Pham 291410

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 291410 Report

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

Pham number 291410 has 30 members, 6 are drafts.

Phages represented in each track:
• Track 1 : Rowlf_26
• Track 2 : Phinky_36
• Track 3 : Alex44_47, DumpQuist_46
• Track 4 : Stormbreaker_47
• Track 5 : Unphazed_47
• Track 6 : ArMaWen_46
• Track 7 : Conditioner_46
• Track 8 : Xitlalli_45
• Track 9 : Corn21_46
• Track 10 : TownLake_45
• Track 11 : Dashyla_46, SwissCheezer_46
• Track 12 : Birdfeeder_45
• Track 13 : Phogo_47
• Track 14 : BlueRugrat_46
• Track 15 : LilyLou_48
• Track 16 : LesNorah_47
• Track 17 : Fede_46
• Track 18 : Kosier_46
• Track 19 : PauloDiaboli_237
• Track 20 : Dodo_235
• Track 21 : Dodo_236
• Track 22 : A3Wally_238
• Track 23 : A3Wally_236
• Track 24 : Erasmago_225
• Track 25 : Erasmago_227
• Track 26 : Big4_219
• Track 27 : Pumpernickel_220
• Track 28 : JrWilcox_79

Summary of Final Annotations (See graph section above for start numbers):

The start number called the most often in the published annotations is 17, it was called in 20 of the 24 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• A3Wally_236, Alex44_47, ArMaWen_46, Birdfeeder_45, BlueRugrat_46, Conditioner_46, Corn21_46, Dashyla_46, Dodo_235, DumpQuist_46, Erasmago_225, Fede_46, JrWilcox_79, Kosier_46, LesNorah_47, LilyLou_48, Phinky_36, Phogo_47, Rowlf_26, Stormbreaker_47, SwissCheezer_46, TownLake_45, Unphazed_47, Xitlalli_45,

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

Genes that do not have the "Most Annotated" start:
• A3Wally_238, Big4_219, Dodo_236, Erasmago_227, PauloDiaboli_237, Pumpernickel_220,

Summary by start number:

Start 2:
• Found in 2 of 30 (6.7%) of genes in pham
• Manual Annotations of this start: 2 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Big4_219 (GD2), PauloDiaboli_237 (GD1),

Start 17:
• Found in 24 of 30 (80.0%) of genes in pham
• Manual Annotations of this start: 20 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: A3Wally_236 (GD1), Alex44_47 (EK1), ArMaWen_46 (EK1), Birdfeeder_45 (EK1), BlueRugrat_46 (EK1), Conditioner_46 (EK1), Corn21_46 (EK1), Dashyla_46 (EK1), Dodo_235 (GD1), DumpQuist_46 (EK1), Erasmago_225 (GD2), Fede_46 (EK2), JrWilcox_79 (GL), Kosier_46 (EK2), LesNorah_47 (EK1), LilyLou_48 (EK1), Phinky_36 (EG), Phogo_47 (EK1), Rowlf_26 (EG), Stormbreaker_47 (EK1), SwissCheezer_46 (EK1), TownLake_45 (EK1), Unphazed_47 (EK1), Xitlalli_45 (EK1),

Start 19:
• Found in 1 of 30 (3.3%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Dodo_236 (GD1),

Start 20:
• Found in 2 of 30 (6.7%) of genes in pham
• Manual Annotations of this start: 1 of 24
• Called 100.0% of time when present
• Phage (with cluster) where this start called: A3Wally_238 (GD1), Erasmago_227 (GD2),

Start 43:
• Found in 3 of 30 (10.0%) of genes in pham
• Manual Annotations of this start: 1 of 24
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Pumpernickel_220 (GD4),

Summary by clusters:

There are 7 clusters represented in this pham: GD1, GD2, GD4, EG, GL, EK2, EK1,

Info for manual annotations of cluster EG:
•Start number 17 was manually annotated 2 times for cluster EG.

Info for manual annotations of cluster EK1:
•Start number 17 was manually annotated 15 times for cluster EK1.

Info for manual annotations of cluster EK2:
•Start number 17 was manually annotated 2 times for cluster EK2.

Info for manual annotations of cluster GD1:
•Start number 2 was manually annotated 1 time for cluster GD1.
•Start number 17 was manually annotated 1 time for cluster GD1.
•Start number 20 was manually annotated 1 time for cluster GD1.

