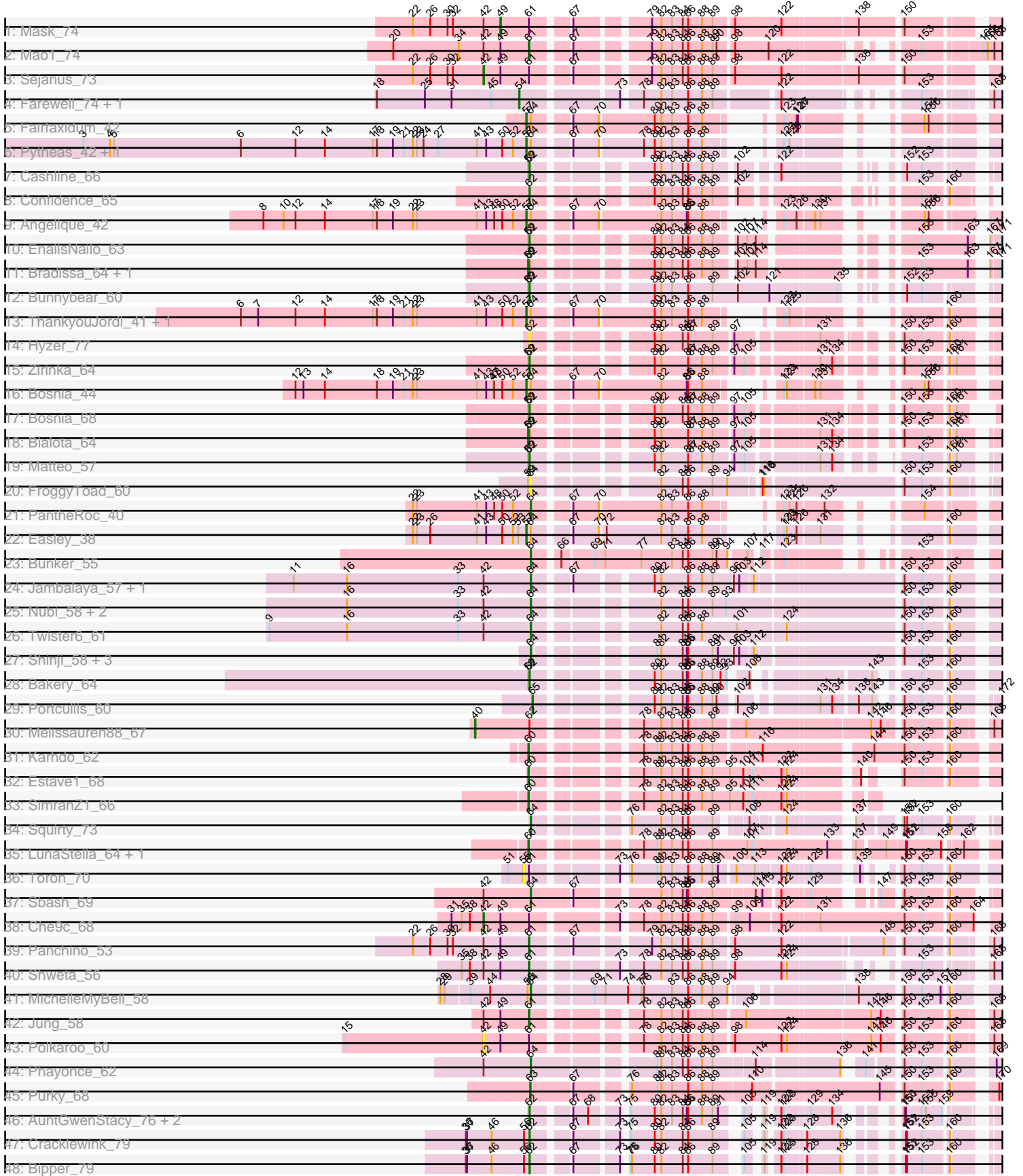


Zoomed Pham 200265



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 200265 Report

This analysis was run 01/18/25 on database version 583.

Pham number 200265 has 61 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Mask_74
- Track 2 : Mao1_74
- Track 3 : Sejanus_73
- Track 4 : Farewell_74, Sparky_73
- Track 5 : Fairfaxidum_42
- Track 6 : Pytheas_42, Jablanski_42
- Track 7 : Cashline_66
- Track 8 : Confidence_65
- Track 9 : Angelique_42
- Track 10 : EnalisNailo_63
- Track 11 : Bradissa_64, Lilas_64
- Track 12 : Bunnybear_60
- Track 13 : ThankyouJordi_41, WelcomeAyanna_41
- Track 14 : Hyzer_77
- Track 15 : Zirinka_64
- Track 16 : Bosnia_44
- Track 17 : Bosnia_68
- Track 18 : Bialota_64
- Track 19 : Matteo_57
- Track 20 : FroggyToad_60
- Track 21 : PantheRoc_40
- Track 22 : Easley_38
- Track 23 : Bunker_55
- Track 24 : Jambalaya_57, Savbucketdawg_57
- Track 25 : Nubi_58, Salvador_57, Evamon_57
- Track 26 : Twister6_61
- Track 27 : Shinji_58, SmokingBunny_59, Togo_58, Mutzi_58
- Track 28 : Bakery_64
- Track 29 : Portcullis_60
- Track 30 : Melissauren88_67
- Track 31 : Karhdo_62
- Track 32 : Estave1_68
- Track 33 : SimranZ1_66
- Track 34 : Squirty_73
- Track 35 : LunaStella_64, TChen_66
- Track 36 : Toron_70
- Track 37 : Sbash_69

