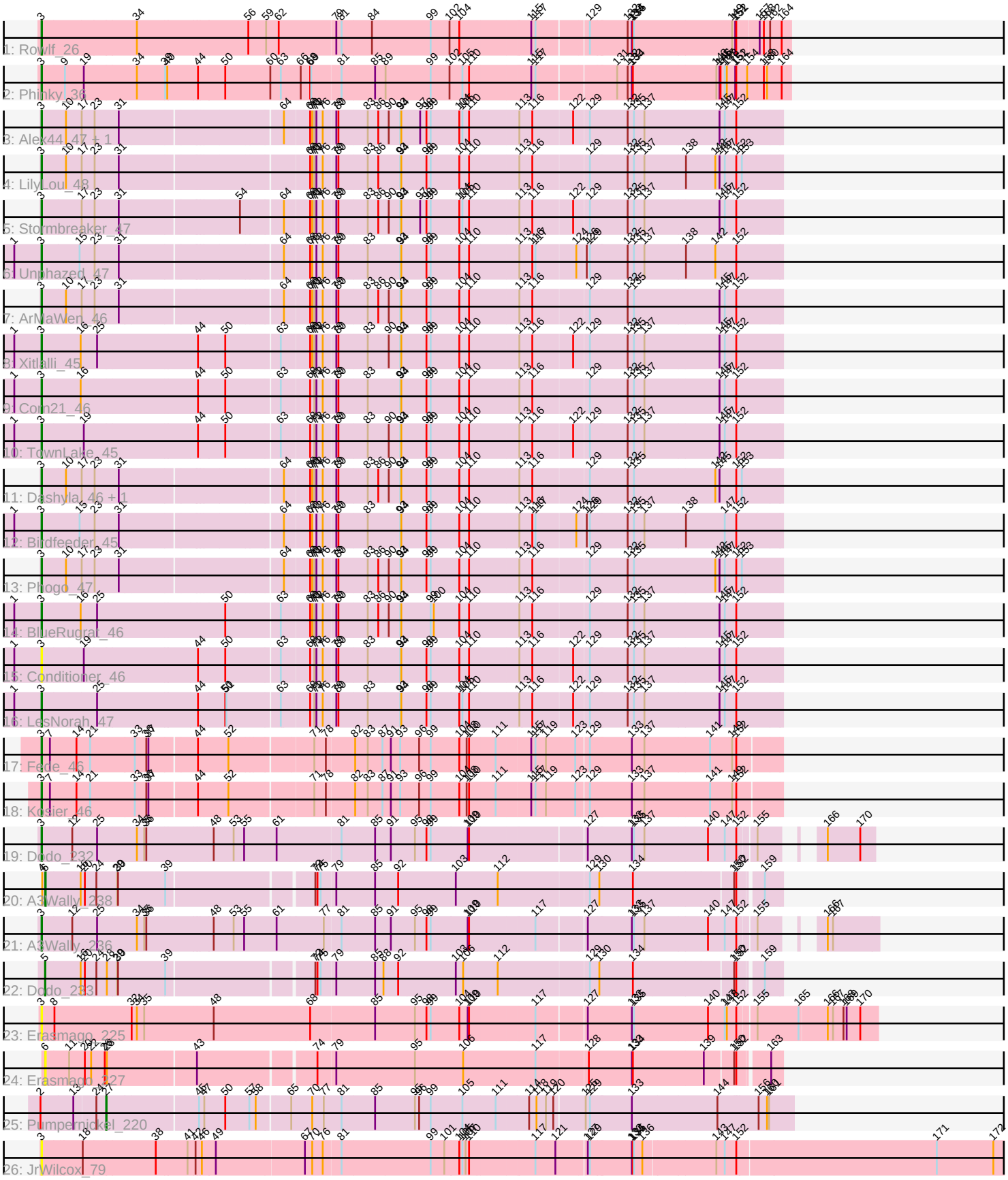
# Pham 303599


1: Rowlf_26
2: Phinky_36
3: Alex44_47 +1
4: LilyLou_48
5: Stormbreaker_47
6: Unphazed_47
7: ArMaWen_46
8: Xitlalli_45
9: Corn21_46
10: TownLake_45
11: Dashyla_46 +1
12: Birdfeeder_45
13: Phogo_47
14: BlueRugrat_46
15: Conditioner_46
16: LesNorah_47
17: Fede_46
18: Kosier_46
19: Dodo_232
20: A3Wally_238
21: A3Wally_236
22: Dodo_233
23: Erasmago_225
24: Erasmago_227
25: Pumpernickel_220
26: JrWilcox_79

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 303599 Report

This analysis was run 06/08/26 on database version 649.