Info for manual annotations of cluster GD2:
•Start number 2 was manually annotated 1 time for cluster GD2.

Info for manual annotations of cluster GD4:
•Start number 43 was manually annotated 1 time for cluster GD4.

Gene Information:
Gene: A3Wally_238 Start: 128961, Stop: 130955, Start Num: 20
Candidate Starts for A3Wally_238:
(18, 128952), (Start: 20 @128961 has 1 MA's), (32, 129060), (36, 129069), (40, 129099), (44, 129156), (45, 129159), (55, 129291), (89, 129684), (91, 129690), (92, 129699), (96, 129738), (103, 129849), (112, 129912), (124, 130074), (133, 130194), (148, 130446), (151, 130473), (156, 130569), (173, 130842), (175, 130848), (182, 130908),

Gene: A3Wally_236 Start: 126651, Stop: 128846, Start Num: 17
Candidate Starts for A3Wally_236:
(Start: 17 @126651 has 20 MA's), (27, 126735), (41, 126801), (50, 126912), (51, 126933), (52, 126939), (64, 127122), (69, 127179), (71, 127209), (78, 127302), (94, 127434), (98, 127479), (103, 127572), (111, 127614), (116, 127683), (119, 127716), (120, 127728), (130, 127833), (131, 127836), (138, 128010), (148, 128139), (155, 128262), (157, 128268), (159, 128298), (163, 128475), (170, 128523), (174, 128556), (178, 128601), (189, 128700), (190, 128715),

Gene: Alex44_47 Start: 46450, Stop: 48459, Start Num: 17
Candidate Starts for Alex44_47:
(Start: 17 @46450 has 20 MA's), (25, 46519), (33, 46564), (39, 46600), (46, 46669), (81, 47095), (85, 47164), (87, 47170), (88, 47176), (90, 47182), (93, 47200), (96, 47233), (97, 47239), (101, 47320), (105, 47350), (110, 47377), (114, 47410), (115, 47413), (118, 47467), (119, 47485), (120, 47497), (125, 47578), (126, 47587), (131, 47605), (134, 47734), (137, 47770), (143, 47881), (150, 47923), (154, 48028), (157, 48046), (159, 48076), (168, 48286), (170, 48301), (174, 48334),

Gene: ArMaWen_46 Start: 45993, Stop: 48002, Start Num: 17
Candidate Starts for ArMaWen_46:
(Start: 17 @45993 has 20 MA's), (25, 46062), (33, 46107), (39, 46143), (46, 46212), (81, 46638), (85, 46707), (87, 46713), (88, 46719), (90, 46725), (93, 46743), (96, 46776), (97, 46782), (101, 46863), (105, 46893), (110, 46920), (114, 46953), (115, 46956), (119, 47028), (120, 47040), (125, 47121), (131, 47148), (134, 47277), (137, 47313), (150, 47466), (154, 47571), (157, 47589), (168, 47829), (170, 47844), (174, 47877),

Gene: Big4_219 Start: 122421, Stop: 125168, Start Num: 2
Candidate Starts for Big4_219:
(1, 122346), (Start: 2 @122421 has 2 MA's), (4, 122514), (5, 122529), (6, 122532), (7, 122538), (8, 122574), (9, 122598), (10, 122844), (11, 122856), (13, 122964), (22, 123111), (30, 123195), (45, 123300), (75, 123684), (79, 123729), (80, 123735), (98, 123912), (101, 123984), (104, 124008), (106, 124020), (113, 124074), (115, 124080), (117, 124131), (120, 124164), (129, 124266), (132, 124341), (135, 124431), (137, 124440), (139, 124452), (140, 124479), (146, 124584), (150, 124596), (155, 124713), (160, 124794), (171, 124983), (179, 125070), (183, 125094),

Gene: Birdfeeder_45 Start: 46199, Stop: 48208, Start Num: 17
Candidate Starts for Birdfeeder_45:
(15, 46121), (Start: 17 @46199 has 20 MA's), (31, 46307), (39, 46349), (46, 46418), (81, 46844), (85, 46913), (87, 46919), (90, 46931), (93, 46949), (96, 46982), (97, 46988), (101, 47069), (114, 47159), (115, 47162), (119, 47234), (120, 47246), (125, 47327), (131, 47354), (134, 47483), (137, 47519), (138, 47528), (145, 47639), (147, 47663), (150, 47672), (154, 47777), (157, 47795), (159, 47825), (161, 47939), (170, 48050), (174, 48083),

