10882), (20, 10945), (22, 10957), (23, 10972), (26, 10999), (32, 11083), (33, 11104), (36, 11131), (37, 11143), (43, 11275), (46, 11317), (47, 11371), (48, 11404), (53, 11605), (55, 11683), (59, 11836), (61, 11869), (62, 11878), (63, 11887), (64, 11920), (65, 11932), (66, 11956), (68, 12001), (71, 12055), (73, 12079), (74, 12082), (75, 12094), (76, 12112), (78, 12148), (82, 12271), (86, 12313), (93, 12448), (95, 12454), (97, 12469), (103, 12559), (104, 12562), (107, 12586), (109, 12613), (113, 12646), (115, 12658), (117, 12679), (119, 12706), (123, 12778), (135, 12949), (136, 12952), (137, 12964), (138, 12973), (142, 13057), (144, 13102), (149, 13174), (151, 13192), (152, 13225), (153, 13237), (156, 13273), (160, 13306), (164, 13357), (166, 13405), (169, 13444), (171, 13459), (172, 13462), (173, 13468), (174, 13513), (176, 13621), (177, 13663), (179, 13741), (182, 13765), (183, 13810), (186, 13933), (187, 13936), (190, 13963), (191, 13984), (192, 14002), (193, 14005), (194, 14014), (196, 14119), (199, 14173), (211, 14398), (212, 14434), (217, 14524), (218, 14566), (224, 14647), (225, 14674), (226, 14692), (228,

14731), (230, 14770), (231, 14776), (232, 14785), (239, 14944), (240, 14986), (245, 15178), (246, 15181), (248, 15247), (249, 15259), (250, 15280), (251, 15283), (255, 15493), (256, 15532), (258, 15601), (259, 15655), (263, 15808),

Gene: Bowser_17 Start: 10588, Stop: 15702, Start Num: 1

Candidate Starts for Bowser_17:

(Start: 1 @10588 has 13 MA's), (3, 10597), (13, 10870), (14, 10879), (15, 10909), (16, 10918), (21, 10975), (29, 11038), (32, 11110), (33, 11131), (35, 11149), (43, 11302), (46, 11344), (47, 11398), (52, 11626), (56, 11740), (58, 11779), (59, 11863), (61, 11896), (62, 11905), (63, 11914), (64, 11947), (65, 11959), (66, 11983), (68, 12028), (70, 12073), (74, 12109), (75, 12121), (76, 12139), (78, 12175), (82, 12298), (83, 12322), (86, 12340), (93, 12475), (95, 12481), (96, 12493), (97, 12496), (100, 12550), (104, 12589), (106, 12610), (107, 12613), (108, 12631), (109, 12640), (115, 12685), (117, 12706), (119, 12733), (124, 12811), (134, 12967), (141, 13024), (146, 13036), (147, 13039), (149, 13072), (151, 13090), (155, 13165), (156, 13171), (157, 13177), (158, 13198), (159, 13201), (160, 13204), (165, 13267), (166, 13303), (168, 13318), (169, 13342), (171, 13357), (172, 13360), (173, 13366), (174, 13411), (175, 13420), (176, 13519), (177, 13561), (180, 13645), (183, 13708), (184, 13726), (186, 13834), (188, 13843), (189, 13861), (190, 13864), (192, 13903), (193, 13906), (194, 13915), (197, 14050), (199, 14074), (207, 14194), (208, 14239), (210, 14272), (213, 14320), (215, 14332), (217, 14392), (224, 14512), (225, 14539), (226, 14557), (230, 14635), (231, 14641), (232, 14650), (237, 14770), (239, 14809), (240, 14851), (241, 14944), (245, 15037), (246, 15040), (247, 15097), (248, 15106), (249, 15118), (250, 15139), (253, 15244), (255, 15352), (256, 15391), (258, 15460), (259, 15514), (263, 15664),

Gene: Bunker_17 Start: 10580, Stop: 15829, Start Num: 1

Candidate Starts for Bunker_17:

(Start: 1 @10580 has 13 MA's), (3, 10589), (9, 10736), (13, 10862), (14, 10871), (17, 10934), (18, 10940), (19, 10946), (21, 10967), (23, 10991), (27, 11021), (29, 11030), (33, 11123), (34, 11135), (35, 11141), (43, 11294), (46, 11336), (47, 11390), (48, 11423), (53, 11624), (59, 11855), (61, 11888), (62, 11897), (63, 11906), (64, 11939), (65, 11951), (66, 11975), (68, 12020), (69, 12029), (74, 12101), (75, 12113), (76, 12131), (78, 12167), (82, 12290), (83, 12314), (91, 12431), (93, 12467), (95, 12473), (97, 12488), (100, 12542), (104, 12581), (106, 12602), (107, 12605), (108, 12623), (109, 12632), (115, 12677), (116, 12695), (117, 12698), (119, 12725), (124, 12803), (135, 12968), (137, 12983), (138, 12992), (142, 13076), (148, 13187), (149, 13193), (150, 13199), (152, 13244), (153, 13256), (156, 13292), (157, 13298), (158, 13319), (160, 13325), (161, 13331), (164, 13376), (165, 13388), (166, 13424), (169, 13463), (171, 13478), (172, 13481), (173, 13487), (174, 13532), (177, 13682), (179, 13760), (180, 13766), (183, 13832), (184, 13850), (186, 13958), (187, 13961), (189, 13985), (190, 13988), (192, 14027), (193, 14030), (194, 14039), (195, 14087), (197, 14174), (199, 14198), (204, 14258), (207, 14318), (210, 14396), (213, 14444), (215, 14456), (217, 14516), (224, 14633), (225, 14660), (230, 14756), (231, 14762), (232, 14771), (239, 14930), (240, 14972), (248, 15230), (249, 15242), (250, 15263), (251, 15266), (252, 15284), (255, 15476), (256, 15515), (259, 15638), (263, 15788), (265, 15812),

Gene: DirtyBoi_18 Start: 11005, Stop: 16017, Start Num: 1

Candidate Starts for DirtyBoi_18:

(Start: 1 @11005 has 13 MA's), (5, 11035), (6, 11056), (7, 11092), (14, 11296), (15, 11326), (22, 11401), (31, 11506), (35, 11566), (40, 11644), (41, 11647), (43, 11719), (46, 11761), (48, 11848), (59, 12277), (61, 12310), (63, 12328), (65, 12373), (66, 12397), (68, 12442), (69, 12451), (70, 12487), (71, 12496), (73, 12520), (75, 12535), (76, 12553), (80, 12640), (81, 12694), (82, 12712), (89, 12787), (90, 12817), (93, 12889), (95, 12895), (97, 12910), (100, 12964), (107, 13027), (108, 13045), (110, 13072), (112, 13084), (115, 13099), (117, 13120), (125, 13240), (127, 13267), (128, 13300), (131, 13339), (132, 13354), (134, 13402), (137, 13426), (139, 13456), (142, 13519), (144, 13564), (145, 13567), (149, 13636), (154, 13708), (155, 13729), (156, 13735), (157, 13741), (159, 13765), (160, 13768), (163, 13789), (164, 13819), (165, 13831), (166, 13867), (171, 13921), (172, 13924), (173, 13930),

(174, 13975), (175, 13984), (177, 14125), (178, 14158), (179, 14203), (180, 14209), (181, 14221), (183, 14272), (185, 14356), (187, 14380), (189, 14404), (190, 14407), (194, 14458), (195, 14506), (197, 14593), (199, 14617), (200, 14629), (201, 14650), (204, 14677), (208, 14782), (210, 14815), (213, 14863), (215, 14875), (219, 14947), (221, 14956), (234, 15112), (238, 15142), (243, 15334), (250, 15454), (251, 15457), (254, 15601), (255, 15664), (259, 15826), (260, 15838), (261, 15895), (262, 15970), (263, 15976), (266, 16006), (267, 16009),

Gene: Eyes_17 Start: 10596, Stop: 15716, Start Num: 1

Candidate Starts for Eyes_17:

(Start: 1 @10596 has 13 MA's), (3, 10605), (11, 10848), (13, 10878), (14, 10887), (15, 10917), (18, 10956), (21, 10983), (33, 11139), (35, 11157), (43, 11310), (46, 11352), (47, 11406), (51, 11631), (52, 11634), (54, 11670), (56, 11748), (58, 11787), (59, 11871), (61, 11904), (62, 11913), (63, 11922), (64, 11955), (65, 11967), (66, 11991), (68, 12036), (69, 12045), (70, 12081), (74, 12117), (75, 12129), (76, 12147), (78, 12183), (79, 12192), (82, 12306), (86, 12348), (93, 12483), (94, 12486), (95, 12489), (97, 12504), (100, 12558), (104, 12597), (112, 12678), (115, 12693), (117, 12714), (120, 12777), (123, 12813), (134, 12975), (141, 13032), (146, 13044), (147, 13047), (149, 13080), (151, 13098), (155, 13173), (156, 13179), (157, 13185), (158, 13206), (159, 13209), (160, 13212), (165, 13275), (166, 13311), (168, 13326), (169, 13350), (171, 13365), (172, 13368), (173, 13374), (175, 13428), (176, 13527), (177, 13569), (179, 13647), (183, 13716), (184, 13734), (186, 13842), (187, 13845), (189, 13869), (190, 13872), (191, 13893), (193, 13914), (194, 13923), (197, 14058), (199, 14082), (204, 14142), (207, 14202), (208, 14247), (210, 14280), (213, 14328), (215, 14340), (217, 14400), (225, 14550), (226, 14568), (230, 14646), (231, 14652), (232, 14661), (233, 14688), (237, 14781), (239, 14820), (240, 14862), (242, 15015), (245, 15048), (246, 15051), (247, 15108), (248, 15117), (249, 15129), (250, 15150), (252, 15171), (255, 15363), (256, 15402), (258, 15471), (259, 15525), (263, 15678),

Gene: GEazy_17 Start: 10605, Stop: 15728, Start Num: 1

Candidate Starts for GEazy_17:

(Start: 1 @10605 has 13 MA's), (3, 10614), (13, 10887), (14, 10896), (15, 10926), (29, 11055), (35, 11166), (39, 11223), (46, 11361), (47, 11415), (48, 11448), (53, 11649), (54, 11679), (56, 11757), (57, 11775), (58, 11796), (59, 11880), (61, 11913), (62, 11922), (63, 11931), (64, 11964), (65, 11976), (66, 12000), (68, 12045), (69, 12054), (70, 12090), (71, 12099), (74, 12126), (75, 12138), (76, 12156), (78, 12192), (82, 12315), (86, 12357), (93, 12492), (94, 12495), (95, 12498), (97, 12513), (100, 12567), (104, 12606), (112, 12687), (115, 12702), (117, 12723), (118, 12738), (119, 12750), (120, 12786), (123, 12822), (134, 12984), (141, 13041), (146, 13053), (147, 13056), (149, 13089), (151, 13107), (155, 13182), (156, 13188), (157, 13194), (158, 13215), (159, 13218), (160, 13221), (165, 13284), (166, 13320), (168, 13335), (169, 13359), (171, 13374), (172, 13377), (175, 13437), (176, 13536), (177, 13578), (179, 13656), (183, 13725), (184, 13743), (186, 13851), (189, 13878), (190, 13881), (192, 13920), (193, 13923), (194, 13932), (195, 13980), (197, 14067), (199, 14091), (204, 14151), (207, 14211), (210, 14289), (213, 14337), (215, 14349), (217, 14409), (218, 14451), (224, 14532), (225, 14559), (226, 14577), (227, 14607), (230, 14655), (231, 14661), (232, 14670), (236, 14718), (237, 14790), (239, 14829), (240, 14871), (245, 15057), (246, 15060), (247, 15117), (248, 15126), (249, 15138), (250, 15159), (255, 15372), (256, 15411), (258, 15480), (259, 15534), (261, 15606), (263, 15687), (265, 15711),

Gene: HannahD_17 Start: 10605, Stop: 15728, Start Num: 1

Candidate Starts for HannahD_17:

(Start: 1 @10605 has 13 MA's), (3, 10614), (13, 10887), (14, 10896), (15, 10926), (29, 11055), (35, 11166), (39, 11223), (46, 11361), (47, 11415), (48, 11448), (53, 11649), (54, 11679), (56, 11757), (57, 11775), (58, 11796), (59, 11880), (61, 11913), (62, 11922), (63, 11931), (64, 11964), (65, 11976), (66, 12000), (68, 12045), (69, 12054), (70, 12090), (71, 12099), (74, 12126), (75, 12138), (76, 12156), (78, 12192), (82, 12315), (86, 12357), (93, 12492), (94, 12495), (95, 12498), (97, 12513), (100, 12567), (104, 12606), (112, 12687), (115, 12702), (117, 12723), (118, 12738), (119, 12750), (120, 12786),

(123, 12822), (134, 12984), (141, 13041), (146, 13053), (147, 13056), (149, 13089), (151, 13107), (155, 13182), (156, 13188), (157, 13194), (158, 13215), (159, 13218), (160, 13221), (165, 13284), (166, 13320), (168, 13335), (169, 13359), (171, 13374), (172, 13377), (175, 13437), (176, 13536), (177, 13578), (179, 13656), (183, 13725), (184, 13743), (186, 13851), (189, 13878), (190, 13881), (192, 13920), (193, 13923), (194, 13932), (195, 13980), (197, 14067), (199, 14091), (204, 14151), (207, 14211), (210, 14289), (213, 14337), (215, 14349), (217, 14409), (218, 14451), (224, 14532), (225, 14559), (226, 14577), (227, 14607), (230, 14655), (231, 14661), (232, 14670), (236, 14718), (237, 14790), (239, 14829), (240, 14871), (245, 15057), (246, 15060), (247, 15117), (248, 15126), (249, 15138), (250, 15159), (255, 15372), (256, 15411), (258, 15480), (259, 15534), (261, 15606), (263, 15687), (265, 15711),

Gene: Hedwig_18 Start: 11001, Stop: 16013, Start Num: 1

Candidate Starts for Hedwig_18:

(Start: 1 @11001 has 13 MA's), (5, 11031), (6, 11052), (7, 11088), (14, 11292), (15, 11322), (22, 11397), (31, 11502), (35, 11562), (40, 11640), (41, 11643), (43, 11715), (46, 11757), (48, 11844), (59, 12273), (60, 12282), (61, 12306), (63, 12324), (65, 12369), (66, 12393), (68, 12438), (69, 12447), (70, 12483), (71, 12492), (73, 12516), (75, 12531), (76, 12549), (77, 12573), (80, 12636), (81, 12690), (82, 12708), (89, 12783), (90, 12813), (93, 12885), (95, 12891), (97, 12906), (98, 12927), (100, 12960), (107, 13023), (108, 13041), (110, 13068), (112, 13080), (115, 13095), (117, 13116), (125, 13236), (127, 13263), (128, 13296), (131, 13335), (132, 13350), (134, 13398), (137, 13422), (139, 13452), (142, 13515), (144, 13560), (145, 13563), (149, 13632), (154, 13704), (155, 13725), (156, 13731), (157, 13737), (159, 13761), (160, 13764), (163, 13785), (164, 13815), (165, 13827), (166, 13863), (171, 13917), (172, 13920), (173, 13926), (174, 13971), (175, 13980), (177, 14121), (178, 14154), (179, 14199), (180, 14205), (181, 14217), (183, 14268), (185, 14352), (187, 14376), (189, 14400), (190, 14403), (194, 14454), (195, 14502), (197, 14589), (199, 14613), (200, 14625), (201, 14646), (204, 14673), (208, 14778), (210, 14811), (213, 14859), (215, 14871), (219, 14943), (221, 14952), (234, 15108), (238, 15138), (243, 15330), (250, 15450), (251, 15453), (254, 15597), (255, 15660), (259, 15822), (260, 15834), (261, 15891), (262, 15966), (263, 15972), (266, 16002), (267, 16005),

Gene: Jecs_18 Start: 10920, Stop: 16037, Start Num: 1

Candidate Starts for Jecs_18:

(Start: 1 @10920 has 13 MA's), (3, 10929), (13, 11202), (14, 11211), (15, 11241), (16, 11250), (21, 11307), (23, 11331), (32, 11442), (33, 11463), (35, 11481), (43, 11634), (44, 11646), (46, 11676), (51, 11955), (52, 11958), (54, 11994), (56, 12072), (59, 12195), (61, 12228), (63, 12246), (64, 12279), (65, 12291), (66, 12315), (68, 12360), (69, 12369), (70, 12405), (74, 12441), (75, 12453), (76, 12471), (78, 12507), (82, 12630), (83, 12654), (86, 12672), (93, 12807), (95, 12813), (97, 12828), (100, 12882), (101, 12909), (102, 12912), (104, 12921), (106, 12942), (107, 12945), (108, 12963), (109, 12972), (114, 13011), (115, 13017), (117, 13038), (119, 13065), (121, 13113), (124, 13143), (129, 13221), (133, 13254), (134, 13299), (141, 13356), (146, 13368), (147, 13371), (149, 13404), (156, 13503), (157, 13509), (158, 13530), (159, 13533), (160, 13536), (162, 13554), (165, 13599), (166, 13635), (169, 13674), (171, 13689), (172, 13692), (173, 13698), (174, 13743), (175, 13752), (176, 13851), (177, 13893), (179, 13971), (183, 14040), (184, 14058), (186, 14166), (187, 14169), (189, 14193), (190, 14196), (191, 14217), (192, 14235), (193, 14238), (194, 14247), (198, 14400), (199, 14406), (207, 14526), (210, 14604), (213, 14652), (215, 14664), (217, 14724), (224, 14844), (225, 14871), (226, 14889), (230, 14967), (231, 14973), (232, 14982), (233, 15009), (237, 15102), (239, 15141), (240, 15183), (242, 15336), (245, 15369), (246, 15372), (247, 15429), (248, 15438), (249, 15450), (250, 15471), (255, 15684), (256, 15723), (258, 15792), (259, 15846), (263, 15999),

Gene: Kiko_18 Start: 10875, Stop: 15764, Start Num: 1

Candidate Starts for Kiko_18:

(Start: 1 @10875 has 13 MA's), (4, 10899), (7, 10962), (8, 11019), (10, 11115), (11, 11127), (12, 11142), (14, 11166), (15, 11196), (25, 11307), (26, 11313), (27, 11316), (28, 11322), (29, 11325), (30, 11337), (31, 11376), (33, 11418), (34, 11430), (38, 11490), (42, 11523), (43, 11589), (45, 11610), (46,

11631), (47, 11685), (48, 11718), (50, 11835), (51, 11910), (53, 11919), (54, 11949), (56, 12027), (59, 12147), (62, 12189), (63, 12198), (64, 12231), (65, 12243), (66, 12267), (67, 12276), (69, 12321), (70, 12357), (71, 12366), (72, 12384), (76, 12423), (78, 12459), (79, 12468), (80, 12510), (82, 12582), (87, 12645), (91, 12723), (92, 12756), (93, 12759), (95, 12765), (97, 12780), (98, 12801), (99, 12831), (100, 12834), (105, 12876), (109, 12924), (110, 12942), (111, 12948), (114, 12963), (115, 12969), (116, 12987), (117, 12990), (119, 13017), (121, 13065), (122, 13074), (125, 13110), (126, 13113), (128, 13170), (130, 13200), (132, 13224), (134, 13272), (137, 13296), (138, 13305), (139, 13326), (143, 13416), (148, 13500), (149, 13506), (164, 13557), (166, 13605), (168, 13620), (169, 13644), (170, 13656), (171, 13659), (172, 13662), (173, 13668), (174, 13713), (175, 13722), (177, 13863), (178, 13896), (179, 13941), (186, 14136), (187, 14139), (188, 14145), (192, 14205), (194, 14217), (196, 14322), (199, 14376), (202, 14412), (204, 14436), (214, 14637), (222, 14727), (229, 14844), (234, 14886), (244, 15093), (246, 15102), (248, 15168), (250, 15201), (255, 15411), (259, 15573), (260, 15585), (261, 15642), (264, 15726), (266, 15753),

