

Pham 163823



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 163823 Report

This analysis was run 04/28/24 on database version 559.

Pham number 163823 has 31 members, 2 are drafts.

Phages represented in each track:

- Track 1 : Briton15_63, Molly_60
- Track 2 : Violet_57
- Track 3 : HanShotFirst_60
- Track 4 : StellaBean_95
- Track 5 : Murica_102, MISSy_100
- Track 6 : Lilac_101
- Track 7 : Tarkin_98
- Track 8 : ShroomBoi_67
- Track 9 : BlueCrab_67, FreddyB_67
- Track 10 : Philus_70, DRBy19_70
- Track 11 : Bobi_73
- Track 12 : Phalconet_70
- Track 13 : Martik_66
- Track 14 : Hegedechwinu_73
- Track 15 : StAnnes_70
- Track 16 : Optimus_142
- Track 17 : Hannaconda_142
- Track 18 : Gonephishing_142
- Track 19 : Megiddo_53
- Track 20 : KilKor_53, Willsammy_52
- Track 21 : Phalm_53, CactusJack_53, StressBall_53, Glaske_53
- Track 22 : Thespis_55
- Track 23 : Atcoo_55

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 7 of the 29 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- CactusJack_53, Glaske_53, KilKor_53, Megiddo_53, Phalm_53, StressBall_53, Willsammy_52,

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

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Genes that do not have the "Most Annotated" start:

- Atcoo_55, BlueCrab_67, Bobi_73, Briton15_63, DRBy19_70, FreddyB_67, Gonephishing_142, HanShotFirst_60, Hannaconda_142, Hegedechwinu_73, Lilac_101, MISSy_100, Martik_66, Molly_60, Murica_102, Optimus_142, Phalconet_70, Philus_70, ShroomBoi_67, StAnnes_70, StellaBean_95, Tarkin_98, Thespis_55, Violet_57,

Summary by start number:

Start 9:

- Found in 6 of 31 (19.4%) of genes in pham
- Manual Annotations of this start: 5 of 29
- Called 83.3% of time when present
- Phage (with cluster) where this start called: BlueCrab_67 (F1), DRBy19_70 (F1), FreddyB_67 (F1), Martik_66 (F1), Philus_70 (F1),

Start 15:

- Found in 3 of 31 (9.7%) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Atcoo_55 (P1),

Start 17:

- Found in 7 of 31 (22.6%) of genes in pham
- Manual Annotations of this start: 7 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: CactusJack_53 (P1), Glaske_53 (P1), KilKor_53 (P1), Megiddo_53 (P1), Phalm_53 (P1), StressBall_53 (P1), Willsammy_52 (P1),

Start 29:

- Found in 1 of 31 (3.2%) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bobi_73 (F1),

Start 31:

- Found in 1 of 31 (3.2%) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: StAnnes_70 (F1),

Start 34:

- Found in 2 of 31 (6.5%) of genes in pham
- Manual Annotations of this start: 2 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hannaconda_142 (J), Lilac_101 (E),

Start 61:

- Found in 1 of 31 (3.2%) of genes in pham
- Manual Annotations of this start: 1 of 29

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hegedechwinu_73 (F1),

Start 62:

- Found in 1 of 31 (3.2%) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Phalconet_70 (F1),

Start 63:

- Found in 4 of 31 (12.9%) of genes in pham
- Manual Annotations of this start: 3 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MISSy_100 (E), Murica_102 (E), StellaBean_95 (E), Tarkin_98 (E),

Start 64:

- Found in 5 of 31 (16.1%) of genes in pham
- Manual Annotations of this start: 5 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Briton15_63 (A1), HanShotFirst_60 (A1), Molly_60 (A1), Optimus_142 (J), Violet_57 (A1),

Start 65:

- Found in 1 of 31 (3.2%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gonephishing_142 (J),

Start 83:

- Found in 1 of 31 (3.2%) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Thespis_55 (P1),

Start 89:

- Found in 1 of 31 (3.2%) of genes in pham
- Manual Annotations of this start: 1 of 29
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ShroomBoi_67 (F1),

Summary by clusters:

There are 5 clusters represented in this pham: A1, F1, J, E, P1,

Info for manual annotations of cluster A1:

- Start number 64 was manually annotated 4 times for cluster A1.

