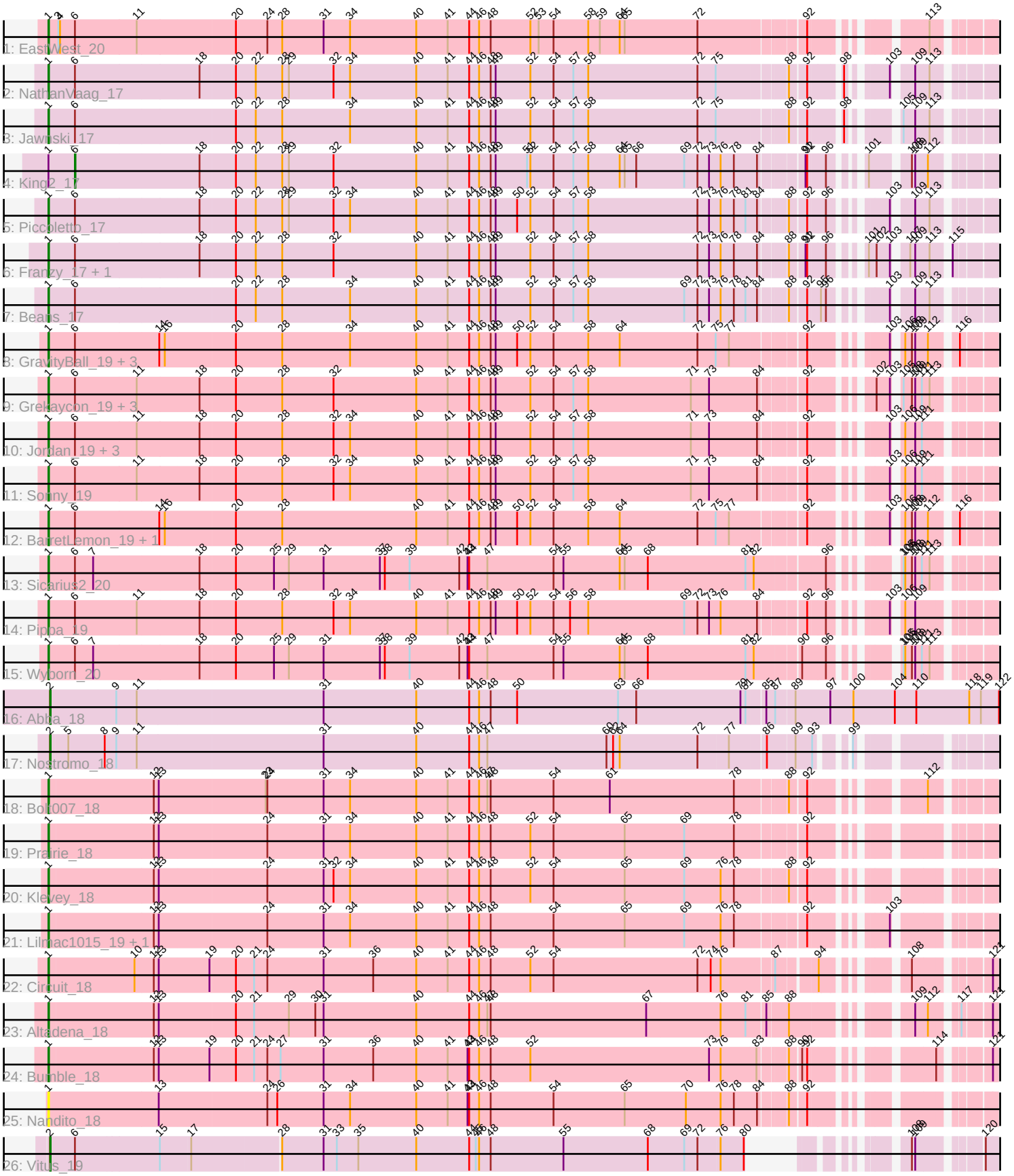
Zoomed Pham 296738



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 296738 Report

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

Pham number 296738 has 38 members, 3 are drafts.

Phages represented in each track:
• Track 1 : EastWest_20
• Track 2 : NathanVaag_17
• Track 3 : Jawnski_17
• Track 4 : King2_17
• Track 5 : Piccoletto_17
• Track 6 : Franzy_17, Brent_17
• Track 7 : Beans_17
• Track 8 : GravityBall_19, LeeroyJ_19, Timinator_19, StevieBAY_19
• Track 9 : Grekaycon_19, BossLady_19, Martha_19, TaeYoung_19
• Track 10 : Jordan_19, Shade_19, Zartrosa_19, JKerns_19
• Track 11 : Sonny_19
• Track 12 : BarretLemon_19, BigDome_19
• Track 13 : Sicarius2_20
• Track 14 : Pippa_19
• Track 15 : Wyborn_20
• Track 16 : Abba_18
• Track 17 : Nostromo_18
• Track 18 : Bolt007_18
• Track 19 : Prairie_18
• Track 20 : Klevey_18
• Track 21 : Lilmac1015_19, CalWood4100_19
• Track 22 : Circuit_18
• Track 23 : Altadena_18
• Track 24 : Bumble_18
• Track 25 : Nandito_18
• Track 26 : Vitus_19

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 31 of the 35 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Altadena_18, BarretLemon_19, Beans_17, BigDome_19, Bolt007_18, BossLady_19, Brent_17, Bumble_18, CalWood4100_19, Circuit_18, EastWest_20, Franzy_17, GravityBall_19, Grekaycon_19, JKerns_19, Jawnski_17, Jordan_19, Klevey_18, LeeroyJ_19, Lilmac1015_19, Martha_19, Nandito_18, NathanVaag_17, Piccoletto_17, Pippa_19, Prairie_18, Shade_19, Sicarius2_20, Sonny_19, StevieBAY_19, TaeYoung_19, Timinator_19, Wyborn_20, Zartrosa_19,

Genes that have the "Most Annotated" start but do not call it:
• King2_17,

Genes that do not have the "Most Annotated" start:
• Abba_18, Nostromo_18, Vitus_19,

Summary by start number:

Start 1:
• Found in 35 of 38 (92.1%) of genes in pham
• Manual Annotations of this start: 31 of 35
• Called 97.1% of time when present
• Phage (with cluster) where this start called: Altadena_18 (FH), BarretLemon_19 (AO2), Beans_17 (AO1), BigDome_19 (AO2), Bolt007_18 (FH), BossLady_19 (AO2), Brent_17 (AO1), Bumble_18 (FH), CalWood4100_19 (FH), Circuit_18 (FH), EastWest_20 (AO), Franzy_17 (AO1), GravityBall_19 (AO2), Grekaycon_19 (AO2), JKerns_19 (AO2), Jawnski_17 (AO1), Jordan_19 (AO2), Klevey_18 (FH), LeeroyJ_19 (AO2), Lilmac1015_19 (FH), Martha_19 (AO2), Nandito_18 (FH), NathanVaag_17 (AO1), Piccoletto_17 (AO1), Pippa_19 (AO2), Prairie_18 (FH), Shade_19 (AO2), Sicarius2_20 (AO2), Sonny_19 (AO2), StevieBAY_19 (AO2), TaeYoung_19 (AO2), Timinator_19 (AO2), Wyborn_20 (AO2), Zartrosa_19 (AO2),

Start 2:
• Found in 3 of 38 (7.9%) of genes in pham
• Manual Annotations of this start: 3 of 35
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Abba_18 (AO3), Nostromo_18 (AO3), Vitus_19 (FL),

Start 6:
• Found in 27 of 38 (71.1%) of genes in pham
• Manual Annotations of this start: 1 of 35
• Called 3.7% of time when present
• Phage (with cluster) where this start called: King2_17 (AO1),

Summary by clusters:

There are 6 clusters represented in this pham: AO, AO3, AO2, AO1, FH, FL,

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

Info for manual annotations of cluster AO1:
•Start number 1 was manually annotated 6 times for cluster AO1.
•Start number 6 was manually annotated 1 time for cluster AO1.

Info for manual annotations of cluster AO2:
•Start number 1 was manually annotated 17 times for cluster AO2.

Info for manual annotations of cluster AO3:
•Start number 2 was manually annotated 2 times for cluster AO3.

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

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

Gene Information:

Gene: Abba_18 Start: 13503, Stop: 16706, Start Num: 2
Candidate Starts for Abba_18:
(Start: 2 @13503 has 3 MA's), (9, 13623), (11, 13659), (31, 13989), (40, 14157), (44, 14253), (46, 14271), (48, 14292), (50, 14340), (63, 14523), (66, 14556), (79, 14745), (81, 14754), (85, 14784), (87, 14799), (89, 14832), (97, 14892), (100, 14934), (104, 15009), (110, 15048), (118, 15144), (119, 15165), (122, 15198), (138, 15339), (151, 15441), (155, 15465), (157, 15471), (162, 15534), (170, 15597), (171, 15603), (182, 15738), (184, 15798), (194, 15867), (196, 15873), (199, 15915), (206, 15978), (208, 16017), (211, 16095), (212, 16116), (221, 16293), (223, 16362), (224, 16404), (226, 16431), (227, 16470), (232, 16596),

Gene: Altadena_18 Start: 13127, Stop: 15736, Start Num: 1
Candidate Starts for Altadena_18:
(Start: 1 @13127 has 31 MA's), (12, 13313), (13, 13322), (20, 13454), (21, 13487), (29, 13550), (30, 13598), (31, 13613), (40, 13781), (44, 13877), (46, 13895), (47, 13910), (48, 13916), (67, 14198), (76, 14330), (81, 14375), (85, 14405), (88, 14441), (109, 14600), (112, 14621), (117, 14657), (121, 14702), (130, 14753), (134, 14786), (135, 14792), (138, 14807), (141, 14825), (149, 14861), (168, 14963), (169, 14969), (180, 15035), (181, 15038), (187, 15065), (188, 15071), (203, 15158), (209, 15233), (213, 15284), (219, 15338), (221, 15371), (224, 15455), (227, 15521),

Gene: BarretLemon_19 Start: 13749, Stop: 16382, Start Num: 1
Candidate Starts for BarretLemon_19:
(Start: 1 @13749 has 31 MA's), (Start: 6 @13797 has 1 MA's), (14, 13947), (16, 13956), (20, 14079), (28, 14163), (40, 14406), (41, 14463), (44, 14502), (46, 14520), (48, 14541), (49, 14550), (50, 14589), (52, 14613), (54, 14655), (58, 14718), (64, 14775), (72, 14916), (75, 14949), (77, 14973), (92, 15090), (103, 15189), (106, 15198), (108, 15210), (109, 15216), (112, 15237), (116, 15270), (128, 15363), (133, 15390), (134, 15402), (136, 15414), (139, 15432), (140, 15435), (142, 15444), (150, 15480), (156, 15498), (157, 15501), (158, 15510), (161, 15534), (163, 15546), (165, 15564), (166, 15567), (168, 15579), (174, 15615), (181, 15654), (188, 15687), (191, 15708), (196, 15726), (197, 15738), (198, 15747), (203, 15774), (210, 15858), (214, 15903), (219, 15954), (223, 16035), (225, 16098), (226, 16104), (227, 16143), (228, 16248), (232, 16272), (234, 16320), (235, 16341),

Gene: Beans_17 Start: 13458, Stop: 16085, Start Num: 1
Candidate Starts for Beans_17:
(Start: 1 @13458 has 31 MA's), (Start: 6 @13506 has 1 MA's), (20, 13788), (22, 13824), (28, 13872), (34, 13995), (40, 14115), (41, 14172), (44, 14211), (46, 14229), (48, 14250), (49, 14259), (52, 14322), (54, 14364), (57, 14400), (58, 14427), (69, 14601), (72, 14625), (73, 14646), (76, 14667), (78, 14691), (81, 14712), (84, 14730), (88, 14772), (92, 14799), (95, 14820), (96, 14829), (103, 14898), (109,

14925), (113, 14949), (125, 15054), (130, 15078), (132, 15096), (133, 15099), (134, 15111), (139, 15141), (142, 15153), (147, 15177), (154, 15201), (156, 15207), (157, 15210), (158, 15219), (163, 15255), (165, 15273), (168, 15288), (172, 15309), (178, 15339), (181, 15363), (188, 15396), (191, 15417), (192, 15426), (198, 15456), (203, 15483), (207, 15525), (216, 15633), (217, 15645), (219, 15663), (223, 15741), (224, 15783), (225, 15804), (226, 15810), (227, 15849), (229, 15957), (232, 15978), (236, 16053),