Pham number 303599 has 28 members, 4 are drafts.

Phages represented in each track:
- Track 1 : Rowlf_26
- Track 2 : Phinky_36
- Track 3 : Alex44_47, DumpQuist_46
- Track 4 : LilyLou_48
- Track 5 : Stormbreaker_47
- Track 6 : Unphazed_47
- Track 7 : ArMaWen_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 : Conditioner_46
- Track 16 : LesNorah_47
- Track 17 : Fede_46
- Track 18 : Kosier_46
- Track 19 : Dodo_232
- Track 20 : A3Wally_238
- Track 21 : A3Wally_236
- Track 22 : Dodo_233
- Track 23 : Erasmago_225
- Track 24 : Erasmago_227
- Track 25 : Pumpernickel_220
- Track 26 : 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 3, it was called in 21 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_232, 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, Dodo_233, Erasmago_227, Pumpernickel_220,

**Summary by start number:**

Start 3:
• Found in 24 of 28 ( 85.7% ) of genes in pham
• Manual Annotations of this start: 21 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_232 (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 5:
• Found in 1 of 28 ( 3.6% ) 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: Dodo_233 (GD1),

Start 6:
• Found in 2 of 28 ( 7.1% ) 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 27:
• Found in 1 of 28 ( 3.6% ) 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: 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 3 was manually annotated 2 times for cluster EG.

Info for manual annotations of cluster EK1:

•Start number 3 was manually annotated 15 times for cluster EK1.

Info for manual annotations of cluster EK2:
•Start number 3 was manually annotated 2 times for cluster EK2.

Info for manual annotations of cluster GD1:
•Start number 3 was manually annotated 2 times for cluster GD1.
•Start number 5 was manually annotated 1 time for cluster GD1.
•Start number 6 was manually annotated 1 time for cluster GD1.

Info for manual annotations of cluster GD4:
•Start number 27 was manually annotated 1 time for cluster GD4.

### *Gene Information:*

Gene: A3Wally_238 Start: 128961, Stop: 130955, Start Num: 6
Candidate Starts for A3Wally_238:
(4, 128952), (Start: 6 @128961 has 1 MA's), (16, 129060), (20, 129069), (24, 129099), (29, 129156), (30, 129159), (39, 129291), (72, 129684), (74, 129690), (75, 129699), (79, 129738), (85, 129849), (92, 129912), (103, 130074), (112, 130194), (129, 130446), (130, 130473), (134, 130569), (150, 130842), (152, 130848), (159, 130908),

Gene: A3Wally_236 Start: 126651, Stop: 128846, Start Num: 3
Candidate Starts for A3Wally_236:
(Start: 3 @126651 has 21 MA's), (12, 126735), (25, 126801), (34, 126912), (35, 126933), (36, 126939), (48, 127122), (53, 127179), (55, 127209), (61, 127302), (77, 127434), (81, 127479), (85, 127572), (91, 127614), (95, 127683), (98, 127716), (99, 127728), (109, 127833), (110, 127836), (117, 128010), (127, 128139), (133, 128262), (135, 128268), (137, 128298), (140, 128475), (147, 128523), (152, 128556), (155, 128601), (166, 128700), (167, 128715),

Gene: Alex44_47 Start: 46450, Stop: 48459, Start Num: 3
Candidate Starts for Alex44_47:
(Start: 3 @46450 has 21 MA's), (10, 46519), (17, 46564), (23, 46600), (31, 46669), (64, 47095), (68, 47164), (70, 47170), (71, 47176), (73, 47182), (76, 47200), (79, 47233), (80, 47239), (83, 47320), (86, 47350), (90, 47377), (93, 47410), (94, 47413), (97, 47467), (98, 47485), (99, 47497), (104, 47578), (105, 47587), (110, 47605), (113, 47734), (116, 47770), (122, 47881), (129, 47923), (132, 48028), (135, 48046), (137, 48076), (145, 48286), (147, 48301), (152, 48334),