Gene: BlueRugrat_46 Start: 46423, Stop: 48441, Start Num: 17
Candidate Starts for BlueRugrat_46:
(15, 46345), (Start: 17 @46423 has 20 MA's), (32, 46528), (41, 46570), (66, 46924), (80, 47071), (85, 47146), (87, 47152), (88, 47158), (90, 47164), (93, 47182), (96, 47215), (97, 47221), (101, 47302), (105, 47332), (110, 47359), (114, 47392), (115, 47395), (120, 47479), (121, 47488), (125, 47560), (131, 47587), (134, 47716), (137, 47752), (150, 47905), (154, 48010), (157, 48028), (159, 48058), (168, 48268), (170, 48283), (174, 48316),

Gene: Conditioner_46 Start: 46496, Stop: 48514, Start Num: 17
Candidate Starts for Conditioner_46:
(15, 46418), (Start: 17 @46496 has 20 MA's), (35, 46607), (60, 46922), (66, 46997), (80, 47144), (85, 47219), (88, 47231), (90, 47237), (93, 47255), (96, 47288), (97, 47294), (101, 47375), (114, 47465), (115, 47468), (119, 47540), (120, 47552), (125, 47633), (131, 47660), (134, 47789), (137, 47825), (143, 47936), (150, 47978), (154, 48083), (157, 48101), (159, 48131), (168, 48341), (170, 48356), (174, 48389),

Gene: Corn21_46 Start: 46501, Stop: 48519, Start Num: 17
Candidate Starts for Corn21_46:
(15, 46423), (Start: 17 @46501 has 20 MA's), (32, 46606), (60, 46927), (66, 47002), (80, 47149), (85, 47224), (88, 47236), (90, 47242), (93, 47260), (96, 47293), (97, 47299), (101, 47380), (114, 47470), (115, 47473), (119, 47545), (120, 47557), (125, 47638), (131, 47665), (134, 47794), (137, 47830), (150, 47983), (154, 48088), (157, 48106), (159, 48136), (168, 48346), (170, 48361), (174, 48394),

Gene: Dashyla_46 Start: 46124, Stop: 48133, Start Num: 17
Candidate Starts for Dashyla_46:
(Start: 17 @46124 has 20 MA's), (25, 46193), (33, 46238), (39, 46274), (46, 46343), (81, 46769), (85, 46838), (87, 46844), (88, 46850), (90, 46856), (93, 46874), (96, 46907), (97, 46913), (101, 46994), (105, 47024), (110, 47051), (114, 47084), (115, 47087), (119, 47159), (120, 47171), (125, 47252),

(131, 47279), (134, 47408), (137, 47444), (150, 47597), (154, 47702), (157, 47720), (165, 47948), (168, 47960), (174, 48008), (176, 48023),

Gene: Dodo_235 Start: 126453, Stop: 128636, Start Num: 17
Candidate Starts for Dodo_235:
(Start: 17 @126453 has 20 MA's), (27, 126537), (41, 126603), (50, 126714), (51, 126735), (52, 126741), (64, 126924), (69, 126981), (71, 127011), (78, 127104), (98, 127281), (103, 127374), (111, 127416), (116, 127485), (119, 127518), (120, 127530), (130, 127635), (131, 127638), (148, 127941), (155, 128064), (157, 128070), (159, 128100), (163, 128277), (170, 128325), (174, 128358), (178, 128403), (189, 128502), (193, 128595),

Gene: Dodo_236 Start: 128645, Stop: 130639, Start Num: 19
Candidate Starts for Dodo_236:
(19, 128645), (32, 128744), (36, 128753), (40, 128783), (Start: 43 @128813 has 1 MA's), (44, 128840), (45, 128843), (55, 128975), (89, 129368), (91, 129374), (92, 129383), (96, 129422), (103, 129533), (108, 129557), (112, 129596), (124, 129758), (127, 129779), (133, 129878), (148, 130130), (151, 130157), (156, 130253), (173, 130526), (175, 130532), (182, 130592),