Gene: BigDome_19 Start: 13737, Stop: 16370, Start Num: 1
Candidate Starts for BigDome_19:
(Start: 1 @13737 has 31 MA's), (Start: 6 @13785 has 1 MA's), (14, 13935), (16, 13944), (20, 14067), (28, 14151), (40, 14394), (41, 14451), (44, 14490), (46, 14508), (48, 14529), (49, 14538), (50, 14577), (52, 14601), (54, 14643), (58, 14706), (64, 14763), (72, 14904), (75, 14937), (77, 14961), (92, 15078), (103, 15177), (106, 15186), (108, 15198), (109, 15204), (112, 15225), (116, 15258), (128, 15351), (133, 15378), (134, 15390), (136, 15402), (139, 15420), (140, 15423), (142, 15432), (150, 15468), (156, 15486), (157, 15489), (158, 15498), (161, 15522), (163, 15534), (165, 15552), (166, 15555), (168, 15567), (174, 15603), (181, 15642), (188, 15675), (191, 15696), (196, 15714), (197, 15726), (198, 15735), (203, 15762), (210, 15846), (214, 15891), (219, 15942), (223, 16023), (225, 16086), (226, 16092), (227, 16131), (228, 16236), (232, 16260), (234, 16308), (235, 16329),

Gene: Bolt007_18 Start: 12985, Stop: 15567, Start Num: 1
Candidate Starts for Bolt007_18:
(Start: 1 @12985 has 31 MA's), (12, 13171), (13, 13180), (23, 13366), (24, 13369), (31, 13471), (34, 13519), (40, 13639), (41, 13696), (44, 13735), (46, 13753), (47, 13768), (48, 13774), (54, 13888), (61, 13990), (78, 14215), (88, 14296), (92, 14323), (112, 14470), (130, 14602), (131, 14614), (134, 14635), (141, 14674), (153, 14722), (167, 14809), (171, 14827), (173, 14845), (176, 14854), (188, 14920), (190, 14938), (191, 14941), (203, 15007), (224, 15277), (227, 15343), (231, 15451), (233, 15472),

Gene: BossLady_19 Start: 13763, Stop: 16393, Start Num: 1
Candidate Starts for BossLady_19:
(Start: 1 @13763 has 31 MA's), (Start: 6 @13811 has 1 MA's), (11, 13922), (18, 14030), (20, 14093), (28, 14177), (32, 14270), (40, 14420), (41, 14477), (44, 14516), (46, 14534), (48, 14555), (49, 14564), (52, 14627), (54, 14669), (57, 14705), (58, 14732), (71, 14918), (73, 14951), (84, 15035), (92, 15104), (102, 15179), (103, 15203), (105, 15209), (108, 15224), (109, 15230), (111, 15242), (113, 15254), (131, 15395), (133, 15404), (134, 15416), (147, 15482), (157, 15515), (158, 15524), (161, 15548), (163, 15560), (168, 15593), (181, 15668), (188, 15701), (191, 15722), (192, 15731), (203, 15788), (207, 15830), (210, 15872), (219, 15968), (223, 16049), (224, 16091), (225, 16112), (226, 16118), (227, 16157), (228, 16259), (232, 16283), (234, 16331), (235, 16352),

Gene: Brent_17 Start: 13434, Stop: 16064, Start Num: 1
Candidate Starts for Brent_17:
(Start: 1 @13434 has 31 MA's), (Start: 6 @13482 has 1 MA's), (18, 13701), (20, 13764), (22, 13800), (28, 13848), (32, 13941), (40, 14091), (41, 14148), (44, 14187), (46, 14205), (48, 14226), (49, 14235), (52, 14298), (54, 14340), (57, 14376), (58, 14403), (72, 14601), (73, 14622), (76, 14643), (78, 14667), (84, 14706), (88, 14748), (91, 14772), (92, 14775), (96, 14805), (101, 14841), (102, 14850), (103, 14874), (107, 14892), (109, 14901), (113, 14925), (115, 14946), (125, 15030), (131, 15066), (132, 15072), (133, 15075), (134, 15087), (138, 15108), (139, 15117), (147, 15153), (157, 15186), (158, 15195), (161, 15219), (163, 15231), (165, 15249), (168, 15264), (174, 15300), (175, 15303), (181, 15339), (184, 15354), (188, 15372), (191, 15393), (192, 15402), (198, 15432), (202, 15456), (203, 15459), (219, 15639), (223, 15720), (224, 15762), (225, 15783), (226, 15789), (227, 15828), (229, 15936), (232, 15957), (236, 16032),

Gene: Bumble_18 Start: 13132, Stop: 15741, Start Num: 1
Candidate Starts for Bumble_18:

(Start: 1 @13132 has 31 MA's), (12, 13318), (13, 13327), (19, 13414), (20, 13459), (21, 13492), (24, 13516), (27, 13540), (31, 13618), (36, 13708), (40, 13786), (41, 13843), (43, 13879), (44, 13882), (46, 13900), (48, 13921), (52, 13993), (73, 14317), (76, 14338), (83, 14401), (88, 14443), (90, 14461), (92, 14470), (114, 14629), (121, 14698), (133, 14770), (134, 14782), (135, 14788), (140, 14815), (141, 14821), (148, 14854), (167, 14956), (168, 14959), (171, 14974), (180, 15031), (181, 15034), (188, 15067), (196, 15106), (203, 15154), (204, 15163), (219, 15334), (227, 15517),

Gene: CalWood4100_19 Start: 12965, Stop: 15547, Start Num: 1
Candidate Starts for CalWood4100_19:
(Start: 1 @12965 has 31 MA's), (12, 13151), (13, 13160), (24, 13349), (31, 13451), (34, 13499), (40, 13619), (41, 13676), (44, 13715), (46, 13733), (48, 13754), (54, 13868), (65, 13997), (69, 14105), (76, 14171), (78, 14195), (92, 14303), (103, 14402), (131, 14594), (134, 14615), (141, 14654), (163, 14759), (167, 14789), (188, 14900), (190, 14918), (191, 14921), (195, 14936), (203, 14987), (207, 15029), (227, 15323), (231, 15431), (233, 15452),