Gene: MagicMan_17 Start: 10932, Stop: 16046, Start Num: 1

Candidate Starts for MagicMan_17:

(Start: 1 @10932 has 13 MA's), (3, 10941), (13, 11214), (14, 11223), (15, 11253), (16, 11262), (21, 11319), (29, 11382), (32, 11454), (33, 11475), (35, 11493), (43, 11646), (46, 11688), (47, 11742), (48, 11775), (51, 11967), (52, 11970), (54, 12006), (56, 12084), (58, 12123), (59, 12207), (61, 12240), (62, 12249), (63, 12258), (64, 12291), (65, 12303), (66, 12327), (68, 12372), (69, 12381), (70, 12417), (71, 12426), (74, 12453), (75, 12465), (76, 12483), (78, 12519), (82, 12642), (86, 12684), (93, 12819), (94, 12822), (95, 12825), (97, 12840), (100, 12894), (104, 12933), (110, 13002), (112, 13014), (115, 13029), (117, 13050), (118, 13065), (119, 13077), (120, 13113), (123, 13149), (134, 13311), (141, 13368), (146, 13380), (147, 13383), (149, 13416), (155, 13509), (156, 13515), (157, 13521), (158, 13542), (159, 13545), (160, 13548), (165, 13611), (166, 13647), (168, 13662), (169, 13686), (171, 13701), (172, 13704), (173, 13710), (175, 13764), (176, 13863), (177, 13905), (179, 13983), (182, 14007), (183, 14052), (186, 14178), (188, 14187), (189, 14205), (190, 14208), (192, 14247), (193, 14250), (194, 14259), (199, 14418), (207, 14538), (210, 14616), (213, 14664), (215, 14676), (217, 14736), (224, 14853), (225, 14880), (226, 14898), (230, 14976), (231, 14982), (232, 14991), (233, 15018), (237, 15111), (239, 15150), (240, 15192), (242, 15345), (245, 15378), (246, 15381), (247, 15438), (248, 15447), (249, 15459), (250, 15480), (252, 15501), (255, 15693), (256, 15732), (258, 15801), (259, 15855), (263, 16008),

Gene: NaLuna_17 Start: 10605, Stop: 15728, Start Num: 1

Candidate Starts for NaLuna_17:

(Start: 1 @10605 has 13 MA's), (3, 10614), (13, 10887), (14, 10896), (15, 10926), (29, 11055), (35, 11166), (39, 11223), (46, 11361), (47, 11415), (48, 11448), (53, 11649), (54, 11679), (56, 11757), (57, 11775), (58, 11796), (59, 11880), (61, 11913), (62, 11922), (63, 11931), (64, 11964), (65, 11976), (66, 12000), (68, 12045), (69, 12054), (70, 12090), (71, 12099), (74, 12126), (75, 12138), (76, 12156), (78, 12192), (82, 12315), (86, 12357), (93, 12492), (94, 12495), (95, 12498), (97, 12513), (100, 12567), (104, 12606), (112, 12687), (115, 12702), (117, 12723), (118, 12738), (119, 12750), (120, 12786), (123, 12822), (134, 12984), (141, 13041), (146, 13053), (147, 13056), (149, 13089), (151, 13107), (155, 13182), (156, 13188), (157, 13194), (158, 13215), (159, 13218), (160, 13221), (165, 13284), (166, 13320), (168, 13335), (169, 13359), (171, 13374), (172, 13377), (175, 13437), (176, 13536), (177, 13578), (179, 13656), (183, 13725), (184, 13743), (186, 13851), (189, 13878), (190, 13881), (192, 13920), (193, 13923), (194, 13932), (195, 13980), (197, 14067), (199, 14091), (204, 14151), (207, 14211), (210, 14289), (213, 14337), (215, 14349), (217, 14409), (218, 14451), (224, 14532), (225, 14559), (226, 14577), (227, 14607), (230, 14655), (231, 14661), (232, 14670), (236, 14718), (237, 14790), (239, 14829), (240, 14871), (245, 15057), (246, 15060), (247, 15117), (248, 15126), (249, 15138), (250, 15159), (255, 15372), (256, 15411), (258, 15480), (259, 15534), (261, 15606), (263, 15687), (265, 15711),

