

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 216246 Report

This analysis was run 02/22/25 on database version 588.

Pham number 216246 has 51 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Subaru_16, Elezi_16
- Track 2 : AinMach_15
- Track 3 : Berrie_16
- Track 4 : YesChef_16, AGrandiflora_16, Powerpuff_16
- Track 5 : Joemato_16, Simpson_18, Kaylissa_16
- Track 6 : Lizalica_16
- Track 7 : Cassia_16
- Track 8 : Warda_16, Mudpuppy_16, Tbone_16
- Track 9 : JuneStar_16
- Track 10 : Iter_16, Ascela_16
- Track 11 : Yang_16
- Track 12 : TforTroy_16
- Track 13 : Adumb2043_16, AEgle_16, Turab_16
- Track 14 : Tallboi_16
- Track 15 : DrSierra_16
- Track 16 : Nitro_16
- Track 17 : Asa16_16, Niobe_16, Jstan_16, London_16
- Track 18 : Community_16, Tuck_17
- Track 19 : Pumpkins_16
- Track 20 : JohnDoe_16, Cyan_16
- Track 21 : Pixelle_16
- Track 22 : KeAlii_16
- Track 23 : Janeemi_17
- Track 24 : Tian_16, Amyev_16
- Track 25 : MissSwiss_16
- Track 26 : Tutumahutu_16
- Track 27 : Eraser_16
- Track 28 : Shaffner_17
- Track 29 : IttyBittyPiggy_16
- Track 30 : Reedo_16
- Track 31 : Adolin_16
- Track 32 : Phives_17
- Track 33 : Wildwest_17
- Track 34 : DrManhattan_16
- Track 35 : Lego_16

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 41 of the 41 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AEgle_16, AGrandiflora_16, Adolin_16, Adumb2043_16, AinMach_15, Amyev_16, Asa16_16, Ascela_16, Berrie_16, Cassia_16, Community_16, Cyan_16, DrManhattan_16, DrSierra_16, Elezi_16, Eraser_16, Iter_16, IttyBittyPiggy_16, Janeemi_17, Joemato_16, JohnDoe_16, Jstan_16, JuneStar_16, Kaylissa_16, KeAlii_16, Lego_16, Lizalica_16, London_16, MissSwiss_16, Mudpuppy_16, Niobe_16, Nitro_16, Phives_17, Pixelle_16, Powerpuff_16, Pumpkins_16, Reedo_16, Shaffner_17, Simpson_18, Subaru_16, Tallboi_16, Tbone_16, TforTroy_16, Tian_16, Tuck_17, Turab_16, Tutumahutu_16, Warda_16, Wildwest_17, Yang_16, YesChef_16,

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 51 of 51 (100.0%) of genes in pham
- Manual Annotations of this start: 41 of 41
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AEgle_16 (AZ1), AGrandiflora_16 (AZ1), Adolin_16 (AZ1), Adumb2043_16 (AZ1), AinMach_15 (AZ), Amyev_16 (AZ1), Asa16_16 (AZ1), Ascela_16 (AZ1), Berrie_16 (AZ1), Cassia_16 (AZ1), Community_16 (AZ1), Cyan_16 (AZ1), DrManhattan_16 (AZ1), DrSierra_16 (AZ1), Elezi_16 (AZ1), Eraser_16 (AZ1), Iter_16 (AZ1), IttyBittyPiggy_16 (AZ1), Janeemi_17 (AZ1), Joemato_16 (AZ1), JohnDoe_16 (AZ1), Jstan_16 (AZ1), JuneStar_16 (AZ1), Kaylissa_16 (AZ1), KeAlii_16 (AZ1), Lego_16 (AZ1), Lizalica_16 (AZ1), London_16 (AZ1), MissSwiss_16 (AZ1), Mudpuppy_16 (AZ1), Niobe_16 (AZ1), Nitro_16 (AZ1), Phives_17 (AZ1), Pixelle_16 (AZ1), Powerpuff_16 (AZ1), Pumpkins_16 (AZ1), Reedo_16 (AZ1), Shaffner_17 (AZ1), Simpson_18 (AZ1), Subaru_16 (AZ), Tallboi_16 (AZ1), Tbone_16 (AZ1), TforTroy_16 (AZ1), Tian_16 (AZ1), Tuck_17 (AZ1), Turab_16 (AZ1), Tutumahutu_16 (AZ1), Warda_16 (AZ1), Wildwest_17 (AZ1), Yang_16 (AZ1), YesChef_16 (AZ1),

Summary by clusters:

There are 2 clusters represented in this pham: AZ1, AZ,

Info for manual annotations of cluster AZ1:

- Start number 1 was manually annotated 41 times for cluster AZ1.

Gene Information:

Gene: AEgle_16 Start: 10734, Stop: 13058, Start Num: 1

Candidate Starts for AEgle_16:

(Start: 1 @10734 has 41 MA's), (5, 10890), (6, 10899), (9, 10914), (12, 10980), (14, 11040), (17, 11085), (20, 11157), (24, 11238), (25, 11241), (26, 11271), (28, 11325), (29, 11355), (32, 11412), (33, 11436), (37, 11496), (38, 11502), (57, 11721), (61, 11817), (64, 11850), (68, 11937), (72, 11991), (74, 12033), (77, 12072), (83, 12132), (93, 12273), (114, 12402), (115, 12411), (125, 12522), (137, 12654), (138, 12657), (140, 12690), (144, 12768), (147, 12807), (150, 12867), (157, 12957),

Gene: AGrandiflora_16 Start: 10727, Stop: 13042, Start Num: 1

Candidate Starts for AGrandiflora_16:

(Start: 1 @10727 has 41 MA's), (5, 10883), (6, 10892), (12, 10973), (13, 10985), (14, 11033), (15, 11036), (17, 11078), (20, 11150), (24, 11231), (25, 11234), (26, 11264), (28, 11318), (29, 11348), (32, 11405), (33, 11429), (37, 11489), (57, 11714), (61, 11810), (66, 11873), (67, 11882), (68, 11930), (69, 11939), (70, 11951), (72, 11984), (74, 12026), (77, 12065), (83, 12125), (93, 12266), (103, 12341), (107, 12353), (114, 12395), (115, 12404), (118, 12428), (123, 12497), (125, 12515), (136, 12626), (137, 12647), (138, 12650), (140, 12683), (144, 12761), (147, 12800), (150, 12860), (152, 12890), (157, 12941), (159, 12986), (160, 13031),