Gene: ArMaWen_46 Start: 45993, Stop: 48002, Start Num: 3
Candidate Starts for ArMaWen_46:
(Start: 3 @45993 has 21 MA's), (10, 46062), (17, 46107), (23, 46143), (31, 46212), (64, 46638), (68, 46707), (70, 46713), (71, 46719), (73, 46725), (76, 46743), (79, 46776), (80, 46782), (83, 46863), (86, 46893), (90, 46920), (93, 46953), (94, 46956), (98, 47028), (99, 47040), (104, 47121), (110, 47148), (113, 47277), (116, 47313), (129, 47466), (132, 47571), (135, 47589), (145, 47829), (147, 47844), (152, 47877),

Gene: Birdfeeder_45 Start: 46199, Stop: 48208, Start Num: 3
Candidate Starts for Birdfeeder_45:

(1, 46121), (Start: 3 @46199 has 21 MA's), (15, 46307), (23, 46349), (31, 46418), (64, 46844), (68, 46913), (70, 46919), (73, 46931), (76, 46949), (79, 46982), (80, 46988), (83, 47069), (93, 47159), (94, 47162), (98, 47234), (99, 47246), (104, 47327), (110, 47354), (113, 47483), (116, 47519), (117, 47528), (124, 47639), (126, 47663), (129, 47672), (132, 47777), (135, 47795), (137, 47825), (138, 47939), (147, 48050), (152, 48083),

Gene: BlueRugrat_46 Start: 46423, Stop: 48441, Start Num: 3
Candidate Starts for BlueRugrat_46:
(1, 46345), (Start: 3 @46423 has 21 MA's), (16, 46528), (25, 46570), (50, 46924), (63, 47071), (68, 47146), (70, 47152), (71, 47158), (73, 47164), (76, 47182), (79, 47215), (80, 47221), (83, 47302), (86, 47332), (90, 47359), (93, 47392), (94, 47395), (99, 47479), (100, 47488), (104, 47560), (110, 47587), (113, 47716), (116, 47752), (129, 47905), (132, 48010), (135, 48028), (137, 48058), (145, 48268), (147, 48283), (152, 48316),

Gene: Conditioner_46 Start: 46496, Stop: 48514, Start Num: 3
Candidate Starts for Conditioner_46:
(1, 46418), (Start: 3 @46496 has 21 MA's), (19, 46607), (44, 46922), (50, 46997), (63, 47144), (68, 47219), (71, 47231), (73, 47237), (76, 47255), (79, 47288), (80, 47294), (83, 47375), (93, 47465), (94, 47468), (98, 47540), (99, 47552), (104, 47633), (110, 47660), (113, 47789), (116, 47825), (122, 47936), (129, 47978), (132, 48083), (135, 48101), (137, 48131), (145, 48341), (147, 48356), (152, 48389),

Gene: Corn21_46 Start: 46501, Stop: 48519, Start Num: 3
Candidate Starts for Corn21_46:
(1, 46423), (Start: 3 @46501 has 21 MA's), (16, 46606), (44, 46927), (50, 47002), (63, 47149), (68, 47224), (71, 47236), (73, 47242), (76, 47260), (79, 47293), (80, 47299), (83, 47380), (93, 47470), (94, 47473), (98, 47545), (99, 47557), (104, 47638), (110, 47665), (113, 47794), (116, 47830), (129, 47983), (132, 48088), (135, 48106), (137, 48136), (145, 48346), (147, 48361), (152, 48394),

Gene: Dashyla_46 Start: 46124, Stop: 48133, Start Num: 3
Candidate Starts for Dashyla_46:
(Start: 3 @46124 has 21 MA's), (10, 46193), (17, 46238), (23, 46274), (31, 46343), (64, 46769), (68, 46838), (70, 46844), (71, 46850), (73, 46856), (76, 46874), (79, 46907), (80, 46913), (83, 46994), (86, 47024), (90, 47051), (93, 47084), (94, 47087), (98, 47159), (99, 47171), (104, 47252), (110, 47279), (113, 47408), (116, 47444), (129, 47597), (132, 47702), (135, 47720), (142, 47948), (145, 47960), (152, 48008), (153, 48023),