Gene: Circuit_18 Start: 13139, Stop: 15739, Start Num: 1
Candidate Starts for Circuit_18:
(Start: 1 @13139 has 31 MA's), (10, 13292), (12, 13325), (13, 13334), (19, 13421), (20, 13466), (21, 13499), (24, 13523), (31, 13625), (36, 13715), (40, 13793), (41, 13850), (44, 13889), (46, 13907), (48, 13928), (52, 14000), (54, 14042), (72, 14303), (74, 14327), (76, 14342), (87, 14432), (94, 14492), (108, 14594), (121, 14702), (134, 14786), (135, 14792), (145, 14846), (148, 14858), (159, 14897), (167, 14960), (168, 14963), (176, 15005), (181, 15038), (188, 15071), (193, 15104), (196, 15110), (203, 15158), (219, 15338), (227, 15521),

Gene: EastWest_20 Start: 13745, Stop: 16369, Start Num: 1
Candidate Starts for EastWest_20:
(Start: 1 @13745 has 31 MA's), (3, 13760), (4, 13763), (Start: 6 @13790 has 1 MA's), (11, 13901), (20, 14072), (24, 14129), (28, 14156), (31, 14231), (34, 14279), (40, 14399), (41, 14456), (44, 14495), (46, 14513), (48, 14534), (52, 14606), (53, 14621), (54, 14648), (58, 14711), (59, 14732), (64, 14768), (65, 14777), (72, 14909), (92, 15083), (113, 15233), (125, 15338), (128, 15356), (130, 15362), (131, 15374), (147, 15461), (152, 15479), (154, 15485), (157, 15494), (158, 15503), (163, 15539), (168, 15572), (173, 15605), (181, 15647), (188, 15680), (198, 15740), (203, 15767), (210, 15851), (215, 15905), (219, 15947), (221, 15980), (223, 16025), (225, 16088), (226, 16094), (227, 16133), (229, 16238), (232, 16259),

Gene: Franzy_17 Start: 13434, Stop: 16064, Start Num: 1
Candidate Starts for Franzy_17:
(Start: 1 @13434 has 31 MA's), (Start: 6 @13482 has 1 MA's), (18, 13701), (20, 13764), (22, 13800), (28, 13848), (32, 13941), (40, 14091), (41, 14148), (44, 14187), (46, 14205), (48, 14226), (49, 14235), (52, 14298), (54, 14340), (57, 14376), (58, 14403), (72, 14601), (73, 14622), (76, 14643), (78, 14667), (84, 14706), (88, 14748), (91, 14772), (92, 14775), (96, 14805), (101, 14841), (102, 14850), (103, 14874), (107, 14892), (109, 14901), (113, 14925), (115, 14946), (125, 15030), (131, 15066), (132, 15072), (133, 15075), (134, 15087), (138, 15108), (139, 15117), (147, 15153), (157, 15186), (158, 15195), (161, 15219), (163, 15231), (165, 15249), (168, 15264), (174, 15300), (175, 15303), (181, 15339), (184, 15354), (188, 15372), (191, 15393), (192, 15402), (198, 15432), (202, 15456), (203, 15459), (219, 15639), (223, 15720), (224, 15762), (225, 15783), (226, 15789), (227, 15828), (229, 15936), (232, 15957), (236, 16032),

Gene: GravityBall_19 Start: 13748, Stop: 16381, Start Num: 1
Candidate Starts for GravityBall_19:
(Start: 1 @13748 has 31 MA's), (Start: 6 @13796 has 1 MA's), (14, 13946), (16, 13955), (20, 14078), (28, 14162), (34, 14285), (40, 14405), (41, 14462), (44, 14501), (46, 14519), (48, 14540), (49, 14549), (50, 14588), (52, 14612), (54, 14654), (58, 14717), (64, 14774), (72, 14915), (75, 14948), (77, 14972),

(92, 15089), (103, 15188), (106, 15197), (108, 15209), (109, 15215), (112, 15236), (116, 15269), (128, 15362), (133, 15389), (134, 15401), (136, 15413), (139, 15431), (140, 15434), (142, 15443), (150, 15479), (156, 15497), (157, 15500), (158, 15509), (161, 15533), (163, 15545), (165, 15563), (166, 15566), (168, 15578), (174, 15614), (181, 15653), (188, 15686), (191, 15707), (197, 15737), (198, 15746), (203, 15773), (210, 15857), (214, 15902), (219, 15953), (223, 16034), (225, 16097), (226, 16103), (227, 16142), (228, 16247), (232, 16271), (234, 16319), (235, 16340),

Gene: Grekaycon_19 Start: 13772, Stop: 16402, Start Num: 1
Candidate Starts for Grekaycon_19:
(Start: 1 @13772 has 31 MA's), (Start: 6 @13820 has 1 MA's), (11, 13931), (18, 14039), (20, 14102), (28, 14186), (32, 14279), (40, 14429), (41, 14486), (44, 14525), (46, 14543), (48, 14564), (49, 14573), (52, 14636), (54, 14678), (57, 14714), (58, 14741), (71, 14927), (73, 14960), (84, 15044), (92, 15113), (102, 15188), (103, 15212), (105, 15218), (108, 15233), (109, 15239), (111, 15251), (113, 15263), (131, 15404), (133, 15413), (134, 15425), (147, 15491), (157, 15524), (158, 15533), (161, 15557), (163, 15569), (168, 15602), (181, 15677), (188, 15710), (191, 15731), (192, 15740), (203, 15797), (207, 15839), (210, 15881), (219, 15977), (223, 16058), (224, 16100), (225, 16121), (226, 16127), (227, 16166), (228, 16268), (232, 16292), (234, 16340), (235, 16361),

Gene: JKerns_19 Start: 13799, Stop: 16429, Start Num: 1
Candidate Starts for JKerns_19:
(Start: 1 @13799 has 31 MA's), (Start: 6 @13847 has 1 MA's), (11, 13958), (18, 14066), (20, 14129), (28, 14213), (32, 14306), (34, 14336), (40, 14456), (41, 14513), (44, 14552), (46, 14570), (48, 14591), (49, 14600), (52, 14663), (54, 14705), (57, 14741), (58, 14768), (71, 14954), (73, 14987), (84, 15071), (92, 15140), (103, 15239), (106, 15248), (109, 15266), (111, 15278), (131, 15431), (132, 15437), (133, 15440), (134, 15452), (135, 15458), (138, 15473), (139, 15482), (147, 15518), (157, 15551), (158, 15560), (161, 15584), (163, 15596), (165, 15614), (168, 15629), (174, 15665), (181, 15704), (184, 15719), (188, 15737), (191, 15758), (192, 15767), (198, 15797), (203, 15824), (205, 15857), (207, 15866), (215, 15962), (216, 15974), (218, 15995), (219, 16004), (223, 16085), (224, 16127), (225, 16148), (226, 16154), (227, 16193), (228, 16295), (232, 16319), (234, 16367), (235, 16388),