Gene: Adolin_16 Start: 10723, Stop: 12957, Start Num: 1

Candidate Starts for Adolin_16:

(Start: 1 @10723 has 41 MA's), (2, 10798), (5, 10879), (6, 10888), (10, 10915), (12, 10969), (13, 10981), (14, 11029), (16, 11041), (18, 11083), (20, 11146), (24, 11227), (25, 11230), (26, 11260), (29, 11344), (32, 11401), (33, 11425), (35, 11467), (37, 11485), (40, 11515), (41, 11554), (43, 11572), (52, 11644), (53, 11647), (55, 11665), (60, 11710), (63, 11767), (66, 11806), (67, 11815), (68, 11863), (69, 11872), (74, 11959), (75, 11971), (77, 11998), (80, 12016), (83, 12058), (91, 12160), (96, 12220), (108, 12292), (112, 12319), (114, 12328), (122, 12418), (124, 12439), (128, 12472), (134, 12526), (135, 12547), (143, 12679), (145, 12709), (158, 12892),

Gene: Adumb2043_16 Start: 10733, Stop: 13057, Start Num: 1

Candidate Starts for Adumb2043_16:

(Start: 1 @10733 has 41 MA's), (5, 10889), (6, 10898), (9, 10913), (12, 10979), (14, 11039), (17, 11084), (20, 11156), (24, 11237), (25, 11240), (26, 11270), (28, 11324), (29, 11354), (32, 11411), (33, 11435), (37, 11495), (38, 11501), (57, 11720), (61, 11816), (64, 11849), (68, 11936), (72, 11990), (74, 12032), (77, 12071), (83, 12131), (93, 12272), (114, 12401), (115, 12410), (125, 12521), (137, 12653), (138, 12656), (140, 12689), (144, 12767), (147, 12806), (150, 12866), (157, 12956),

Gene: AinMach_15 Start: 9852, Stop: 12212, Start Num: 1

Candidate Starts for AinMach_15:

(Start: 1 @9852 has 41 MA's), (5, 10008), (9, 10032), (12, 10098), (14, 10158), (20, 10275), (23, 10338), (24, 10356), (25, 10359), (26, 10389), (28, 10443), (29, 10473), (32, 10530), (33, 10554), (34, 10584), (35, 10596), (36, 10608), (37, 10614), (39, 10635), (68, 10980), (69, 10989), (83, 11175), (97, 11346), (100, 11391), (101, 11400), (103, 11424), (104, 11436), (105, 11460), (106, 11469), (107, 11478), (118, 11610), (121, 11655), (124, 11688), (126, 11709), (127, 11712), (135, 11796), (139, 11838), (143, 11928), (145, 11958),

Gene: Amyev_16 Start: 10746, Stop: 13070, Start Num: 1

Candidate Starts for Amyev_16:

(Start: 1 @10746 has 41 MA's), (5, 10902), (6, 10911), (12, 10992), (14, 11052), (17, 11097), (20, 11169), (22, 11229), (24, 11250), (25, 11253), (26, 11283), (28, 11337), (29, 11367), (32, 11424), (33, 11448), (37, 11508), (38, 11514), (47, 11634), (57, 11733), (61, 11829), (67, 11901), (68, 11949), (70, 11970), (72, 12003), (74, 12045), (77, 12084), (83, 12144), (85, 12159), (88, 12225), (98, 12348), (102,

12357), (114, 12414), (115, 12423), (119, 12480), (120, 12483), (125, 12534), (137, 12666), (138, 12669), (144, 12780), (147, 12819), (148, 12843), (157, 12969),

Gene: Asa16_16 Start: 10703, Stop: 13027, Start Num: 1

Candidate Starts for Asa16_16:

(Start: 1 @10703 has 41 MA's), (4, 10856), (5, 10859), (6, 10868), (12, 10949), (14, 11009), (17, 11054), (20, 11126), (24, 11207), (25, 11210), (26, 11240), (28, 11294), (29, 11324), (32, 11381), (33, 11405), (37, 11465), (38, 11471), (40, 11495), (47, 11591), (57, 11690), (61, 11786), (64, 11819), (67, 11858), (68, 11906), (72, 11960), (74, 12002), (77, 12041), (80, 12059), (83, 12101), (89, 12194), (113, 12365), (115, 12380), (125, 12491), (137, 12623), (138, 12626), (140, 12659), (144, 12737), (147, 12776), (150, 12836), (157, 12926),

Gene: Ascela_16 Start: 10739, Stop: 13054, Start Num: 1

Candidate Starts for Ascela_16:

(Start: 1 @10739 has 41 MA's), (5, 10895), (8, 10913), (11, 10937), (12, 10985), (14, 11045), (17, 11090), (20, 11162), (25, 11246), (26, 11276), (28, 11330), (29, 11360), (32, 11417), (33, 11441), (37, 11501), (38, 11507), (57, 11726), (67, 11894), (68, 11942), (74, 12038), (77, 12077), (80, 12095), (83, 12137), (86, 12161), (88, 12218), (89, 12230), (98, 12341), (113, 12401), (115, 12416), (125, 12527), (136, 12638), (137, 12659), (138, 12662), (140, 12695), (144, 12773), (147, 12812), (152, 12902), (154, 12914), (159, 12998),

Gene: Berrie_16 Start: 10711, Stop: 13188, Start Num: 1

Candidate Starts for Berrie_16:

(Start: 1 @10711 has 41 MA's), (5, 10867), (6, 10876), (12, 10957), (14, 11017), (17, 11062), (20, 11134), (25, 11218), (26, 11248), (28, 11302), (29, 11332), (32, 11389), (33, 11413), (37, 11473), (38, 11479), (40, 11503), (45, 11581), (50, 11713), (51, 11749), (57, 11791), (59, 11890), (62, 11962), (65, 12001), (67, 12028), (68, 12076), (72, 12130), (74, 12172), (76, 12208), (80, 12229), (83, 12271), (89, 12364), (98, 12475), (103, 12487), (113, 12535), (115, 12550), (137, 12793), (138, 12796), (144, 12907), (147, 12946), (151, 13021), (152, 13036), (159, 13132),