Gene: Dodo_232 Start: 126453, Stop: 128636, Start Num: 3
Candidate Starts for Dodo_232:
(Start: 3 @126453 has 21 MA's), (12, 126537), (25, 126603), (34, 126714), (35, 126735), (36, 126741), (48, 126924), (53, 126981), (55, 127011), (61, 127104), (81, 127281), (85, 127374), (91, 127416), (95, 127485), (98, 127518), (99, 127530), (109, 127635), (110, 127638), (127, 127941), (133, 128064), (135, 128070), (137, 128100), (140, 128277), (147, 128325), (152, 128358), (155, 128403), (166, 128502), (170, 128595),

Gene: Dodo_233 Start: 128645, Stop: 130639, Start Num: 5
Candidate Starts for Dodo_233:
(Start: 5 @128645 has 1 MA's), (16, 128744), (20, 128753), (24, 128783), (28, 128813), (29, 128840), (30, 128843), (39, 128975), (72, 129368), (74, 129374), (75, 129383), (79, 129422), (85, 129533), (88, 129557), (92, 129596), (103, 129758), (106, 129779), (112, 129878), (129, 130130), (130, 130157), (134, 130253), (150, 130526), (152, 130532), (159, 130592),

Gene: DumpQuist_46 Start: 45978, Stop: 47987, Start Num: 3

Candidate Starts for DumpQuist_46:
(Start: 3 @45978 has 21 MA's), (10, 46047), (17, 46092), (23, 46128), (31, 46197), (64, 46623), (68, 46692), (70, 46698), (71, 46704), (73, 46710), (76, 46728), (79, 46761), (80, 46767), (83, 46848), (86, 46878), (90, 46905), (93, 46938), (94, 46941), (97, 46995), (98, 47013), (99, 47025), (104, 47106), (105, 47115), (110, 47133), (113, 47262), (116, 47298), (122, 47409), (129, 47451), (132, 47556), (135, 47574), (137, 47604), (145, 47814), (147, 47829), (152, 47862),

Gene: Erasmago_225 Start: 121003, Stop: 123288, Start Num: 3
Candidate Starts for Erasmago_225:
(Start: 3 @121003 has 21 MA's), (8, 121036), (32, 121249), (34, 121264), (35, 121285), (48, 121474), (68, 121747), (85, 121924), (95, 122035), (98, 122068), (99, 122080), (104, 122161), (109, 122185), (110, 122188), (117, 122362), (127, 122491), (133, 122614), (135, 122620), (140, 122827), (147, 122875), (148, 122881), (152, 122908), (155, 122953), (165, 123067), (166, 123145), (167, 123160), (168, 123190), (169, 123199), (170, 123238),

Gene: Erasmago_227 Start: 123403, Stop: 125394, Start Num: 6
Candidate Starts for Erasmago_227:
(Start: 6 @123403 has 1 MA's), (11, 123466), (20, 123508), (22, 123526), (26, 123562), (28, 123568), (43, 123811), (74, 124129), (79, 124177), (95, 124396), (106, 124534), (117, 124741), (128, 124882), (133, 125005), (134, 125008), (139, 125203), (150, 125281), (152, 125287), (163, 125362),

Gene: Fede_46 Start: 46938, Stop: 48926, Start Num: 3
Candidate Starts for Fede_46:
(Start: 3 @46938 has 21 MA's), (7, 46959), (14, 47034), (21, 47073), (33, 47196), (36, 47229), (37, 47235), (44, 47358), (52, 47439), (71, 47655), (78, 47688), (82, 47763), (83, 47799), (87, 47841), (91, 47862), (93, 47889), (96, 47943), (99, 47976), (104, 48057), (108, 48078), (110, 48084), (111, 48153), (115, 48246), (117, 48258), (119, 48288), (123, 48369), (129, 48399), (133, 48516), (137, 48552), (141, 48735), (149, 48798), (152, 48810),

Gene: JrWilcox_79 Start: 43075, Stop: 45771, Start Num: 3
Candidate Starts for JrWilcox_79:
(Start: 3 @43075 has 21 MA's), (18, 43183), (38, 43387), (41, 43474), (42, 43495), (46, 43510), (49, 43549), (67, 43795), (70, 43816), (76, 43846), (81, 43894), (99, 44143), (101, 44182), (104, 44224), (105, 44233), (107, 44242), (110, 44251), (117, 44425), (121, 44482), (127, 44563), (129, 44569), (133, 44686), (134, 44689), (135, 44692), (136, 44716), (143, 44914), (147, 44938), (152, 44971), (171, 45535), (172, 45697),