Gene: Jawnski_17 Start: 13453, Stop: 16080, Start Num: 1
Candidate Starts for Jawnski_17:
(Start: 1 @13453 has 31 MA's), (Start: 6 @13501 has 1 MA's), (20, 13783), (22, 13819), (28, 13867), (34, 13990), (40, 14110), (41, 14167), (44, 14206), (46, 14224), (48, 14245), (49, 14254), (52, 14317), (54, 14359), (57, 14395), (58, 14422), (72, 14620), (75, 14653), (88, 14767), (92, 14794), (98, 14842), (105, 14899), (109, 14920), (113, 14944), (125, 15049), (128, 15067), (133, 15094), (134, 15106), (139, 15136), (142, 15148), (147, 15172), (154, 15196), (156, 15202), (157, 15205), (158, 15214), (163, 15250), (165, 15268), (168, 15283), (172, 15304), (178, 15334), (181, 15358), (188, 15391), (191, 15412), (192, 15421), (198, 15451), (203, 15478), (207, 15520), (216, 15628), (217, 15640), (219, 15658), (223, 15736), (224, 15778), (225, 15799), (226, 15805), (227, 15844), (229, 15952), (232, 15973), (236, 16048),

Gene: Jordan_19 Start: 13769, Stop: 16399, Start Num: 1
Candidate Starts for Jordan_19:
(Start: 1 @13769 has 31 MA's), (Start: 6 @13817 has 1 MA's), (11, 13928), (18, 14036), (20, 14099), (28, 14183), (32, 14276), (34, 14306), (40, 14426), (41, 14483), (44, 14522), (46, 14540), (48, 14561), (49, 14570), (52, 14633), (54, 14675), (57, 14711), (58, 14738), (71, 14924), (73, 14957), (84, 15041), (92, 15110), (103, 15209), (106, 15218), (109, 15236), (111, 15248), (131, 15401), (132, 15407), (133, 15410), (134, 15422), (135, 15428), (138, 15443), (139, 15452), (147, 15488), (157, 15521), (158, 15530), (161, 15554), (163, 15566), (165, 15584), (168, 15599), (174, 15635), (181, 15674), (184, 15689), (188, 15707), (191, 15728), (192, 15737), (198, 15767), (203, 15794), (205, 15827), (207, 15836), (215, 15932), (216, 15944), (218, 15965), (219, 15974), (223, 16055), (224, 16097), (225, 16118), (226, 16124), (227, 16163), (228, 16265), (232, 16289), (234, 16337), (235, 16358),

Gene: King2_17 Start: 13484, Stop: 16066, Start Num: 6
Candidate Starts for King2_17:
(Start: 1 @13436 has 31 MA's), (Start: 6 @13484 has 1 MA's), (18, 13703), (20, 13766), (22, 13802), (28, 13850), (29, 13862), (32, 13943), (40, 14093), (41, 14150), (44, 14189), (46, 14207), (48, 14228), (49, 14237), (51, 14294), (52, 14300), (54, 14342), (57, 14378), (58, 14405), (64, 14462), (65, 14471), (66, 14492), (69, 14579), (72, 14603), (73, 14624), (76, 14645), (78, 14669), (84, 14708), (91, 14774), (92, 14777), (96, 14807), (101, 14843), (108, 14897), (109, 14903), (112, 14924), (125, 15032), (128, 15050), (131, 15068), (133, 15077), (134, 15089), (139, 15119), (142, 15131), (147, 15155), (154, 15179), (157, 15188), (158, 15197), (163, 15233), (166, 15254), (168, 15266), (172, 15287), (181, 15341), (188, 15374), (191, 15395), (192, 15404), (198, 15434), (203, 15461), (216, 15611), (217, 15623), (219, 15641), (223, 15722), (224, 15764), (225, 15785), (226, 15791), (227, 15830), (229, 15938), (232, 15959), (236, 16034),

Gene: Klevey_18 Start: 12975, Stop: 15557, Start Num: 1
Candidate Starts for Klevey_18:
(Start: 1 @12975 has 31 MA's), (12, 13161), (13, 13170), (24, 13359), (31, 13461), (32, 13479), (34, 13509), (40, 13629), (41, 13686), (44, 13725), (46, 13743), (48, 13764), (52, 13836), (54, 13878), (65, 14007), (69, 14115), (76, 14181), (78, 14205), (88, 14286), (92, 14313), (131, 14604), (134, 14625), (141, 14664), (153, 14712), (167, 14799), (188, 14910), (190, 14928), (191, 14931), (203, 14997), (227, 15333), (231, 15441), (233, 15462),

Gene: LeeroyJ_19 Start: 13748, Stop: 16381, Start Num: 1
Candidate Starts for LeeroyJ_19:
(Start: 1 @13748 has 31 MA's), (Start: 6 @13796 has 1 MA's), (14, 13946), (16, 13955), (20, 14078), (28, 14162), (34, 14285), (40, 14405), (41, 14462), (44, 14501), (46, 14519), (48, 14540), (49, 14549), (50, 14588), (52, 14612), (54, 14654), (58, 14717), (64, 14774), (72, 14915), (75, 14948), (77, 14972), (92, 15089), (103, 15188), (106, 15197), (108, 15209), (109, 15215), (112, 15236), (116, 15269), (128, 15362), (133, 15389), (134, 15401), (136, 15413), (139, 15431), (140, 15434), (142, 15443), (150, 15479), (156, 15497), (157, 15500), (158, 15509), (161, 15533), (163, 15545), (165, 15563), (166, 15566), (168, 15578), (174, 15614), (181, 15653), (188, 15686), (191, 15707), (197, 15737), (198, 15746), (203, 15773), (210, 15857), (214, 15902), (219, 15953), (223, 16034), (225, 16097), (226, 16103), (227, 16142), (228, 16247), (232, 16271), (234, 16319), (235, 16340),