Gene: DumpQuist_46 Start: 45978, Stop: 47987, Start Num: 17
Candidate Starts for DumpQuist_46:
(Start: 17 @45978 has 20 MA's), (25, 46047), (33, 46092), (39, 46128), (46, 46197), (81, 46623), (85, 46692), (87, 46698), (88, 46704), (90, 46710), (93, 46728), (96, 46761), (97, 46767), (101, 46848), (105, 46878), (110, 46905), (114, 46938), (115, 46941), (118, 46995), (119, 47013), (120, 47025), (125, 47106), (126, 47115), (131, 47133), (134, 47262), (137, 47298), (143, 47409), (150, 47451), (154, 47556), (157, 47574), (159, 47604), (168, 47814), (170, 47829), (174, 47862),

Gene: Erasmago_225 Start: 121003, Stop: 123288, Start Num: 17
Candidate Starts for Erasmago_225:
(Start: 17 @121003 has 20 MA's), (23, 121036), (48, 121249), (50, 121264), (51, 121285), (64, 121474), (85, 121747), (103, 121924), (116, 122035), (119, 122068), (120, 122080), (125, 122161), (130, 122185), (131, 122188), (138, 122362), (148, 122491), (155, 122614), (157, 122620), (163, 122827), (170, 122875), (171, 122881), (174, 122908), (178, 122953), (188, 123067), (189, 123145), (190, 123160), (191, 123190), (192, 123199), (193, 123238),

Gene: Erasmago_227 Start: 123403, Stop: 125394, Start Num: 20
Candidate Starts for Erasmago_227:
(Start: 20 @123403 has 1 MA's), (26, 123466), (36, 123508), (38, 123526), (42, 123562), (Start: 43 @123568 has 1 MA's), (59, 123811), (91, 124129), (96, 124177), (116, 124396), (127, 124534), (138, 124741), (147, 124882), (155, 125005), (156, 125008), (162, 125203), (173, 125281), (175, 125287), (186, 125362),

Gene: Fede_46 Start: 46938, Stop: 48926, Start Num: 17
Candidate Starts for Fede_46:
(Start: 17 @46938 has 20 MA's), (21, 46959), (29, 47034), (37, 47073), (49, 47196), (52, 47229), (53, 47235), (60, 47358), (68, 47439), (88, 47655), (95, 47688), (100, 47763), (101, 47799), (107, 47841), (111, 47862), (114, 47889), (117, 47943), (120, 47976), (125, 48057), (129, 48078), (131, 48084), (132, 48153), (136, 48246), (138, 48258), (140, 48288), (144, 48369), (150, 48399), (155, 48516), (159, 48552), (164, 48735), (172, 48798), (174, 48810),

Gene: JrWilcox_79 Start: 43075, Stop: 45771, Start Num: 17
Candidate Starts for JrWilcox_79:
(Start: 17 @43075 has 20 MA's), (34, 43183), (54, 43387), (57, 43474), (58, 43495), (62, 43510), (65, 43549), (84, 43795), (87, 43816), (93, 43846), (98, 43894), (120, 44143), (122, 44182), (125, 44224),

(126, 44233), (128, 44242), (131, 44251), (138, 44425), (142, 44482), (148, 44563), (150, 44569), (155, 44686), (156, 44689), (157, 44692), (158, 44716), (166, 44914), (170, 44938), (174, 44971), (194, 45535), (195, 45697),

Gene: Kosier_46 Start: 46882, Stop: 48870, Start Num: 17
Candidate Starts for Kosier_46:
(Start: 17 @46882 has 20 MA's), (21, 46903), (29, 46978), (37, 47017), (49, 47140), (52, 47173), (53, 47179), (60, 47302), (68, 47383), (88, 47599), (95, 47632), (100, 47707), (101, 47743), (107, 47785), (111, 47806), (114, 47833), (117, 47887), (120, 47920), (125, 48001), (129, 48022), (131, 48028), (132, 48097), (136, 48190), (138, 48202), (140, 48232), (144, 48313), (150, 48343), (155, 48460), (159, 48496), (164, 48679), (172, 48742), (174, 48754),