Gene: Kosier_46 Start: 46882, Stop: 48870, Start Num: 3
Candidate Starts for Kosier_46:
(Start: 3 @46882 has 21 MA's), (7, 46903), (14, 46978), (21, 47017), (33, 47140), (36, 47173), (37, 47179), (44, 47302), (52, 47383), (71, 47599), (78, 47632), (82, 47707), (83, 47743), (87, 47785), (91, 47806), (93, 47833), (96, 47887), (99, 47920), (104, 48001), (108, 48022), (110, 48028), (111, 48097), (115, 48190), (117, 48202), (119, 48232), (123, 48313), (129, 48343), (133, 48460), (137, 48496), (141, 48679), (149, 48742), (152, 48754),

Gene: LesNorah_47 Start: 46820, Stop: 48838, Start Num: 3
Candidate Starts for LesNorah_47:
(1, 46742), (Start: 3 @46820 has 21 MA's), (25, 46967), (44, 47246), (50, 47321), (51, 47324), (63, 47468), (68, 47543), (71, 47555), (73, 47561), (76, 47579), (79, 47612), (80, 47618), (83, 47699), (93, 47789), (94, 47792), (98, 47864), (99, 47876), (104, 47957), (105, 47966), (110, 47984), (113, 48113), (116, 48149), (122, 48260), (129, 48302), (132, 48407), (135, 48425), (137, 48455), (145, 48665), (147, 48680), (152, 48713),

Gene: LilyLou_48 Start: 46442, Stop: 48451, Start Num: 3
Candidate Starts for LilyLou_48:
(Start: 3 @46442 has 21 MA's), (10, 46511), (17, 46556), (23, 46592), (31, 46661), (68, 47156), (70, 47162), (71, 47168), (73, 47174), (76, 47192), (79, 47225), (80, 47231), (83, 47312), (86, 47342), (93, 47402), (94, 47405), (98, 47477), (99, 47489), (104, 47570), (110, 47597), (113, 47726), (116, 47762), (129, 47915), (132, 48020), (135, 48038), (137, 48068), (138, 48182), (142, 48266), (145, 48278), (147, 48293), (152, 48326), (153, 48341),

Gene: Phinky_36 Start: 19775, Stop: 21835, Start Num: 3
Candidate Starts for Phinky_36:
(Start: 3 @19775 has 21 MA's), (9, 19838), (19, 19889), (34, 20036), (39, 20114), (40, 20120), (44, 20204), (50, 20279), (60, 20408), (63, 20438), (66, 20495), (68, 20522), (69, 20525), (81, 20606), (85, 20699), (89, 20726), (99, 20855), (102, 20909), (105, 20945), (110, 20963), (115, 21125), (117, 21137), (131, 21347), (132, 21377), (133, 21389), (134, 21392), (143, 21626), (145, 21635), (146, 21638), (147, 21650), (148, 21656), (151, 21680), (152, 21683), (154, 21713), (158, 21761), (160, 21770), (164, 21809),

Gene: Phogo_47 Start: 46270, Stop: 48279, Start Num: 3
Candidate Starts for Phogo_47:
(Start: 3 @46270 has 21 MA's), (10, 46339), (17, 46384), (23, 46420), (31, 46489), (64, 46915), (68, 46984), (70, 46990), (71, 46996), (73, 47002), (76, 47020), (79, 47053), (80, 47059), (83, 47140), (86, 47170), (90, 47197), (93, 47230), (94, 47233), (98, 47305), (99, 47317), (104, 47398), (110, 47425), (113, 47554), (116, 47590), (129, 47743), (132, 47848), (135, 47866), (142, 48094), (145, 48106), (147, 48121), (152, 48154), (153, 48169),

Gene: Pumpernickel_220 Start: 126461, Stop: 128344, Start Num: 27
Candidate Starts for Pumpernickel_220:
(2, 126284), (13, 126377), (24, 126437), (Start: 27 @126461 has 1 MA's), (45, 126707), (47, 126719), (50, 126776), (57, 126842), (58, 126860), (65, 126947), (70, 127007), (77, 127040), (81, 127091), (85, 127184), (95, 127298), (96, 127310), (99, 127343), (105, 127433), (111, 127520), (114, 127610), (118, 127631), (119, 127658), (120, 127679), (125, 127763), (129, 127775), (133, 127892), (144, 128132), (156, 128246), (160, 128270), (161, 128276),