Gene: Cassia_16 Start: 10826, Stop: 13150, Start Num: 1

Candidate Starts for Cassia_16:

(Start: 1 @10826 has 41 MA's), (5, 10982), (6, 10991), (7, 10994), (12, 11072), (14, 11132), (20, 11249), (24, 11330), (25, 11333), (26, 11363), (29, 11447), (32, 11504), (33, 11528), (37, 11588), (38, 11594), (57, 11813), (67, 11981), (68, 12029), (72, 12083), (74, 12125), (77, 12164), (83, 12224), (89, 12317), (109, 12470), (111, 12482), (119, 12560), (120, 12563), (125, 12614), (137, 12746), (138, 12749), (144, 12860), (147, 12899),

Gene: Community_16 Start: 11793, Stop: 14270, Start Num: 1

Candidate Starts for Community_16:

(Start: 1 @11793 has 41 MA's), (5, 11949), (6, 11958), (12, 12039), (14, 12099), (17, 12144), (20, 12216), (25, 12300), (26, 12330), (28, 12384), (29, 12414), (32, 12471), (33, 12495), (37, 12555), (38, 12561), (40, 12585), (45, 12663), (46, 12696), (51, 12831), (57, 12873), (59, 12972), (62, 13044), (65, 13083), (67, 13110), (68, 13158), (71, 13191), (74, 13254), (80, 13311), (83, 13353), (85, 13368), (89, 13446), (103, 13569), (113, 13617), (115, 13632), (123, 13725), (125, 13743), (126, 13755), (137, 13875), (138, 13878), (144, 13989), (147, 14028), (152, 14118),

Gene: Cyan_16 Start: 10730, Stop: 13045, Start Num: 1

Candidate Starts for Cyan_16:

(Start: 1 @10730 has 41 MA's), (5, 10886), (6, 10895), (12, 10976), (13, 10988), (14, 11036), (20, 11153), (24, 11234), (25, 11237), (26, 11267), (28, 11321), (29, 11351), (32, 11408), (33, 11432), (37, 11492), (57, 11717), (61, 11813), (67, 11885), (68, 11933), (72, 11987), (74, 12029), (77, 12068), (83, 12128), (115, 12407), (118, 12431), (119, 12464), (120, 12467), (125, 12518), (136, 12629), (137,

12650), (138, 12653), (140, 12686), (144, 12764), (147, 12803), (150, 12863), (152, 12893), (157, 12944), (159, 12989), (160, 13034),

Gene: DrManhattan_16 Start: 10713, Stop: 12947, Start Num: 1

Candidate Starts for DrManhattan_16:

(Start: 1 @10713 has 41 MA's), (2, 10788), (5, 10869), (6, 10878), (10, 10905), (12, 10959), (13, 10971), (14, 11019), (16, 11031), (20, 11136), (24, 11217), (25, 11220), (26, 11250), (29, 11334), (32, 11391), (33, 11415), (35, 11457), (37, 11475), (40, 11505), (41, 11544), (43, 11562), (52, 11634), (53, 11637), (55, 11655), (60, 11700), (63, 11757), (66, 11796), (67, 11805), (68, 11853), (69, 11862), (74, 11949), (75, 11961), (77, 11988), (80, 12006), (83, 12048), (91, 12150), (96, 12210), (103, 12264), (108, 12282), (112, 12309), (114, 12318), (122, 12408), (124, 12429), (128, 12462), (134, 12516), (135, 12537), (143, 12669), (145, 12699), (156, 12828), (158, 12882),

Gene: DrSierra_16 Start: 10741, Stop: 13035, Start Num: 1

Candidate Starts for DrSierra_16:

(Start: 1 @10741 has 41 MA's), (5, 10897), (6, 10906), (8, 10915), (10, 10933), (12, 10987), (13, 10999), (14, 11047), (20, 11164), (24, 11245), (25, 11248), (26, 11278), (28, 11332), (29, 11362), (31, 11404), (32, 11419), (33, 11443), (35, 11485), (37, 11503), (44, 11608), (57, 11728), (63, 11848), (65, 11869), (66, 11887), (67, 11896), (68, 11944), (69, 11953), (72, 11998), (74, 12040), (77, 12079), (80, 12097), (83, 12139), (91, 12241), (94, 12286), (96, 12301), (103, 12355), (108, 12373), (112, 12400), (114, 12409), (122, 12499), (128, 12553), (134, 12607), (135, 12628), (143, 12760), (145, 12790), (158, 12970),

Gene: Elezi_16 Start: 10704, Stop: 13028, Start Num: 1

Candidate Starts for Elezi_16:

(Start: 1 @10704 has 41 MA's), (4, 10857), (5, 10860), (6, 10869), (12, 10950), (14, 11010), (17, 11055), (20, 11127), (24, 11208), (25, 11211), (26, 11241), (28, 11295), (29, 11325), (32, 11382), (33, 11406), (37, 11466), (38, 11472), (40, 11496), (47, 11592), (57, 11691), (61, 11787), (67, 11859), (68, 11907), (72, 11961), (74, 12003), (77, 12042), (80, 12060), (83, 12102), (89, 12195), (113, 12366), (115, 12381), (125, 12492), (137, 12624), (138, 12627), (140, 12660), (144, 12738), (147, 12777), (150, 12837), (157, 12927),

Gene: Eraser_16 Start: 10704, Stop: 13028, Start Num: 1

Candidate Starts for Eraser_16:

(Start: 1 @10704 has 41 MA's), (4, 10857), (5, 10860), (6, 10869), (12, 10950), (14, 11010), (17, 11055), (20, 11127), (24, 11208), (25, 11211), (26, 11241), (28, 11295), (29, 11325), (32, 11382), (33, 11406), (37, 11466), (38, 11472), (40, 11496), (47, 11592), (57, 11691), (61, 11787), (64, 11820), (67, 11859), (68, 11907), (72, 11961), (74, 12003), (77, 12042), (80, 12060), (83, 12102), (89, 12195), (113, 12366), (115, 12381), (125, 12492), (137, 12624), (138, 12627), (140, 12660), (144, 12738), (147, 12777), (150, 12837),