Info for manual annotations of cluster E:

- Start number 34 was manually annotated 1 time for cluster E.
- Start number 63 was manually annotated 3 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 9 was manually annotated 5 times for cluster F1.
- Start number 29 was manually annotated 1 time for cluster F1.
- Start number 31 was manually annotated 1 time for cluster F1.
- Start number 61 was manually annotated 1 time for cluster F1.
- Start number 62 was manually annotated 1 time for cluster F1.
- Start number 89 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster J:

- Start number 34 was manually annotated 1 time for cluster J.
- Start number 64 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster P1:

- Start number 15 was manually annotated 1 time for cluster P1.
- Start number 17 was manually annotated 7 times for cluster P1.
- Start number 83 was manually annotated 1 time for cluster P1.

Gene Information:

Gene: Atcoo_55 Start: 37344, Stop: 39803, Start Num: 15

Candidate Starts for Atcoo_55:

(8, 37242), (Start: 9 @37251 has 5 MA's), (10, 37278), (Start: 15 @37344 has 1 MA's), (22, 37404), (27, 37443), (32, 37473), (39, 37563), (40, 37590), (44, 37653), (45, 37659), (46, 37662), (47, 37680), (56, 37800), (60, 37842), (68, 37899), (85, 38169), (87, 38208), (100, 38373), (104, 38436), (113, 38568), (115, 38589), (119, 38625), (120, 38631), (123, 38670), (127, 38706), (130, 38739), (131, 38760), (136, 38865), (140, 38940), (144, 39012), (156, 39258), (158, 39276), (161, 39300), (173, 39435), (176, 39465), (178, 39501), (185, 39603), (188, 39660), (190, 39720), (193, 39753), (195, 39762), (196, 39765),

Gene: BlueCrab_67 Start: 43881, Stop: 46157, Start Num: 9

Candidate Starts for BlueCrab_67:

(2, 43704), (3, 43710), (4, 43719), (5, 43728), (6, 43767), (7, 43824), (Start: 9 @43881 has 5 MA's), (12, 43938), (20, 44007), (42, 44238), (47, 44310), (56, 44430), (60, 44472), (68, 44529), (85, 44799), (87, 44838), (100, 45003), (104, 45066), (113, 45198), (115, 45219), (119, 45255), (120, 45261), (123, 45300), (127, 45336), (130, 45369), (131, 45390), (154, 45555), (155, 45558), (156, 45642), (161, 45684), (185, 45957), (188, 46014), (190, 46074), (193, 46107), (195, 46116), (196, 46119),

Gene: Bobi_73 Start: 44682, Stop: 46739, Start Num: 29

Candidate Starts for Bobi_73:

(Start: 29 @44682 has 1 MA's), (35, 44721), (37, 44751), (38, 44787), (41, 44820), (43, 44865), (54, 45009), (57, 45030), (70, 45162), (73, 45243), (79, 45324), (87, 45438), (91, 45495), (97, 45567), (104, 45651), (107, 45690), (110, 45759), (117, 45810), (120, 45843), (128, 45924), (129, 45930), (130, 45948), (131, 45969), (137, 46053), (147, 46095), (156, 46218), (159, 46239), (160, 46248), (161, 46260), (162, 46284), (163, 46305), (166, 46338), (174, 46383), (175, 46395), (177, 46434), (178, 46437), (185, 46539), (188, 46596), (190, 46656), (193, 46689), (195, 46698), (196, 46701),

Gene: Briton15_63 Start: 42021, Stop: 40291, Start Num: 64

Candidate Starts for Briton15_63:

(Start: 64 @42021 has 5 MA's), (72, 41913), (74, 41868), (81, 41784), (92, 41643), (106, 41493), (114, 41415), (125, 41310), (126, 41307), (133, 41205), (135, 41196), (160, 40959), (162, 40923), (167, 40860), (177, 40758), (178, 40755), (181, 40677), (188, 40569), (191, 40497), (192, 40485), (193, 40476), (194, 40467), (198, 40446), (199, 40428),