Gene: Rowlf_26 Start: 18355, Stop: 20409, Start Num: 3
Candidate Starts for Rowlf_26:
(Start: 3 @18355 has 21 MA's), (34, 18616), (56, 18925), (59, 18976), (62, 19012), (79, 19171), (81, 19186), (84, 19270), (99, 19435), (102, 19489), (104, 19516), (115, 19705), (117, 19717), (129, 19852), (132, 19957), (133, 19969), (134, 19972), (135, 19975), (149, 20251), (151, 20260), (152, 20263), (157, 20323), (158, 20335), (162, 20353), (164, 20383),

Gene: Stormbreaker_47 Start: 46358, Stop: 48367, Start Num: 3
Candidate Starts for Stormbreaker_47:
(Start: 3 @46358 has 21 MA's), (17, 46472), (23, 46508), (31, 46577), (54, 46895), (64, 47003), (68, 47072), (70, 47078), (71, 47084), (73, 47090), (76, 47108), (79, 47141), (80, 47147), (83, 47228), (86, 47258), (90, 47285), (93, 47318), (94, 47321), (97, 47375), (98, 47393), (99, 47405), (104, 47486), (105, 47495), (110, 47513), (113, 47642), (116, 47678), (122, 47789), (129, 47831), (132, 47936), (135, 47954), (137, 47984), (145, 48194), (147, 48209), (152, 48242),

Gene: SwissCheezer_46 Start: 46010, Stop: 48019, Start Num: 3
Candidate Starts for SwissCheezer_46:
(Start: 3 @46010 has 21 MA's), (10, 46079), (17, 46124), (23, 46160), (31, 46229), (64, 46655), (68, 46724), (70, 46730), (71, 46736), (73, 46742), (76, 46760), (79, 46793), (80, 46799), (83, 46880), (86, 46910), (90, 46937), (93, 46970), (94, 46973), (98, 47045), (99, 47057), (104, 47138), (110, 47165),

(113, 47294), (116, 47330), (129, 47483), (132, 47588), (135, 47606), (142, 47834), (145, 47846), (152, 47894), (153, 47909),

Gene: TownLake_45 Start: 46110, Stop: 48128, Start Num: 3
Candidate Starts for TownLake_45:
(1, 46032), (Start: 3 @46110 has 21 MA's), (19, 46221), (44, 46536), (50, 46611), (63, 46758), (68, 46833), (71, 46845), (73, 46851), (76, 46869), (79, 46902), (80, 46908), (83, 46989), (90, 47046), (93, 47079), (94, 47082), (98, 47154), (99, 47166), (104, 47247), (110, 47274), (113, 47403), (116, 47439), (122, 47550), (129, 47592), (132, 47697), (135, 47715), (137, 47745), (145, 47955), (147, 47970), (152, 48003),

Gene: Unphazed_47 Start: 46227, Stop: 48236, Start Num: 3
Candidate Starts for Unphazed_47:
(1, 46149), (Start: 3 @46227 has 21 MA's), (15, 46335), (23, 46377), (31, 46446), (64, 46872), (68, 46941), (70, 46947), (73, 46959), (76, 46977), (79, 47010), (80, 47016), (83, 47097), (93, 47187), (94, 47190), (98, 47262), (99, 47274), (104, 47355), (110, 47382), (113, 47511), (116, 47547), (117, 47556), (124, 47667), (126, 47691), (129, 47700), (132, 47805), (135, 47823), (137, 47853), (138, 47967), (142, 48051), (152, 48111),

Gene: Xitlalli_45 Start: 46228, Stop: 48246, Start Num: 3
Candidate Starts for Xitlalli_45:
(1, 46150), (Start: 3 @46228 has 21 MA's), (16, 46333), (25, 46375), (44, 46654), (50, 46729), (63, 46876), (68, 46951), (70, 46957), (71, 46963), (73, 46969), (76, 46987), (79, 47020), (80, 47026), (83, 47107), (90, 47164), (93, 47197), (94, 47200), (98, 47272), (99, 47284), (104, 47365), (110, 47392), (113, 47521), (116, 47557), (122, 47668), (129, 47710), (132, 47815), (135, 47833), (137, 47863), (145, 48073), (147, 48088), (152, 48121),