Gene: Iter_16 Start: 10739, Stop: 13054, Start Num: 1

Candidate Starts for Iter_16:

(Start: 1 @10739 has 41 MA's), (5, 10895), (8, 10913), (11, 10937), (12, 10985), (14, 11045), (17, 11090), (20, 11162), (25, 11246), (26, 11276), (28, 11330), (29, 11360), (32, 11417), (33, 11441), (37, 11501), (38, 11507), (57, 11726), (67, 11894), (68, 11942), (74, 12038), (77, 12077), (80, 12095), (83, 12137), (86, 12161), (88, 12218), (89, 12230), (98, 12341), (113, 12401), (115, 12416), (125, 12527), (136, 12638), (137, 12659), (138, 12662), (140, 12695), (144, 12773), (147, 12812), (152, 12902), (154, 12914), (159, 12998),

Gene: IttyBittyPiggy_16 Start: 10723, Stop: 13035, Start Num: 1

Candidate Starts for IttyBittyPiggy_16:

(Start: 1 @10723 has 41 MA's), (5, 10879), (9, 10903), (12, 10969), (13, 10981), (14, 11029), (20, 11146), (24, 11227), (25, 11230), (26, 11260), (29, 11344), (32, 11401), (33, 11425), (37, 11485), (38, 11491), (64, 11839), (67, 11878), (68, 11926), (72, 11980), (74, 12022), (77, 12061), (83, 12121), (89, 12214), (110, 12370), (112, 12382), (114, 12391), (125, 12511), (137, 12643), (138, 12646), (144, 12757), (147, 12796), (148, 12820), (150, 12856), (151, 12871), (158, 12970),

Gene: Janeemi_17 Start: 11821, Stop: 14298, Start Num: 1

Candidate Starts for Janeemi_17:

(Start: 1 @11821 has 41 MA's), (5, 11977), (6, 11986), (20, 12244), (26, 12358), (27, 12367), (28, 12412), (32, 12499), (33, 12523), (37, 12583), (38, 12589), (40, 12613), (45, 12691), (46, 12724), (51, 12859), (57, 12901), (62, 13072), (65, 13111), (67, 13138), (68, 13186), (74, 13282), (77, 13321), (80, 13339), (82, 13351), (83, 13381), (88, 13462), (103, 13597), (113, 13645), (115, 13660), (123, 13753), (125, 13771), (126, 13783), (137, 13903), (138, 13906), (144, 14017), (147, 14056), (151, 14131), (152, 14146),

Gene: Joemato_16 Start: 10730, Stop: 13045, Start Num: 1

Candidate Starts for Joemato_16:

(Start: 1 @10730 has 41 MA's), (5, 10886), (6, 10895), (12, 10976), (13, 10988), (14, 11036), (20, 11153), (24, 11234), (25, 11237), (26, 11267), (28, 11321), (29, 11351), (32, 11408), (33, 11432), (37, 11492), (57, 11717), (61, 11813), (67, 11885), (68, 11933), (72, 11987), (74, 12029), (77, 12068), (83, 12128), (115, 12407), (118, 12431), (119, 12464), (120, 12467), (125, 12518), (136, 12629), (137, 12650), (138, 12653), (140, 12686), (144, 12764), (146, 12785), (147, 12803), (150, 12863), (152, 12893), (157, 12944), (159, 12989), (160, 13034),

Gene: JohnDoe_16 Start: 10725, Stop: 13040, Start Num: 1

Candidate Starts for JohnDoe_16:

(Start: 1 @10725 has 41 MA's), (5, 10881), (6, 10890), (12, 10971), (13, 10983), (14, 11031), (20, 11148), (24, 11229), (25, 11232), (26, 11262), (28, 11316), (29, 11346), (32, 11403), (33, 11427), (37, 11487), (57, 11712), (61, 11808), (67, 11880), (68, 11928), (72, 11982), (74, 12024), (77, 12063), (83, 12123), (115, 12402), (118, 12426), (119, 12459), (120, 12462), (125, 12513), (136, 12624), (137, 12645), (138, 12648), (140, 12681), (144, 12759), (147, 12798), (150, 12858), (152, 12888), (157, 12939), (159, 12984), (160, 13029),

Gene: Jstan_16 Start: 10704, Stop: 13028, Start Num: 1

Candidate Starts for Jstan_16:

(Start: 1 @10704 has 41 MA's), (4, 10857), (5, 10860), (6, 10869), (12, 10950), (14, 11010), (17, 11055), (20, 11127), (24, 11208), (25, 11211), (26, 11241), (28, 11295), (29, 11325), (32, 11382), (33, 11406), (37, 11466), (38, 11472), (40, 11496), (47, 11592), (57, 11691), (61, 11787), (64, 11820), (67, 11859), (68, 11907), (72, 11961), (74, 12003), (77, 12042), (80, 12060), (83, 12102), (89, 12195), (113, 12366), (115, 12381), (125, 12492), (137, 12624), (138, 12627), (140, 12660), (144, 12738), (147, 12777), (150, 12837), (157, 12927),

Gene: JuneStar_16 Start: 10824, Stop: 13148, Start Num: 1

Candidate Starts for JuneStar_16:

(Start: 1 @10824 has 41 MA's), (8, 10998), (11, 11022), (12, 11070), (14, 11130), (19, 11235), (20, 11247), (24, 11328), (25, 11331), (26, 11361), (28, 11415), (29, 11445), (31, 11487), (32, 11502), (33, 11526), (34, 11556), (37, 11586), (38, 11592), (57, 11811), (64, 11940), (67, 11979), (68, 12027), (70, 12048), (72, 12081), (74, 12123), (77, 12162), (83, 12222), (89, 12315), (96, 12384), (125, 12612), (136, 12723), (137, 12744), (138, 12747), (144, 12858), (147, 12897),