Gene: LesNorah_47 Start: 46820, Stop: 48838, Start Num: 17
Candidate Starts for LesNorah_47:
(15, 46742), (Start: 17 @46820 has 20 MA's), (41, 46967), (60, 47246), (66, 47321), (67, 47324), (80, 47468), (85, 47543), (88, 47555), (90, 47561), (93, 47579), (96, 47612), (97, 47618), (101, 47699), (114, 47789), (115, 47792), (119, 47864), (120, 47876), (125, 47957), (126, 47966), (131, 47984), (134, 48113), (137, 48149), (143, 48260), (150, 48302), (154, 48407), (157, 48425), (159, 48455), (168, 48665), (170, 48680), (174, 48713),

Gene: LilyLou_48 Start: 46442, Stop: 48451, Start Num: 17
Candidate Starts for LilyLou_48:
(Start: 17 @46442 has 20 MA's), (25, 46511), (33, 46556), (39, 46592), (46, 46661), (85, 47156), (87, 47162), (88, 47168), (90, 47174), (93, 47192), (96, 47225), (97, 47231), (101, 47312), (105, 47342), (114, 47402), (115, 47405), (119, 47477), (120, 47489), (125, 47570), (131, 47597), (134, 47726), (137, 47762), (150, 47915), (154, 48020), (157, 48038), (159, 48068), (161, 48182), (165, 48266), (168, 48278), (170, 48293), (174, 48326), (176, 48341),

Gene: PauloDiaboli_237 Start: 125216, Stop: 127957, Start Num: 2
Candidate Starts for PauloDiaboli_237:
(1, 125141), (Start: 2 @125216 has 2 MA's), (3, 125279), (4, 125309), (5, 125324), (6, 125327), (7, 125333), (8, 125369), (9, 125393), (11, 125651), (12, 125717), (14, 125774), (47, 126125), (53, 126179), (98, 126704), (99, 126737), (117, 126923), (120, 126956), (126, 127046), (132, 127133), (137, 127229), (141, 127289), (149, 127382), (150, 127385), (153, 127487), (155, 127502), (171, 127772), (179, 127859), (181, 127874), (183, 127883),

Gene: Phinky_36 Start: 19775, Stop: 21835, Start Num: 17
Candidate Starts for Phinky_36:
(Start: 17 @19775 has 20 MA's), (24, 19838), (35, 19889), (50, 20036), (55, 20114), (56, 20120), (60, 20204), (66, 20279), (77, 20408), (80, 20438), (83, 20495), (85, 20522), (86, 20525), (98, 20606), (103, 20699), (109, 20726), (120, 20855), (123, 20909), (126, 20945), (131, 20963), (136, 21125), (138, 21137), (152, 21347), (154, 21377), (155, 21389), (156, 21392), (166, 21626), (168, 21635), (169, 21638), (170, 21650), (171, 21656), (173, 21680), (174, 21683), (177, 21713), (181, 21761), (183, 21770), (187, 21809),

Gene: Phogo_47 Start: 46270, Stop: 48279, Start Num: 17
Candidate Starts for Phogo_47:
(Start: 17 @46270 has 20 MA's), (25, 46339), (33, 46384), (39, 46420), (46, 46489), (81, 46915), (85, 46984), (87, 46990), (88, 46996), (90, 47002), (93, 47020), (96, 47053), (97, 47059), (101, 47140), (105, 47170), (110, 47197), (114, 47230), (115, 47233), (119, 47305), (120, 47317), (125, 47398), (131, 47425), (134, 47554), (137, 47590), (150, 47743), (154, 47848), (157, 47866), (165, 48094), (168, 48106), (170, 48121), (174, 48154), (176, 48169),

Gene: Pumpernickel_220 Start: 126461, Stop: 128344, Start Num: 43
Candidate Starts for Pumpernickel_220:
(16, 126284), (28, 126377), (40, 126437), (Start: 43 @126461 has 1 MA's), (61, 126707), (63, 126719), (66, 126776), (73, 126842), (74, 126860), (82, 126947), (87, 127007), (94, 127040), (98, 127091), (103, 127184), (116, 127298), (117, 127310), (120, 127343), (126, 127433), (132, 127520), (135, 127610), (139, 127631), (140, 127658), (141, 127679), (146, 127763), (150, 127775), (155, 127892), (167, 128132), (179, 128246), (183, 128270), (184, 128276),