Gene: Lilmac1015_19 Start: 12965, Stop: 15547, Start Num: 1
Candidate Starts for Lilmac1015_19:
(Start: 1 @12965 has 31 MA's), (12, 13151), (13, 13160), (24, 13349), (31, 13451), (34, 13499), (40, 13619), (41, 13676), (44, 13715), (46, 13733), (48, 13754), (54, 13868), (65, 13997), (69, 14105), (76, 14171), (78, 14195), (92, 14303), (103, 14402), (131, 14594), (134, 14615), (141, 14654), (163, 14759), (167, 14789), (188, 14900), (190, 14918), (191, 14921), (195, 14936), (203, 14987), (207, 15029), (227, 15323), (231, 15431), (233, 15452),

Gene: Martha_19 Start: 13710, Stop: 16340, Start Num: 1
Candidate Starts for Martha_19:
(Start: 1 @13710 has 31 MA's), (Start: 6 @13758 has 1 MA's), (11, 13869), (18, 13977), (20, 14040), (28, 14124), (32, 14217), (40, 14367), (41, 14424), (44, 14463), (46, 14481), (48, 14502), (49, 14511), (52, 14574), (54, 14616), (57, 14652), (58, 14679), (71, 14865), (73, 14898), (84, 14982), (92, 15051), (102, 15126), (103, 15150), (105, 15156), (108, 15171), (109, 15177), (111, 15189), (113, 15201), (131, 15342), (133, 15351), (134, 15363), (147, 15429), (157, 15462), (158, 15471), (161, 15495), (163, 15507), (168, 15540), (181, 15615), (188, 15648), (191, 15669), (192, 15678), (203, 15735), (207, 15777), (210, 15819), (219, 15915), (223, 15996), (224, 16038), (225, 16059), (226, 16065), (227, 16104), (228, 16206), (232, 16230), (234, 16278), (235, 16299),

Gene: Nandito_18 Start: 13061, Stop: 15646, Start Num: 1
Candidate Starts for Nandito_18:
(Start: 1 @13061 has 31 MA's), (13, 13259), (24, 13448), (26, 13466), (31, 13550), (34, 13598), (40, 13718), (41, 13775), (43, 13811), (44, 13814), (46, 13832), (48, 13853), (54, 13967), (65, 14096), (70, 14207), (76, 14270), (78, 14294), (84, 14333), (88, 14375), (92, 14402), (131, 14693), (134, 14714), (146, 14777), (156, 14810), (158, 14822), (188, 14999), (191, 15020), (203, 15086), (224, 15356), (227, 15422),

Gene: NathanVaag_17 Start: 13446, Stop: 16073, Start Num: 1
Candidate Starts for NathanVaag_17:
(Start: 1 @13446 has 31 MA's), (Start: 6 @13494 has 1 MA's), (18, 13713), (20, 13776), (22, 13812), (28, 13860), (29, 13872), (32, 13953), (34, 13983), (40, 14103), (41, 14160), (44, 14199), (46, 14217), (48, 14238), (49, 14247), (52, 14310), (54, 14352), (57, 14388), (58, 14415), (72, 14613), (75, 14646), (88, 14760), (92, 14787), (98, 14835), (103, 14886), (109, 14913), (113, 14937), (125, 15042), (128, 15060), (131, 15078), (133, 15087), (134, 15099), (139, 15129), (142, 15141), (154, 15189), (157, 15198), (158, 15207), (163, 15243), (165, 15261), (168, 15276), (178, 15327), (181, 15351), (188, 15384), (191, 15405), (192, 15414), (198, 15444), (203, 15471), (207, 15513), (213, 15597), (216, 15621), (217, 15633), (219, 15651), (223, 15729), (224, 15771), (225, 15792), (226, 15798), (227, 15837), (232, 15966), (236, 16041),

Gene: Nostromo_18 Start: 13716, Stop: 16340, Start Num: 2
Candidate Starts for Nostromo_18:
(Start: 2 @13716 has 3 MA's), (5, 13746), (8, 13812), (9, 13833), (11, 13869), (31, 14199), (40, 14367), (44, 14463), (46, 14481), (47, 14496), (60, 14712), (62, 14724), (64, 14736), (72, 14877), (77, 14931), (86, 14991), (89, 15039), (93, 15066), (99, 15102), (128, 15321), (130, 15327), (132, 15345), (137, 15375), (138, 15381), (147, 15426), (154, 15450), (157, 15459), (158, 15468), (163, 15504), (168, 15537), (171, 15552), (172, 15558), (173, 15570), (177, 15582), (179, 15591), (181, 15612), (193, 15678), (198, 15705), (201, 15726), (203, 15732), (219, 15912), (221, 15945), (223, 15993), (224, 16035), (225, 16056), (226, 16062), (227, 16101), (230, 16215),

Gene: Piccoletto_17 Start: 13446, Stop: 16073, Start Num: 1
Candidate Starts for Piccoletto_17:
(Start: 1 @13446 has 31 MA's), (Start: 6 @13494 has 1 MA's), (18, 13713), (20, 13776), (22, 13812), (28, 13860), (29, 13872), (32, 13953), (34, 13983), (40, 14103), (41, 14160), (44, 14199), (46, 14217), (48, 14238), (49, 14247), (50, 14286), (52, 14310), (54, 14352), (57, 14388), (58, 14415), (72, 14613), (73, 14634), (76, 14655), (78, 14679), (81, 14700), (84, 14718), (88, 14760), (92, 14787), (96, 14817), (103, 14886), (109, 14913), (113, 14937), (125, 15042), (132, 15084), (133, 15087), (134, 15099), (139, 15129), (142, 15141), (147, 15165), (154, 15189), (157, 15198), (158, 15207), (163, 15243), (166, 15264), (168, 15276), (178, 15327), (181, 15351), (188, 15384), (191, 15405), (192, 15414), (198, 15444), (203, 15471), (207, 15513), (216, 15621), (217, 15633), (219, 15651), (223, 15729), (224, 15771), (225, 15792), (226, 15798), (227, 15837), (232, 15966), (236, 16041),