Gene: Kaylissa_16 Start: 10731, Stop: 13046, Start Num: 1

Candidate Starts for Kaylissa_16:

(Start: 1 @10731 has 41 MA's), (5, 10887), (6, 10896), (12, 10977), (13, 10989), (14, 11037), (20, 11154), (24, 11235), (25, 11238), (26, 11268), (28, 11322), (29, 11352), (32, 11409), (33, 11433), (37, 11493), (57, 11718), (61, 11814), (67, 11886), (68, 11934), (72, 11988), (74, 12030), (77, 12069), (83, 12129), (115, 12408), (118, 12432), (119, 12465), (120, 12468), (125, 12519), (136, 12630), (137, 12651), (138, 12654), (140, 12687), (144, 12765), (146, 12786), (147, 12804), (150, 12864), (152, 12894), (157, 12945), (159, 12990), (160, 13035),

Gene: KeAlii_16 Start: 10771, Stop: 13071, Start Num: 1

Candidate Starts for KeAlii_16:

(Start: 1 @10771 has 41 MA's), (5, 10927), (6, 10936), (12, 11017), (14, 11077), (20, 11194), (21, 11245), (24, 11275), (25, 11278), (26, 11308), (28, 11362), (29, 11392), (30, 11425), (32, 11449), (33, 11473), (34, 11503), (37, 11533), (38, 11539), (40, 11563), (58, 11776), (61, 11857), (65, 11902), (67, 11929), (68, 11977), (74, 12073), (77, 12112), (78, 12121), (84, 12184), (85, 12187), (91, 12274), (92, 12310), (96, 12334), (115, 12451), (117, 12466), (122, 12532), (130, 12607), (139, 12703), (143, 12793), (145, 12823), (149, 12877), (150, 12898), (158, 13006),

Gene: Lego_16 Start: 10730, Stop: 13045, Start Num: 1

Candidate Starts for Lego_16:

(Start: 1 @10730 has 41 MA's), (5, 10886), (6, 10895), (12, 10976), (13, 10988), (14, 11036), (15, 11039), (17, 11081), (20, 11153), (24, 11234), (25, 11237), (26, 11267), (28, 11321), (29, 11351), (32, 11408), (33, 11432), (37, 11492), (57, 11717), (61, 11813), (66, 11876), (67, 11885), (68, 11933), (69, 11942), (70, 11954), (72, 11987), (74, 12029), (77, 12068), (83, 12128), (93, 12269), (103, 12344), (107, 12356), (114, 12398), (115, 12407), (118, 12431), (125, 12518), (136, 12629), (137, 12650), (138, 12653), (140, 12686), (144, 12764), (147, 12803), (150, 12863), (152, 12893), (157, 12944), (159, 12989), (160, 13034),

Gene: Lizalica_16 Start: 10715, Stop: 13030, Start Num: 1

Candidate Starts for Lizalica_16:

(Start: 1 @10715 has 41 MA's), (5, 10871), (6, 10880), (12, 10961), (13, 10973), (14, 11021), (15, 11024), (17, 11066), (20, 11138), (24, 11219), (25, 11222), (26, 11252), (28, 11306), (29, 11336), (32, 11393), (33, 11417), (37, 11477), (57, 11702), (61, 11798), (67, 11870), (68, 11918), (72, 11972), (74, 12014), (77, 12053), (83, 12113), (93, 12254), (114, 12383), (115, 12392), (118, 12416), (123, 12485), (125, 12503), (136, 12614), (137, 12635), (138, 12638), (140, 12671), (144, 12749), (147, 12788), (150, 12848), (152, 12878), (157, 12929), (159, 12974), (160, 13019),

Gene: London_16 Start: 10704, Stop: 13028, Start Num: 1

Candidate Starts for London_16:

(Start: 1 @10704 has 41 MA's), (4, 10857), (5, 10860), (6, 10869), (12, 10950), (14, 11010), (17, 11055), (20, 11127), (24, 11208), (25, 11211), (26, 11241), (28, 11295), (29, 11325), (32, 11382), (33, 11406), (37, 11466), (38, 11472), (40, 11496), (47, 11592), (57, 11691), (61, 11787), (64, 11820), (67, 11859), (68, 11907), (72, 11961), (74, 12003), (77, 12042), (80, 12060), (83, 12102), (89, 12195), (113, 12366), (115, 12381), (125, 12492), (137, 12624), (138, 12627), (140, 12660), (144, 12738), (147, 12777), (150, 12837), (157, 12927),

Gene: MissSwiss_16 Start: 10713, Stop: 12947, Start Num: 1

Candidate Starts for MissSwiss_16:

(Start: 1 @10713 has 41 MA's), (5, 10869), (6, 10878), (10, 10905), (12, 10959), (13, 10971), (14, 11019), (20, 11136), (24, 11217), (25, 11220), (26, 11250), (29, 11334), (32, 11391), (33, 11415), (37, 11475), (41, 11544), (43, 11562), (49, 11613), (52, 11634), (55, 11655), (60, 11700), (66, 11796), (67, 11805), (68, 11853), (69, 11862), (74, 11949), (85, 12063), (91, 12150), (94, 12195), (96, 12210), (116, 12330), (117, 12342), (122, 12408), (126, 12450), (128, 12462), (131, 12486), (133, 12507), (134, 12516), (135, 12537), (139, 12579), (143, 12669), (145, 12699), (149, 12753), (158, 12882),

Gene: Mudpuppy_16 Start: 10729, Stop: 13044, Start Num: 1

Candidate Starts for Mudpuppy_16:

(Start: 1 @10729 has 41 MA's), (5, 10885), (6, 10894), (12, 10975), (13, 10987), (14, 11035), (15, 11038), (17, 11080), (20, 11152), (24, 11233), (25, 11236), (26, 11266), (28, 11320), (29, 11350), (32, 11407), (33, 11431), (37, 11491), (57, 11716), (61, 11812), (66, 11875), (67, 11884), (68, 11932), (70, 11953), (72, 11986), (74, 12028), (77, 12067), (83, 12127), (93, 12268), (114, 12397), (115, 12406), (118, 12430), (119, 12463), (123, 12499), (125, 12517), (136, 12628), (137, 12649), (138, 12652), (140, 12685), (144, 12763), (147, 12802), (150, 12862), (152, 12892), (157, 12943), (159, 12988), (160, 13033),