Gene: Opie_17 Start: 10940, Stop: 16069, Start Num: 1

Candidate Starts for Opie_17:

(Start: 1 @10940 has 13 MA's), (3, 10949), (13, 11222), (14, 11231), (21, 11327), (24, 11369), (29, 11390), (33, 11483), (35, 11501), (46, 11696), (49, 11855), (51, 11975), (52, 11978), (54, 12014), (56, 12092), (59, 12215), (61, 12248), (62, 12257), (63, 12266), (64, 12299), (65, 12311), (66, 12335), (68, 12380), (70, 12425), (74, 12461), (75, 12473), (76, 12491), (78, 12527), (82, 12650), (86, 12692), (93, 12827), (94, 12830), (95, 12833), (97, 12848), (100, 12902), (104, 12941), (112, 13022), (115, 13037), (117, 13058), (118, 13073), (119, 13085), (120, 13121), (123, 13157), (134, 13319), (140, 13352), (141, 13376), (146, 13388), (147, 13391), (149, 13424), (151, 13442), (156, 13523), (157, 13529), (158, 13550), (159, 13553), (160, 13556), (166, 13655), (168, 13670), (169, 13694), (171, 13709), (172, 13712), (173, 13718), (175, 13772), (176, 13871), (177, 13913), (178, 13946), (179, 13991), (182, 14015), (183, 14060), (184, 14078), (186, 14186), (190, 14216), (192, 14255), (193, 14258), (194, 14267), (205, 14516), (206, 14540), (213, 14684), (216, 14708), (217, 14759), (224, 14876), (225, 14903), (226, 14921), (230, 14999), (231, 15005), (232, 15014), (233, 15041), (237, 15134), (239, 15173), (240, 15215), (242, 15368), (245, 15401), (246, 15404), (247, 15461), (248, 15470), (249, 15482), (250, 15503), (252, 15524), (255, 15716), (256, 15755), (257, 15821), (258, 15824), (259, 15878), (263, 16031),

Gene: Schnabeltier_17 Start: 10933, Stop: 16047, Start Num: 1

Candidate Starts for Schnabeltier_17:

(Start: 1 @10933 has 13 MA's), (3, 10942), (13, 11215), (14, 11224), (15, 11254), (16, 11263), (21, 11320), (29, 11383), (32, 11455), (33, 11476), (35, 11494), (43, 11647), (46, 11689), (47, 11743), (48, 11776), (51, 11968), (52, 11971), (54, 12007), (56, 12085), (58, 12124), (59, 12208), (61, 12241), (62, 12250), (63, 12259), (64, 12292), (65, 12304), (66, 12328), (68, 12373), (69, 12382), (70, 12418), (71, 12427), (74, 12454), (75, 12466), (76, 12484), (78, 12520), (82, 12643), (86, 12685), (93, 12820), (94, 12823), (95, 12826), (97, 12841), (100, 12895), (104, 12934), (110, 13003), (112, 13015), (115, 13030), (117, 13051), (118, 13066), (119, 13078), (120, 13114), (123, 13150), (134, 13312), (141, 13369), (146, 13381), (147, 13384), (149, 13417), (155, 13510), (156, 13516), (157, 13522), (158, 13543), (159, 13546), (160, 13549), (165, 13612), (166, 13648), (168, 13663), (169, 13687), (171, 13702), (172, 13705), (173, 13711), (175, 13765), (176, 13864), (177, 13906), (179, 13984), (182, 14008), (183, 14053), (186, 14179), (188, 14188), (189, 14206), (190, 14209), (192, 14248), (193, 14251), (194, 14260), (199, 14419), (207, 14539), (210, 14617), (213, 14665), (215, 14677), (217, 14737), (224, 14854), (225, 14881), (226, 14899), (230, 14977), (231, 14983), (232, 14992), (233, 15019), (237, 15112), (239, 15151), (240, 15193), (242, 15346), (245, 15379), (246, 15382), (247, 15439), (248, 15448), (249, 15460), (250, 15481), (252, 15502), (255, 15694), (256, 15733), (258, 15802), (259, 15856), (263, 16009),