Gene: CactusJack_53 Start: 36390, Stop: 38582, Start Num: 17

Candidate Starts for CactusJack_53:

(1, 35955), (11, 36327), (Start: 17 @36390 has 7 MA's), (20, 36417), (21, 36423), (23, 36447), (27, 36483), (33, 36516), (39, 36606), (40, 36633), (44, 36696), (45, 36702), (46, 36705), (47, 36723), (56, 36843), (60, 36885), (68, 36942), (85, 37212), (87, 37251), (100, 37416), (104, 37479), (113, 37611), (115, 37632), (119, 37668), (120, 37674), (123, 37713), (127, 37749), (130, 37782), (131, 37803), (137, 37887), (146, 37923), (156, 38046), (158, 38064), (161, 38088), (164, 38145), (165, 38151), (169, 38181), (170, 38187), (178, 38253), (188, 38439), (190, 38499), (193, 38532), (195, 38541), (196, 38544),

Gene: DRBy19_70 Start: 44260, Stop: 46806, Start Num: 9

Candidate Starts for DRBy19_70:

(2, 44083), (3, 44089), (4, 44098), (5, 44107), (7, 44203), (Start: 9 @44260 has 5 MA's), (12, 44317), (Start: 15 @44353 has 1 MA's), (18, 44377), (20, 44386), (42, 44617), (45, 44668), (46, 44671), (56, 44809), (60, 44851), (68, 44908), (85, 45178), (87, 45217), (100, 45382), (104, 45445), (113, 45577), (115, 45598), (119, 45634), (120, 45640), (123, 45679), (127, 45715), (130, 45748), (131, 45769), (142, 45961), (143, 46009), (145, 46045), (152, 46135), (153, 46153), (156, 46276), (158, 46294), (160, 46306), (161, 46318), (163, 46363), (168, 46411), (185, 46606), (188, 46663), (190, 46723), (193, 46756), (195, 46765), (196, 46768),

Gene: FreddyB_67 Start: 41676, Stop: 43952, Start Num: 9

Candidate Starts for FreddyB_67:

(2, 41499), (3, 41505), (4, 41514), (5, 41523), (6, 41562), (7, 41619), (Start: 9 @41676 has 5 MA's), (12, 41733), (20, 41802), (42, 42033), (47, 42105), (56, 42225), (60, 42267), (68, 42324), (85, 42594), (87, 42633), (100, 42798), (104, 42861), (113, 42993), (115, 43014), (119, 43050), (120, 43056), (123, 43095), (127, 43131), (130, 43164), (131, 43185), (154, 43350), (155, 43353), (156, 43437), (161, 43479), (185, 43752), (188, 43809), (190, 43869), (193, 43902), (195, 43911), (196, 43914),

Gene: Glaske_53 Start: 36390, Stop: 38582, Start Num: 17

Candidate Starts for Glaske_53:

(1, 35955), (11, 36327), (Start: 17 @36390 has 7 MA's), (20, 36417), (21, 36423), (23, 36447), (27, 36483), (33, 36516), (39, 36606), (40, 36633), (44, 36696), (45, 36702), (46, 36705), (47, 36723), (56, 36843), (60, 36885), (68, 36942), (85, 37212), (87, 37251), (100, 37416), (104, 37479), (113, 37611), (115, 37632), (119, 37668), (120, 37674), (123, 37713), (127, 37749), (130, 37782), (131, 37803), (137, 37887), (146, 37923), (156, 38046), (158, 38064), (161, 38088), (164, 38145), (165, 38151), (169, 38181), (170, 38187), (178, 38253), (188, 38439), (190, 38499), (193, 38532), (195, 38541), (196, 38544),

Gene: Gonephishing_142 Start: 76140, Stop: 77969, Start Num: 65

Candidate Starts for Gonephishing_142:

(65, 76140), (72, 76248), (74, 76293), (80, 76371), (81, 76377), (88, 76500), (102, 76662), (103, 76674), (112, 76806), (132, 77049), (141, 77136), (156, 77271), (159, 77292), (160, 77301), (162, 77337), (171, 77439), (177, 77502), (178, 77505), (192, 77775), (193, 77784), (194, 77793), (198, 77814), (199, 77832), (201, 77868),

Gene: HanShotFirst_60 Start: 41970, Stop: 40321, Start Num: 64

Candidate Starts for HanShotFirst_60:

(Start: 64 @41970 has 5 MA's), (72, 41862), (74, 41817), (81, 41733), (92, 41592), (106, 41442), (114, 41364), (125, 41259), (126, 41256), (133, 41154), (135, 41145), (156, 40938), (160, 40908), (162, 40872), (178, 40785), (192, 40515), (193, 40506), (194, 40497), (198, 40476), (199, 40458), (201, 40422),

Gene: Hannaconda_142 Start: 76662, Stop: 78896, Start Num: 34

Candidate Starts for Hannaconda_142:

(Start: 34 @76662 has 2 MA's), (41, 76770), (43, 76815), (48, 76893), (50, 76899), (56, 76977), (60, 77019), (68, 77076), (85, 77346), (100, 77550), (104, 77613), (113, 77745), (115, 77766), (119, 77802), (120, 77808), (123, 77847), (127, 77883), (130, 77916), (131, 77937), (137, 78021), (138, 78030), (156, 78231), (160, 78261), (162, 78297), (177, 78438), (178, 78441), (185, 78558), (191, 78690), (192, 78702), (193, 78711), (194, 78720), (198, 78741), (199, 78759), (201, 78795),

Gene: Hegedechwinu_73 Start: 43329, Stop: 44918, Start Num: 61

Candidate Starts for Hegedechwinu_73:

(Start: 61 @43329 has 1 MA's), (66, 43368), (69, 43398), (71, 43434), (72, 43467), (87, 43668), (92, 43701), (108, 43878), (109, 43902), (118, 43965), (121, 43989), (122, 43992), (148, 44226), (156, 44328), (159, 44349), (160, 44358), (162, 44394), (186, 44553), (188, 44610), (194, 44712), (197, 44724), (198, 44733), (200, 44754), (203, 44868),

Gene: KilKor_53 Start: 36390, Stop: 38570, Start Num: 17

Candidate Starts for KilKor_53:

(1, 35955), (11, 36327), (Start: 17 @36390 has 7 MA's), (20, 36417), (21, 36423), (23, 36447), (27, 36483), (33, 36516), (39, 36606), (40, 36633), (44, 36696), (45, 36702), (47, 36723), (56, 36843), (60, 36885), (68, 36942), (85, 37212), (100, 37416), (104, 37479), (113, 37611), (115, 37632), (119, 37668), (120, 37674), (123, 37713), (127, 37749), (130, 37782), (131, 37803), (134, 37845), (156, 38052), (160, 38082), (161, 38094), (178, 38268), (185, 38370), (188, 38427), (189, 38472), (190, 38487), (193, 38520), (195, 38529), (196, 38532),

Gene: Lilac_101 Start: 58401, Stop: 60605, Start Num: 34

Candidate Starts for Lilac_101:

(14, 58254), (19, 58284), (24, 58332), (25, 58347), (28, 58359), (Start: 34 @58401 has 2 MA's), (36, 58419), (41, 58515), (43, 58560), (50, 58644), (54, 58704), (57, 58725), (70, 58857), (73, 58938), (79, 59019), (87, 59133), (91, 59190), (97, 59262), (104, 59346), (107, 59385), (110, 59454), (117, 59505), (120, 59538), (128, 59619), (129, 59625), (130, 59643), (131, 59664), (137, 59748), (147, 59793), (151, 59805), (156, 59910), (157, 59913), (161, 59952), (167, 60039), (177, 60141), (178, 60144), (179, 60207), (194, 60426), (200, 60468), (201, 60501), (202, 60516),

Gene: MISSy_100 Start: 58583, Stop: 60391, Start Num: 63

Candidate Starts for MISSy_100:

(49, 58436), (51, 58466), (55, 58514), (58, 58529), (59, 58541), (Start: 63 @58583 has 3 MA's), (67, 58601), (72, 58697), (74, 58742), (81, 58826), (88, 58949), (94, 59036), (95, 59042), (102, 59129), (103, 59141), (112, 59273), (132, 59516), (141, 59603), (160, 59768), (161, 59780), (184, 60053), (194, 60212), (200, 60254), (201, 60287), (202, 60302),

Gene: Martik_66 Start: 42749, Stop: 45055, Start Num: 9

Candidate Starts for Martik_66:

(Start: 9 @42749 has 5 MA's), (12, 42806), (13, 42818), (16, 42845), (20, 42875), (42, 43106), (45, 43157), (46, 43160), (50, 43220), (56, 43298), (60, 43340), (68, 43397), (85, 43667), (100, 43871), (104, 43934), (113, 44066), (115, 44087), (119, 44123), (120, 44129), (123, 44168), (127, 44204), (130, 44237), (131, 44258), (154, 44423), (155, 44426), (156, 44510), (161, 44552), (173, 44687), (176, 44717), (178, 44753), (185, 44855), (188, 44912), (190, 44972), (193, 45005), (195, 45014), (196, 45017),

Gene: Megiddo_53 Start: 36390, Stop: 38585, Start Num: 17

Candidate Starts for Megiddo_53:

(1, 35955), (11, 36327), (Start: 17 @36390 has 7 MA's), (20, 36417), (21, 36423), (23, 36447), (27, 36483), (33, 36516), (39, 36606), (40, 36633), (44, 36696), (45, 36702), (47, 36723), (56, 36843), (60,

36885), (68, 36942), (85, 37212), (100, 37416), (104, 37479), (113, 37611), (115, 37632), (119, 37668), (120, 37674), (123, 37713), (127, 37749), (130, 37782), (131, 37803), (134, 37845), (137, 37887), (146, 37923), (156, 38046), (158, 38064), (161, 38088), (180, 38325), (187, 38388), (188, 38442), (190, 38502), (193, 38535), (195, 38544), (196, 38547),

Gene: Molly_60 Start: 40691, Stop: 38961, Start Num: 64

Candidate Starts for Molly_60:

(Start: 64 @40691 has 5 MA's), (72, 40583), (74, 40538), (81, 40454), (92, 40313), (106, 40163), (114, 40085), (125, 39980), (126, 39977), (133, 39875), (135, 39866), (160, 39629), (162, 39593), (167, 39530), (177, 39428), (178, 39425), (181, 39347), (188, 39239), (191, 39167), (192, 39155), (193, 39146), (194, 39137), (198, 39116), (199, 39098),

Gene: Murica_102 Start: 59799, Stop: 61607, Start Num: 63

Candidate Starts for Murica_102:

(49, 59652), (51, 59682), (55, 59730), (58, 59745), (59, 59757), (Start: 63 @59799 has 3 MA's), (67, 59817), (72, 59913), (74, 59958), (81, 60042), (88, 60165), (94, 60252), (95, 60258), (102, 60345), (103, 60357), (112, 60489), (132, 60732), (141, 60819), (160, 60984), (161, 60996), (184, 61269), (194, 61428), (200, 61470), (201, 61503), (202, 61518),

Gene: Optimus_142 Start: 77338, Stop: 79065, Start Num: 64

Candidate Starts for Optimus_142:

(Start: 64 @77338 has 5 MA's), (72, 77446), (74, 77491), (81, 77575), (92, 77716), (106, 77866), (114, 77944), (125, 78049), (126, 78052), (133, 78154), (135, 78163), (156, 78370), (159, 78391), (160, 78400), (162, 78436), (171, 78538), (177, 78601), (178, 78604), (188, 78787), (192, 78871), (193, 78880), (194, 78889), (198, 78910), (199, 78928), (201, 78964),

Gene: Phalconet_70 Start: 43833, Stop: 45551, Start Num: 62

Candidate Starts for Phalconet_70:

(52, 43743), (53, 43752), (55, 43779), (Start: 62 @43833 has 1 MA's), (66, 43863), (69, 43893), (71, 43929), (72, 43962), (87, 44163), (92, 44196), (108, 44373), (109, 44397), (118, 44460), (121, 44484), (122, 44487), (148, 44721), (156, 44823), (159, 44844), (160, 44853), (162, 44889), (171, 44991), (188, 45243), (194, 45345), (197, 45357), (200, 45387), (203, 45501),

Gene: Phalm_53 Start: 36390, Stop: 38582, Start Num: 17

Candidate Starts for Phalm_53:

(1, 35955), (11, 36327), (Start: 17 @36390 has 7 MA's), (20, 36417), (21, 36423), (23, 36447), (27, 36483), (33, 36516), (39, 36606), (40, 36633), (44, 36696), (45, 36702), (46, 36705), (47, 36723), (56, 36843), (60, 36885), (68, 36942), (85, 37212), (87, 37251), (100, 37416), (104, 37479), (113, 37611), (115, 37632), (119, 37668), (120, 37674), (123, 37713), (127, 37749), (130, 37782), (131, 37803), (137, 37887), (146, 37923), (156, 38046), (158, 38064), (161, 38088), (164, 38145), (165, 38151), (169, 38181), (170, 38187), (178, 38253), (188, 38439), (190, 38499), (193, 38532), (195, 38541), (196, 38544),

Gene: Philus_70 Start: 44236, Stop: 46782, Start Num: 9

Candidate Starts for Philus_70:

(2, 44059), (3, 44065), (4, 44074), (5, 44083), (7, 44179), (Start: 9 @44236 has 5 MA's), (12, 44293), (Start: 15 @44329 has 1 MA's), (18, 44353), (20, 44362), (42, 44593), (45, 44644), (46, 44647), (56, 44785), (60, 44827), (68, 44884), (85, 45154), (87, 45193), (100, 45358), (104, 45421), (113, 45553), (115, 45574), (119, 45610), (120, 45616), (123, 45655), (127, 45691), (130, 45724), (131, 45745), (142, 45937), (143, 45985), (145, 46021), (152, 46111), (153, 46129), (156, 46252), (158, 46270), (160, 46282), (161, 46294), (163, 46339), (168, 46387), (185, 46582), (188, 46639), (190, 46699), (193, 46732), (195, 46741), (196, 46744),

Gene: ShroomBoi_67 Start: 43105, Stop: 44667, Start Num: 89

Candidate Starts for ShroomBoi_67:

(75, 42928), (76, 42934), (77, 42943), (78, 42952), (82, 42991), (Start: 89 @43105 has 1 MA's), (93, 43162), (96, 43198), (99, 43231), (116, 43453), (121, 43495), (142, 43789), (143, 43837), (145, 43873), (149, 43942), (152, 43963), (153, 43981), (156, 44104), (159, 44125), (160, 44134), (161, 44146), (172, 44272), (177, 44335), (180, 44404), (188, 44524), (190, 44584), (193, 44617), (195, 44626), (196, 44629),

Gene: StAnnes_70 Start: 44611, Stop: 46869, Start Num: 31

Candidate Starts for StAnnes_70:

(26, 44581), (30, 44605), (Start: 31 @44611 has 1 MA's), (37, 44665), (38, 44701), (41, 44734), (43, 44779), (56, 44941), (60, 44983), (68, 45040), (85, 45310), (100, 45514), (104, 45577), (113, 45709), (115, 45730), (119, 45766), (120, 45772), (123, 45811), (127, 45847), (130, 45880), (131, 45901), (137, 45985), (139, 45997), (150, 46042), (156, 46162), (160, 46192), (162, 46228), (177, 46387), (178, 46390), (182, 46468), (188, 46576), (194, 46663), (197, 46675), (198, 46684), (200, 46705),

Gene: StellaBean_95 Start: 58301, Stop: 60040, Start Num: 63

Candidate Starts for StellaBean_95:

(49, 58154), (51, 58184), (55, 58232), (58, 58247), (59, 58259), (Start: 63 @58301 has 3 MA's), (67, 58319), (72, 58415), (74, 58460), (81, 58544), (92, 58685), (106, 58835), (114, 58913), (125, 59018), (126, 59021), (133, 59123), (135, 59132), (156, 59339), (160, 59369), (167, 59468), (177, 59570), (178, 59573), (181, 59651), (188, 59759), (191, 59831), (194, 59861), (200, 59903), (201, 59936), (202, 59951),

Gene: StressBall_53 Start: 36390, Stop: 38582, Start Num: 17

Candidate Starts for StressBall_53:

(1, 35955), (11, 36327), (Start: 17 @36390 has 7 MA's), (20, 36417), (21, 36423), (23, 36447), (27, 36483), (33, 36516), (39, 36606), (40, 36633), (44, 36696), (45, 36702), (46, 36705), (47, 36723), (56, 36843), (60, 36885), (68, 36942), (85, 37212), (87, 37251), (100, 37416), (104, 37479), (113, 37611), (115, 37632), (119, 37668), (120, 37674), (123, 37713), (127, 37749), (130, 37782), (131, 37803), (137, 37887), (146, 37923), (156, 38046), (158, 38064), (161, 38088), (164, 38145), (165, 38151), (169, 38181), (170, 38187), (178, 38253), (188, 38439), (190, 38499), (193, 38532), (195, 38541), (196, 38544),

Gene: Tarkin_98 Start: 58765, Stop: 60504, Start Num: 63

Candidate Starts for Tarkin_98:

(49, 58618), (51, 58648), (55, 58696), (58, 58711), (59, 58723), (Start: 63 @58765 has 3 MA's), (67, 58783), (72, 58879), (74, 58924), (81, 59008), (85, 59071), (92, 59149), (106, 59299), (114, 59377), (125, 59482), (126, 59485), (133, 59587), (135, 59596), (156, 59803), (159, 59824), (160, 59833), (161, 59845), (167, 59932), (177, 60034), (178, 60037), (181, 60115), (188, 60223), (194, 60325), (200, 60367), (201, 60400), (202, 60415),

Gene: Thespis_55 Start: 36748, Stop: 38346, Start Num: 83

Candidate Starts for Thespis_55:

(Start: 83 @36748 has 1 MA's), (84, 36757), (86, 36784), (90, 36850), (95, 36910), (98, 36949), (101, 36979), (105, 37036), (111, 37123), (121, 37201), (124, 37246), (136, 37408), (140, 37483), (144, 37555), (156, 37801), (158, 37819), (161, 37843), (173, 37978), (176, 38008), (178, 38044), (185, 38146), (188, 38203), (190, 38263), (193, 38296), (195, 38305), (196, 38308),

Gene: Violet_57 Start: 42062, Stop: 40485, Start Num: 64

Candidate Starts for Violet_57:

(Start: 64 @42062 has 5 MA's), (72, 41954), (74, 41909), (81, 41825), (92, 41684), (106, 41534), (114, 41456), (125, 41351), (126, 41348), (133, 41246), (135, 41237), (156, 41030), (159, 41009), (160,

41000), (162, 40964), (183, 40805), (188, 40748), (194, 40661), (200, 40619), (201, 40586),

Gene: Willsammy_52 Start: 35873, Stop: 38053, Start Num: 17

Candidate Starts for Willsammy_52:

(1, 35438), (11, 35810), (Start: 17 @35873 has 7 MA's), (20, 35900), (21, 35906), (23, 35930), (27, 35966), (33, 35999), (39, 36089), (40, 36116), (44, 36179), (45, 36185), (47, 36206), (56, 36326), (60, 36368), (68, 36425), (85, 36695), (100, 36899), (104, 36962), (113, 37094), (115, 37115), (119, 37151), (120, 37157), (123, 37196), (127, 37232), (130, 37265), (131, 37286), (134, 37328), (156, 37535), (160, 37565), (161, 37577), (178, 37751), (185, 37853), (188, 37910), (189, 37955), (190, 37970), (193, 38003), (195, 38012), (196, 38015),