Gene: Niobe_16 Start: 10704, Stop: 13028, Start Num: 1

Candidate Starts for Niobe_16:

(Start: 1 @10704 has 41 MA's), (4, 10857), (5, 10860), (6, 10869), (12, 10950), (14, 11010), (17, 11055), (20, 11127), (24, 11208), (25, 11211), (26, 11241), (28, 11295), (29, 11325), (32, 11382), (33, 11406), (37, 11466), (38, 11472), (40, 11496), (47, 11592), (57, 11691), (61, 11787), (64, 11820), (67, 11859), (68, 11907), (72, 11961), (74, 12003), (77, 12042), (80, 12060), (83, 12102), (89, 12195), (113, 12366), (115, 12381), (125, 12492), (137, 12624), (138, 12627), (140, 12660), (144, 12738), (147, 12777), (150, 12837), (157, 12927),

Gene: Nitro_16 Start: 10728, Stop: 13052, Start Num: 1

Candidate Starts for Nitro_16:

(Start: 1 @10728 has 41 MA's), (3, 10875), (5, 10884), (11, 10926), (12, 10974), (14, 11034), (17, 11079), (20, 11151), (22, 11211), (25, 11235), (26, 11265), (28, 11319), (29, 11349), (32, 11406), (33, 11430), (37, 11490), (38, 11496), (44, 11595), (56, 11712), (61, 11811), (67, 11883), (68, 11931), (74, 12027), (77, 12066), (80, 12084), (83, 12126), (85, 12141), (89, 12219), (113, 12390), (115, 12405), (119, 12462), (123, 12498), (125, 12516), (137, 12648), (138, 12651), (140, 12684), (144, 12762), (147, 12801), (150, 12861), (157, 12951), (159, 12996), (160, 13041),

Gene: Phives_17 Start: 11806, Stop: 14130, Start Num: 1

Candidate Starts for Phives_17:

(Start: 1 @11806 has 41 MA's), (5, 11962), (6, 11971), (12, 12052), (14, 12112), (17, 12157), (20, 12229), (22, 12289), (24, 12310), (25, 12313), (26, 12343), (28, 12397), (29, 12427), (32, 12484), (33, 12508), (37, 12568), (38, 12574), (57, 12793), (64, 12922), (66, 12952), (67, 12961), (68, 13009), (70, 13030), (72, 13063), (74, 13105), (77, 13144), (83, 13204), (85, 13219), (89, 13297), (95, 13354), (110, 13453), (112, 13465), (114, 13474), (118, 13507), (119, 13540), (120, 13543), (125, 13594), (137, 13726), (138, 13729), (144, 13840), (147, 13879), (150, 13939), (155, 13990), (157, 14029),

Gene: Pixelle_16 Start: 10749, Stop: 13073, Start Num: 1

Candidate Starts for Pixelle_16:

(Start: 1 @10749 has 41 MA's), (5, 10905), (6, 10914), (12, 10995), (14, 11055), (17, 11100), (20, 11172), (24, 11253), (25, 11256), (26, 11286), (28, 11340), (29, 11370), (32, 11427), (33, 11451), (36, 11505), (37, 11511), (38, 11517), (57, 11736), (67, 11904), (68, 11952), (70, 11973), (72, 12006), (74, 12048), (77, 12087), (83, 12147), (85, 12162), (88, 12228), (98, 12351), (114, 12417), (115, 12426), (119, 12483), (120, 12486), (125, 12537), (137, 12669), (138, 12672), (144, 12783), (147, 12822), (148, 12846), (157, 12972),

Gene: Powerpuff_16 Start: 10781, Stop: 13096, Start Num: 1

Candidate Starts for Powerpuff_16:

(Start: 1 @10781 has 41 MA's), (5, 10937), (6, 10946), (12, 11027), (13, 11039), (14, 11087), (15, 11090), (17, 11132), (20, 11204), (24, 11285), (25, 11288), (26, 11318), (28, 11372), (29, 11402), (32, 11459), (33, 11483), (37, 11543), (57, 11768), (61, 11864), (66, 11927), (67, 11936), (68, 11984), (69, 11993), (70, 12005), (72, 12038), (74, 12080), (77, 12119), (83, 12179), (93, 12320), (103, 12395), (107, 12407), (114, 12449), (115, 12458), (118, 12482), (123, 12551), (125, 12569), (136, 12680),

(137, 12701), (138, 12704), (140, 12737), (144, 12815), (147, 12854), (150, 12914), (152, 12944), (157, 12995), (159, 13040), (160, 13085),

Gene: Pumpkins_16 Start: 10836, Stop: 13160, Start Num: 1

Candidate Starts for Pumpkins_16:

(Start: 1 @10836 has 41 MA's), (5, 10992), (6, 11001), (7, 11004), (8, 11010), (12, 11082), (14, 11142), (20, 11259), (24, 11340), (25, 11343), (26, 11373), (29, 11457), (32, 11514), (33, 11538), (37, 11598), (38, 11604), (57, 11823), (67, 11991), (68, 12039), (72, 12093), (74, 12135), (77, 12174), (89, 12327), (109, 12480), (111, 12492), (119, 12570), (120, 12573), (125, 12624), (137, 12756), (138, 12759), (140, 12792), (144, 12870), (147, 12909),

Gene: Reedo_16 Start: 10781, Stop: 13090, Start Num: 1

Candidate Starts for Reedo_16:

(Start: 1 @10781 has 41 MA's), (5, 10937), (6, 10946), (11, 10979), (12, 11027), (14, 11087), (20, 11204), (24, 11285), (25, 11288), (26, 11318), (28, 11372), (29, 11402), (32, 11459), (33, 11483), (34, 11513), (37, 11543), (38, 11549), (40, 11573), (42, 11636), (47, 11669), (54, 11747), (61, 11864), (73, 12062), (74, 12080), (77, 12119), (81, 12140), (83, 12179), (85, 12194), (87, 12233), (90, 12275), (96, 12341), (117, 12473), (121, 12527), (122, 12539), (130, 12614), (132, 12626), (139, 12710), (141, 12746), (143, 12800), (145, 12830), (153, 12944), (158, 13022),