Gene: Pippa_19 Start: 13801, Stop: 16431, Start Num: 1
Candidate Starts for Pippa_19:
(Start: 1 @13801 has 31 MA's), (Start: 6 @13849 has 1 MA's), (11, 13960), (18, 14068), (20, 14131), (28, 14215), (32, 14308), (34, 14338), (40, 14458), (41, 14515), (44, 14554), (46, 14572), (48, 14593), (49, 14602), (50, 14641), (52, 14665), (54, 14707), (56, 14737), (58, 14770), (69, 14944), (72, 14968), (73, 14989), (76, 15010), (84, 15073), (92, 15142), (96, 15172), (103, 15241), (106, 15250), (109, 15268), (129, 15418), (131, 15433), (132, 15439), (133, 15442), (134, 15454), (138, 15475), (147, 15520), (156, 15550), (158, 15562), (161, 15586), (163, 15598), (168, 15631), (181, 15706), (184, 15721), (188, 15739), (191, 15760), (203, 15826), (210, 15910), (216, 15976), (217, 15988), (219, 16006), (224, 16129), (225, 16150), (226, 16156), (227, 16195), (228, 16297), (232, 16321), (234, 16369), (235, 16390),

Gene: Prairie_18 Start: 12972, Stop: 15554, Start Num: 1
Candidate Starts for Prairie_18:
(Start: 1 @12972 has 31 MA's), (12, 13158), (13, 13167), (24, 13356), (31, 13458), (34, 13506), (40, 13626), (41, 13683), (44, 13722), (46, 13740), (48, 13761), (52, 13833), (54, 13875), (65, 14004), (69, 14112), (78, 14202), (92, 14310), (131, 14601), (134, 14622), (141, 14661), (167, 14796), (188, 14907), (190, 14925), (191, 14928), (203, 14994), (227, 15330), (231, 15438), (233, 15459),

Gene: Shade_19 Start: 13748, Stop: 16378, Start Num: 1
Candidate Starts for Shade_19:
(Start: 1 @13748 has 31 MA's), (Start: 6 @13796 has 1 MA's), (11, 13907), (18, 14015), (20, 14078), (28, 14162), (32, 14255), (34, 14285), (40, 14405), (41, 14462), (44, 14501), (46, 14519), (48, 14540), (49, 14549), (52, 14612), (54, 14654), (57, 14690), (58, 14717), (71, 14903), (73, 14936), (84, 15020), (92, 15089), (103, 15188), (106, 15197), (109, 15215), (111, 15227), (131, 15380), (132, 15386), (133, 15389), (134, 15401), (135, 15407), (138, 15422), (139, 15431), (147, 15467), (157, 15500), (158, 15509), (161, 15533), (163, 15545), (165, 15563), (168, 15578), (174, 15614), (181, 15653), (184, 15668), (188, 15686), (191, 15707), (192, 15716), (198, 15746), (203, 15773), (205, 15806), (207, 15815), (215, 15911), (216, 15923), (218, 15944), (219, 15953), (223, 16034), (224, 16076), (225, 16097), (226, 16103), (227, 16142), (228, 16244), (232, 16268), (234, 16316), (235, 16337),

Gene: Sicarius2_20 Start: 14249, Stop: 16888, Start Num: 1
Candidate Starts for Sicarius2_20:
(Start: 1 @14249 has 31 MA's), (Start: 6 @14294 has 1 MA's), (7, 14327), (18, 14513), (20, 14576), (25, 14645), (29, 14672), (31, 14735), (37, 14837), (38, 14846), (39, 14891), (42, 14981), (43, 14996), (44, 14999), (47, 15032), (54, 15152), (55, 15170), (64, 15272), (65, 15281), (68, 15323), (81, 15500), (82, 15512), (96, 15629), (105, 15704), (106, 15707), (108, 15719), (109, 15725), (111, 15737), (113, 15749), (124, 15851), (127, 15866), (131, 15890), (133, 15899), (134, 15911), (138, 15932), (140, 15944), (141, 15950), (143, 15956), (147, 15977), (157, 16010), (158, 16019), (159, 16022), (163, 16055), (164, 16070), (165, 16073), (167, 16085), (172, 16109), (174, 16124), (179, 16142), (180, 16160), (183, 16175), (185, 16181), (189, 16202), (191, 16217), (195, 16232), (200, 16262), (204, 16292), (207, 16325), (214, 16412), (216, 16433), (217, 16445), (219, 16463), (220, 16472), (222, 16517), (225, 16610), (226, 16616), (227, 16655), (232, 16778),

Gene: Sonny_19 Start: 13769, Stop: 16399, Start Num: 1
Candidate Starts for Sonny_19:
(Start: 1 @13769 has 31 MA's), (Start: 6 @13817 has 1 MA's), (11, 13928), (18, 14036), (20, 14099), (28, 14183), (32, 14276), (34, 14306), (40, 14426), (41, 14483), (44, 14522), (46, 14540), (48, 14561), (49, 14570), (52, 14633), (54, 14675), (57, 14711), (58, 14738), (71, 14924), (73, 14957), (84, 15041), (92, 15110), (103, 15209), (106, 15218), (109, 15236), (111, 15248), (126, 15374), (131, 15401), (132, 15407), (133, 15410), (134, 15422), (135, 15428), (138, 15443), (139, 15452), (147, 15488), (157, 15521), (158, 15530), (161, 15554), (163, 15566), (165, 15584), (168, 15599), (174, 15635), (181, 15674), (184, 15689), (188, 15707), (191, 15728), (192, 15737), (198, 15767), (203, 15794), (205, 15827), (207, 15836), (215, 15932), (216, 15944), (218, 15965), (219, 15974), (223, 16055), (224, 16097), (225, 16118), (226, 16124), (227, 16163), (228, 16265), (232, 16289), (234, 16337), (235, 16358),

Gene: StevieBAY_19 Start: 13748, Stop: 16381, Start Num: 1
Candidate Starts for StevieBAY_19:
(Start: 1 @13748 has 31 MA's), (Start: 6 @13796 has 1 MA's), (14, 13946), (16, 13955), (20, 14078), (28, 14162), (34, 14285), (40, 14405), (41, 14462), (44, 14501), (46, 14519), (48, 14540), (49, 14549), (50, 14588), (52, 14612), (54, 14654), (58, 14717), (64, 14774), (72, 14915), (75, 14948), (77, 14972), (92, 15089), (103, 15188), (106, 15197), (108, 15209), (109, 15215), (112, 15236), (116, 15269), (128, 15362), (133, 15389), (134, 15401), (136, 15413), (139, 15431), (140, 15434), (142, 15443), (150,