Gene: TaronosaurusRx_17 Start: 10940, Stop: 16063, Start Num: 1

Candidate Starts for TaronosaurusRx_17:

(Start: 1 @10940 has 13 MA's), (2, 10946), (13, 11219), (14, 11228), (16, 11267), (21, 11324), (29, 11387), (33, 11480), (35, 11498), (43, 11651), (46, 11693), (48, 11780), (51, 11972), (52, 11975), (54, 12011), (55, 12059), (59, 12212), (61, 12245), (62, 12254), (63, 12263), (64, 12296), (65, 12308), (66, 12332), (68, 12377), (69, 12386), (71, 12431), (74, 12458), (75, 12470), (76, 12488), (82, 12647), (83, 12671), (84, 12680), (85, 12683), (93, 12824), (94, 12827), (95, 12830), (96, 12842), (97, 12845), (100, 12899), (104, 12938), (115, 13034), (117, 13055), (118, 13070), (119, 13082), (123, 13154), (134, 13316), (141, 13373), (146, 13385), (147, 13388), (149, 13421), (155, 13514), (156, 13520), (157, 13526), (158, 13547), (159, 13550), (160, 13553), (163, 13574), (164, 13604), (166, 13652), (167, 13658), (168, 13667), (169, 13691), (171, 13706), (172, 13709), (173, 13715), (174, 13760), (175, 13769), (176, 13868), (177, 13910), (178, 13943), (179, 13988), (182, 14012), (183, 14057), (184, 14075), (190, 14213), (191, 14234), (192, 14252), (193, 14255), (194, 14264), (203, 14495), (205, 14513), (206, 14537), (213, 14681), (216, 14705), (217, 14756), (225, 14900), (226, 14918), (228, 14957), (230, 14996), (231, 15002), (232, 15011), (235, 15053), (237, 15131), (239, 15170), (241, 15305), (245, 15398), (246, 15401), (247, 15458), (248, 15467), (249, 15479), (250, 15500), (255, 15713), (256, 15752), (258, 15821), (259, 15875), (263, 16025),

Gene: ZAYM_17 Start: 10932, Stop: 16055, Start Num: 1

Candidate Starts for ZAYM_17:

(Start: 1 @10932 has 13 MA's), (2, 10938), (13, 11211), (14, 11220), (16, 11259), (21, 11316), (29, 11379), (33, 11472), (35, 11490), (43, 11643), (46, 11685), (48, 11772), (51, 11964), (52, 11967), (54, 12003), (55, 12051), (59, 12204), (61, 12237), (62, 12246), (63, 12255), (64, 12288), (65, 12300), (66, 12324), (68, 12369), (69, 12378), (74, 12450), (75, 12462), (76, 12480), (82, 12639), (83, 12663), (84, 12672), (85, 12675), (93, 12816), (94, 12819), (95, 12822), (97, 12837), (100, 12891), (104, 12930), (115, 13026), (117, 13047), (118, 13062), (119, 13074), (123, 13146), (134, 13308), (141, 13365), (146, 13377), (147, 13380), (149, 13413), (155, 13506), (156, 13512), (157, 13518), (158, 13539), (159, 13542), (160, 13545), (163, 13566), (164, 13596), (166, 13644), (167, 13650), (168, 13659), (169, 13683), (171, 13698), (172, 13701), (173, 13707), (174, 13752), (175, 13761), (176, 13860), (177, 13902), (178, 13935), (179, 13980), (182, 14004), (183, 14049), (184, 14067), (190, 14205), (191, 14226), (192, 14244), (193, 14247), (194, 14256), (203, 14487), (205, 14505), (206, 14529), (213, 14673), (216, 14697), (217, 14748), (225, 14892), (226, 14910), (228, 14949), (230, 14988), (231, 14994), (232, 15003), (235, 15045), (237, 15123), (239, 15162), (241, 15297), (245, 15390), (246, 15393), (247, 15450), (248, 15459), (249, 15471), (250, 15492), (255, 15705), (256, 15744), (258, 15813), (259, 15867), (263, 16017),