Gene: Shaffner_17 Start: 10823, Stop: 13147, Start Num: 1

Candidate Starts for Shaffner_17:

(Start: 1 @10823 has 41 MA's), (8, 10997), (11, 11021), (12, 11069), (14, 11129), (19, 11234), (20, 11246), (24, 11327), (25, 11330), (26, 11360), (28, 11414), (29, 11444), (31, 11486), (32, 11501), (33, 11525), (34, 11555), (37, 11585), (38, 11591), (57, 11810), (64, 11939), (67, 11978), (68, 12026), (70, 12047), (72, 12080), (74, 12122), (77, 12161), (83, 12221), (89, 12314), (109, 12467), (111, 12479), (119, 12557), (120, 12560), (125, 12611), (137, 12743), (138, 12746), (140, 12779), (144, 12857), (147, 12896),

Gene: Simpson_18 Start: 10730, Stop: 13045, Start Num: 1

Candidate Starts for Simpson_18:

(Start: 1 @10730 has 41 MA's), (5, 10886), (6, 10895), (12, 10976), (13, 10988), (14, 11036), (20, 11153), (24, 11234), (25, 11237), (26, 11267), (28, 11321), (29, 11351), (32, 11408), (33, 11432), (37, 11492), (57, 11717), (61, 11813), (67, 11885), (68, 11933), (72, 11987), (74, 12029), (77, 12068), (83, 12128), (115, 12407), (118, 12431), (119, 12464), (120, 12467), (125, 12518), (136, 12629), (137, 12650), (138, 12653), (140, 12686), (144, 12764), (146, 12785), (147, 12803), (150, 12863), (152, 12893), (157, 12944), (159, 12989), (160, 13034),

Gene: Subaru_16 Start: 10704, Stop: 13028, Start Num: 1

Candidate Starts for Subaru_16:

(Start: 1 @10704 has 41 MA's), (4, 10857), (5, 10860), (6, 10869), (12, 10950), (14, 11010), (17, 11055), (20, 11127), (24, 11208), (25, 11211), (26, 11241), (28, 11295), (29, 11325), (32, 11382), (33, 11406), (37, 11466), (38, 11472), (40, 11496), (47, 11592), (57, 11691), (61, 11787), (67, 11859), (68, 11907), (72, 11961), (74, 12003), (77, 12042), (80, 12060), (83, 12102), (89, 12195), (113, 12366), (115, 12381), (125, 12492), (137, 12624), (138, 12627), (140, 12660), (144, 12738), (147, 12777), (150, 12837), (157, 12927),

Gene: Tallboi_16 Start: 10731, Stop: 13055, Start Num: 1

Candidate Starts for Tallboi_16:

(Start: 1 @10731 has 41 MA's), (3, 10878), (5, 10887), (12, 10977), (14, 11037), (17, 11082), (20, 11154), (22, 11214), (25, 11238), (26, 11268), (28, 11322), (29, 11352), (32, 11409), (33, 11433), (37, 11493), (38, 11499), (57, 11718), (67, 11886), (68, 11934), (72, 11988), (74, 12030), (77, 12069), (83, 12129), (89, 12222), (114, 12399), (115, 12408), (125, 12519), (137, 12651), (138, 12654), (140,

12687), (144, 12765), (147, 12804), (150, 12864), (152, 12894), (157, 12954),

Gene: Tbone_16 Start: 10734, Stop: 13049, Start Num: 1

Candidate Starts for Tbone_16:

(Start: 1 @10734 has 41 MA's), (5, 10890), (6, 10899), (12, 10980), (13, 10992), (14, 11040), (15, 11043), (17, 11085), (20, 11157), (24, 11238), (25, 11241), (26, 11271), (28, 11325), (29, 11355), (32, 11412), (33, 11436), (37, 11496), (57, 11721), (61, 11817), (66, 11880), (67, 11889), (68, 11937), (70, 11958), (72, 11991), (74, 12033), (77, 12072), (83, 12132), (93, 12273), (114, 12402), (115, 12411), (118, 12435), (119, 12468), (123, 12504), (125, 12522), (136, 12633), (137, 12654), (138, 12657), (140, 12690), (144, 12768), (147, 12807), (150, 12867), (152, 12897), (157, 12948), (159, 12993), (160, 13038),

Gene: TforTroy_16 Start: 10854, Stop: 13178, Start Num: 1

Candidate Starts for TforTroy_16:

(Start: 1 @10854 has 41 MA's), (5, 11010), (6, 11019), (7, 11022), (8, 11028), (12, 11100), (14, 11160), (20, 11277), (24, 11358), (25, 11361), (26, 11391), (28, 11445), (29, 11475), (32, 11532), (33, 11556), (37, 11616), (38, 11622), (48, 11745), (57, 11841), (67, 12009), (68, 12057), (72, 12111), (74, 12153), (77, 12192), (83, 12252), (89, 12345), (107, 12480), (112, 12513), (114, 12522), (125, 12642), (137, 12774), (138, 12777), (144, 12888), (147, 12927),

Gene: Tian_16 Start: 10746, Stop: 13070, Start Num: 1

Candidate Starts for Tian_16:

(Start: 1 @10746 has 41 MA's), (5, 10902), (6, 10911), (12, 10992), (14, 11052), (17, 11097), (20, 11169), (22, 11229), (24, 11250), (25, 11253), (26, 11283), (28, 11337), (29, 11367), (32, 11424), (33, 11448), (37, 11508), (38, 11514), (47, 11634), (57, 11733), (61, 11829), (67, 11901), (68, 11949), (70, 11970), (72, 12003), (74, 12045), (77, 12084), (83, 12144), (85, 12159), (88, 12225), (98, 12348), (102, 12357), (114, 12414), (115, 12423), (119, 12480), (120, 12483), (125, 12534), (137, 12666), (138, 12669), (144, 12780), (147, 12819), (148, 12843), (157, 12969),

Gene: Tuck_17 Start: 11773, Stop: 14250, Start Num: 1

Candidate Starts for Tuck_17:

(Start: 1 @11773 has 41 MA's), (5, 11929), (6, 11938), (12, 12019), (14, 12079), (17, 12124), (20, 12196), (25, 12280), (26, 12310), (28, 12364), (29, 12394), (32, 12451), (33, 12475), (37, 12535), (38, 12541), (40, 12565), (45, 12643), (46, 12676), (51, 12811), (57, 12853), (59, 12952), (62, 13024), (65, 13063), (67, 13090), (68, 13138), (71, 13171), (74, 13234), (80, 13291), (83, 13333), (85, 13348), (89, 13426), (103, 13549), (113, 13597), (115, 13612), (123, 13705), (125, 13723), (126, 13735), (137, 13855), (138, 13858), (144, 13969), (147, 14008), (152, 14098),

Gene: Turab_16 Start: 10733, Stop: 13057, Start Num: 1

Candidate Starts for Turab_16:

(Start: 1 @10733 has 41 MA's), (5, 10889), (6, 10898), (9, 10913), (12, 10979), (14, 11039), (17, 11084), (20, 11156), (24, 11237), (25, 11240), (26, 11270), (28, 11324), (29, 11354), (32, 11411), (33, 11435), (37, 11495), (38, 11501), (57, 11720), (61, 11816), (64, 11849), (68, 11936), (72, 11990), (74, 12032), (77, 12071), (83, 12131), (93, 12272), (114, 12401), (115, 12410), (125, 12521), (137, 12653), (138, 12656), (140, 12689), (144, 12767), (147, 12806), (150, 12866), (157, 12956),

Gene: Tutumahutu_16 Start: 10781, Stop: 13096, Start Num: 1

Candidate Starts for Tutumahutu_16:

(Start: 1 @10781 has 41 MA's), (5, 10937), (6, 10946), (12, 11027), (13, 11039), (14, 11087), (15, 11090), (17, 11132), (20, 11204), (24, 11285), (25, 11288), (26, 11318), (28, 11372), (29, 11402), (32, 11459), (33, 11483), (37, 11543), (57, 11768), (61, 11864), (66, 11927), (67, 11936), (68, 11984), (69, 11993), (70, 12005), (72, 12038), (74, 12080), (77, 12119), (83, 12179), (93, 12320), (103, 12395), (107, 12407), (114, 12449), (115, 12458), (118, 12482), (123, 12551), (125, 12569), (126, 12581),

(136, 12680), (137, 12701), (138, 12704), (140, 12737), (144, 12815), (147, 12854), (150, 12914),
(152, 12944), (157, 12995), (159, 13040), (160, 13085),

Gene: Warda_16 Start: 10726, Stop: 13041, Start Num: 1

Candidate Starts for Warda_16:

(Start: 1 @10726 has 41 MA's), (5, 10882), (6, 10891), (12, 10972), (13, 10984), (14, 11032), (15, 11035), (17, 11077), (20, 11149), (24, 11230), (25, 11233), (26, 11263), (28, 11317), (29, 11347), (32, 11404), (33, 11428), (37, 11488), (57, 11713), (61, 11809), (66, 11872), (67, 11881), (68, 11929), (70, 11950), (72, 11983), (74, 12025), (77, 12064), (83, 12124), (93, 12265), (114, 12394), (115, 12403), (118, 12427), (119, 12460), (123, 12496), (125, 12514), (136, 12625), (137, 12646), (138, 12649), (140, 12682), (144, 12760), (147, 12799), (150, 12859), (152, 12889), (157, 12940), (159, 12985), (160, 13030),

Gene: Wildwest_17 Start: 11664, Stop: 13910, Start Num: 1

Candidate Starts for Wildwest_17:

(Start: 1 @11664 has 41 MA's), (5, 11820), (6, 11829), (10, 11856), (12, 11910), (14, 11970), (20, 12087), (24, 12168), (25, 12171), (26, 12201), (28, 12255), (29, 12285), (32, 12342), (33, 12366), (35, 12408), (37, 12426), (57, 12651), (63, 12771), (67, 12819), (68, 12867), (69, 12876), (74, 12963), (77, 13002), (80, 13020), (83, 13062), (91, 13164), (94, 13209), (96, 13224), (99, 13269), (112, 13323), (114, 13332), (117, 13356), (123, 13380), (129, 13419), (136, 13497), (137, 13518), (138, 13521), (142, 13569), (144, 13632), (145, 13650), (147, 13671), (158, 13845),

Gene: Yang_16 Start: 10824, Stop: 13148, Start Num: 1

Candidate Starts for Yang_16:

(Start: 1 @10824 has 41 MA's), (8, 10998), (11, 11022), (12, 11070), (14, 11130), (20, 11247), (24, 11328), (25, 11331), (26, 11361), (29, 11445), (32, 11502), (33, 11526), (37, 11586), (38, 11592), (56, 11808), (57, 11811), (67, 11979), (68, 12027), (70, 12048), (72, 12081), (74, 12123), (77, 12162), (79, 12174), (83, 12222), (89, 12315), (96, 12384), (111, 12480), (115, 12501), (123, 12594), (125, 12612), (137, 12744), (138, 12747), (144, 12858), (147, 12897),

Gene: YesChef_16 Start: 10781, Stop: 13096, Start Num: 1

Candidate Starts for YesChef_16:

(Start: 1 @10781 has 41 MA's), (5, 10937), (6, 10946), (12, 11027), (13, 11039), (14, 11087), (15, 11090), (17, 11132), (20, 11204), (24, 11285), (25, 11288), (26, 11318), (28, 11372), (29, 11402), (32, 11459), (33, 11483), (37, 11543), (57, 11768), (61, 11864), (66, 11927), (67, 11936), (68, 11984), (69, 11993), (70, 12005), (72, 12038), (74, 12080), (77, 12119), (83, 12179), (93, 12320), (103, 12395), (107, 12407), (114, 12449), (115, 12458), (118, 12482), (123, 12551), (125, 12569), (136, 12680), (137, 12701), (138, 12704), (140, 12737), (144, 12815), (147, 12854), (150, 12914), (152, 12944), (157, 12995), (159, 13040), (160, 13085),