Gene: Rowlf_26 Start: 18355, Stop: 20409, Start Num: 17
Candidate Starts for Rowlf_26:
(Start: 17 @18355 has 20 MA's), (50, 18616), (72, 18925), (76, 18976), (79, 19012), (96, 19171), (98, 19186), (102, 19270), (120, 19435), (123, 19489), (125, 19516), (136, 19705), (138, 19717), (150, 19852), (154, 19957), (155, 19969), (156, 19972), (157, 19975), (172, 20251), (173, 20260), (174, 20263), (180, 20323), (181, 20335), (185, 20353), (187, 20383),

Gene: Stormbreaker_47 Start: 46358, Stop: 48367, Start Num: 17
Candidate Starts for Stormbreaker_47:
(Start: 17 @46358 has 20 MA's), (33, 46472), (39, 46508), (46, 46577), (70, 46895), (81, 47003), (85, 47072), (87, 47078), (88, 47084), (90, 47090), (93, 47108), (96, 47141), (97, 47147), (101, 47228), (105, 47258), (110, 47285), (114, 47318), (115, 47321), (118, 47375), (119, 47393), (120, 47405), (125, 47486), (126, 47495), (131, 47513), (134, 47642), (137, 47678), (143, 47789), (150, 47831), (154, 47936), (157, 47954), (159, 47984), (168, 48194), (170, 48209), (174, 48242),

Gene: SwissCheezer_46 Start: 46010, Stop: 48019, Start Num: 17
Candidate Starts for SwissCheezer_46:
(Start: 17 @46010 has 20 MA's), (25, 46079), (33, 46124), (39, 46160), (46, 46229), (81, 46655), (85, 46724), (87, 46730), (88, 46736), (90, 46742), (93, 46760), (96, 46793), (97, 46799), (101, 46880), (105, 46910), (110, 46937), (114, 46970), (115, 46973), (119, 47045), (120, 47057), (125, 47138), (131, 47165), (134, 47294), (137, 47330), (150, 47483), (154, 47588), (157, 47606), (165, 47834), (168, 47846), (174, 47894), (176, 47909),

Gene: TownLake_45 Start: 46110, Stop: 48128, Start Num: 17
Candidate Starts for TownLake_45:
(15, 46032), (Start: 17 @46110 has 20 MA's), (35, 46221), (60, 46536), (66, 46611), (80, 46758), (85, 46833), (88, 46845), (90, 46851), (93, 46869), (96, 46902), (97, 46908), (101, 46989), (110, 47046), (114, 47079), (115, 47082), (119, 47154), (120, 47166), (125, 47247), (131, 47274), (134, 47403), (137, 47439), (143, 47550), (150, 47592), (154, 47697), (157, 47715), (159, 47745), (168, 47955), (170, 47970), (174, 48003),

Gene: Unphazed_47 Start: 46227, Stop: 48236, Start Num: 17
Candidate Starts for Unphazed_47:
(15, 46149), (Start: 17 @46227 has 20 MA's), (31, 46335), (39, 46377), (46, 46446), (81, 46872), (85, 46941), (87, 46947), (90, 46959), (93, 46977), (96, 47010), (97, 47016), (101, 47097), (114, 47187), (115, 47190), (119, 47262), (120, 47274), (125, 47355), (131, 47382), (134, 47511), (137, 47547), (138, 47556), (145, 47667), (147, 47691), (150, 47700), (154, 47805), (157, 47823), (159, 47853), (161, 47967), (165, 48051), (174, 48111),

Gene: Xitlalli_45 Start: 46228, Stop: 48246, Start Num: 17
Candidate Starts for Xitlalli_45:
(15, 46150), (Start: 17 @46228 has 20 MA's), (32, 46333), (41, 46375), (60, 46654), (66, 46729), (80, 46876), (85, 46951), (87, 46957), (88, 46963), (90, 46969), (93, 46987), (96, 47020), (97, 47026), (101, 47107), (110, 47164), (114, 47197), (115, 47200), (119, 47272), (120, 47284), (125, 47365), (131, 47392), (134, 47521), (137, 47557), (143, 47668), (150, 47710), (154, 47815), (157, 47833), (159,

47863), (168, 48073), (170, 48088), (174, 48121),