15479), (156, 15497), (157, 15500), (158, 15509), (161, 15533), (163, 15545), (165, 15563), (166, 15566), (168, 15578), (174, 15614), (181, 15653), (188, 15686), (191, 15707), (197, 15737), (198, 15746), (203, 15773), (210, 15857), (214, 15902), (219, 15953), (223, 16034), (225, 16097), (226, 16103), (227, 16142), (228, 16247), (232, 16271), (234, 16319), (235, 16340),

Gene: TaeYoung_19 Start: 13773, Stop: 16403, Start Num: 1
Candidate Starts for TaeYoung_19:
(Start: 1 @13773 has 31 MA's), (Start: 6 @13821 has 1 MA's), (11, 13932), (18, 14040), (20, 14103), (28, 14187), (32, 14280), (40, 14430), (41, 14487), (44, 14526), (46, 14544), (48, 14565), (49, 14574), (52, 14637), (54, 14679), (57, 14715), (58, 14742), (71, 14928), (73, 14961), (84, 15045), (92, 15114), (102, 15189), (103, 15213), (105, 15219), (108, 15234), (109, 15240), (111, 15252), (113, 15264), (131, 15405), (133, 15414), (134, 15426), (147, 15492), (157, 15525), (158, 15534), (161, 15558), (163, 15570), (168, 15603), (181, 15678), (188, 15711), (191, 15732), (192, 15741), (203, 15798), (207, 15840), (210, 15882), (219, 15978), (223, 16059), (224, 16101), (225, 16122), (226, 16128), (227, 16167), (228, 16269), (232, 16293), (234, 16341), (235, 16362),

Gene: Timinator_19 Start: 13748, Stop: 16381, Start Num: 1
Candidate Starts for Timinator_19:
(Start: 1 @13748 has 31 MA's), (Start: 6 @13796 has 1 MA's), (14, 13946), (16, 13955), (20, 14078), (28, 14162), (34, 14285), (40, 14405), (41, 14462), (44, 14501), (46, 14519), (48, 14540), (49, 14549), (50, 14588), (52, 14612), (54, 14654), (58, 14717), (64, 14774), (72, 14915), (75, 14948), (77, 14972), (92, 15089), (103, 15188), (106, 15197), (108, 15209), (109, 15215), (112, 15236), (116, 15269), (128, 15362), (133, 15389), (134, 15401), (136, 15413), (139, 15431), (140, 15434), (142, 15443), (150, 15479), (156, 15497), (157, 15500), (158, 15509), (161, 15533), (163, 15545), (165, 15563), (166, 15566), (168, 15578), (174, 15614), (181, 15653), (188, 15686), (191, 15707), (197, 15737), (198, 15746), (203, 15773), (210, 15857), (214, 15902), (219, 15953), (223, 16034), (225, 16097), (226, 16103), (227, 16142), (228, 16247), (232, 16271), (234, 16319), (235, 16340),

Gene: Vitus_19 Start: 14985, Stop: 17510, Start Num: 2
Candidate Starts for Vitus_19:
(Start: 2 @14985 has 3 MA's), (Start: 6 @15030 has 1 MA's), (15, 15180), (17, 15234), (28, 15387), (31, 15459), (33, 15483), (35, 15522), (40, 15627), (44, 15723), (45, 15735), (46, 15741), (48, 15762), (55, 15894), (68, 16047), (69, 16113), (72, 16137), (76, 16176), (80, 16218), (108, 16344), (109, 16350), (120, 16440), (134, 16536), (138, 16557), (144, 16587), (150, 16614), (154, 16626), (158, 16644), (160, 16650), (168, 16713), (171, 16728), (173, 16746), (179, 16767), (181, 16788), (186, 16809), (188, 16821), (191, 16842), (198, 16881), (203, 16908), (219, 17088), (220, 17097), (223, 17169), (226, 17238), (227, 17277), (228, 17376),

Gene: Wyborn_20 Start: 14110, Stop: 16749, Start Num: 1
Candidate Starts for Wyborn_20:
(Start: 1 @14110 has 31 MA's), (Start: 6 @14155 has 1 MA's), (7, 14188), (18, 14374), (20, 14437), (25, 14506), (29, 14533), (31, 14596), (37, 14698), (38, 14707), (39, 14752), (42, 14842), (43, 14857), (44, 14860), (47, 14893), (54, 15013), (55, 15031), (64, 15133), (65, 15142), (68, 15184), (81, 15361), (82, 15373), (90, 15448), (96, 15490), (105, 15565), (106, 15568), (108, 15580), (109, 15586), (111, 15598), (113, 15610), (123, 15709), (124, 15712), (127, 15727), (131, 15751), (133, 15760), (134, 15772), (138, 15793), (147, 15838), (157, 15871), (158, 15880), (163, 15916), (164, 15931), (165, 15934), (167, 15946), (172, 15970), (174, 15985), (179, 16003), (180, 16021), (183, 16036), (188, 16057), (191, 16078), (195, 16093), (200, 16123), (202, 16141), (204, 16153), (207, 16186), (214, 16273), (216, 16294), (217, 16306), (219, 16324), (222, 16378), (225, 16471), (226, 16477), (227, 16516), (232, 16639),

Gene: Zartrosa_19 Start: 13772, Stop: 16402, Start Num: 1
Candidate Starts for Zartrosa_19:

(Start: 1 @13772 has 31 MA's), (Start: 6 @13820 has 1 MA's), (11, 13931), (18, 14039), (20, 14102), (28, 14186), (32, 14279), (34, 14309), (40, 14429), (41, 14486), (44, 14525), (46, 14543), (48, 14564), (49, 14573), (52, 14636), (54, 14678), (57, 14714), (58, 14741), (71, 14927), (73, 14960), (84, 15044), (92, 15113), (103, 15212), (106, 15221), (109, 15239), (111, 15251), (131, 15404), (132, 15410), (133, 15413), (134, 15425), (135, 15431), (138, 15446), (139, 15455), (147, 15491), (157, 15524), (158, 15533), (161, 15557), (163, 15569), (165, 15587), (168, 15602), (174, 15638), (181, 15677), (184, 15692), (188, 15710), (191, 15731), (192, 15740), (198, 15770), (203, 15797), (205, 15830), (207, 15839), (215, 15935), (216, 15947), (218, 15968), (219, 15977), (223, 16058), (224, 16100), (225, 16121), (226, 16127), (227, 16166), (228, 16268), (232, 16292), (234, 16340), (235, 16361),