- Track 38 : Che9c_68
- Track 39 : Panchino_53
- Track 40 : Shweta_56
- Track 41 : MichelleMyBell_58
- Track 42 : Jung_58
- Track 43 : Polkaroo_60
- Track 44 : Phayonce_62
- Track 45 : Purky_68
- Track 46 : AuntGwenStacy_76, Hilltopfarm_77, Typha_76
- Track 47 : Cracklewink_79
- Track 48 : Bipper_79

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

The start number called the most often in the published annotations is 64, it was called in 15 of the 55 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Bunker_55, Evamon_57, FroggyToad_60, Jambalaya_57, MichelleMyBell_58, Mutzi_58, Nubi_58, PantheRoc_40, Phayonce_62, Salvador_57, Savbucketdawg_57, Sbash_69, Shinji_58, SmokingBunny_59, Squirty_73, Togo_58, Twister6_61,

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

- Angelique_42, Bosnia_44, Easley_38, Fairfaxidum_42, Jablanski_42, Pytheas_42, ThankyouJordi_41, WelcomeAyanna_41,

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

- AuntGwenStacy_76, Bakery_64, Bialota_64, Bipper_79, Bosnia_68, Bradissa_64, Bunnybear_60, Cashline_66, Che9c_68, Confidence_65, Cracklewink_79, EnalisNailo_63, Estave1_68, Farewell_74, Hilltopfarm_77, Hyzer_77, Jung_58, Karhdo_62, Lilas_64, LunaStella_64, Mao1_74, Mask_74, Matteo_57, Melissauren88_67, Panchino_53, Polkaroo_60, Portcullis_60, Purky_68, Sejanus_73, Shweta_56, SimranZ1_66, Sparky_73, TChen_66, Toron_70, Typha_76, Zirinka_64,

Summary by start number:

Start 40:

- Found in 1 of 61 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 55
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Melissauren88_67 (F1),

Start 42:

- Found in 16 of 61 (26.2%) of genes in pham
- Manual Annotations of this start: 2 of 55
- Called 18.8% of time when present
- Phage (with cluster) where this start called: Che9c_68 (I2), Polkaroo_60 (P1), Sejanus_73 (AD),

Start 49:

- Found in 8 of 61 (13.1%) of genes in pham
- Manual Annotations of this start: 1 of 55
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Mask_74 (AD),

Start 54:

- Found in 2 of 61 (3.3%) of genes in pham
- Manual Annotations of this start: 2 of 55
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Farewell_74 (AF), Sparky_73 (AF),

Start 55:

- Found in 1 of 61 (1.6%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toron_70 (F6),

Start 57:

- Found in 8 of 61 (13.1%) of genes in pham
- Manual Annotations of this start: 8 of 55
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Angelique_42 (CY1), Bosnia_44 (CZ1), Easley_38 (CZ4), Fairfaxidum_42 (CV), Jablanski_42 (CY), Pytheas_42 (CY), ThankyouJordi_41 (CZ1), WelcomeAyanna_41 (CZ1),

Start 59:

- Found in 11 of 61 (18.0%) of genes in pham
- Manual Annotations of this start: 3 of 55
- Called 27.3% of time when present
- Phage (with cluster) where this start called: Bialota_64 (CZ1), Bradissa_64 (CY1), Lilas_64 (CY1),

Start 60:

- Found in 5 of 61 (8.2%) of genes in pham
- Manual Annotations of this start: 5 of 55
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Estave1_68 (F1), Karhdo_62 (F1), LunaStella_64 (F4), SimranZ1_66 (F1), TChen_66 (F4),

Start 61:

- Found in 9 of 61 (14.8%) of genes in pham
- Manual Annotations of this start: 4 of 55
- Called 44.4% of time when present
- Phage (with cluster) where this start called: Jung_58 (P1), Mao1_74 (AD), Panchino_53 (N), Shweta_56 (N),

Start 62:

- Found in 18 of 61 (29.5%) of genes in pham
- Manual Annotations of this start: 12 of 55
- Called 77.8% of time when present
- Phage (with cluster) where this start called: AuntGwenStacy_76 (Y), Bakery_64 (DC1), Bipper_79 (Y), Bosnia_68 (CZ1), Bunnybear_60 (CZ), Cashline_66 (CY), Confidence_65 (CY1), Cracklewink_79 (Y), EnalisNailo_63 (CY1), Hilltopfarm_77 (Y),

Hyzer_77 (CZ1), Matteo_57 (CZ2), Typha_76 (Y), Zirinka_64 (CZ1),

Start 63:

- Found in 1 of 61 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 55
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Purky_68 (P6),

Start 64:

- Found in 25 of 61 (41.0%) of genes in pham
- Manual Annotations of this start: 15 of 55
- Called 68.0% of time when present
- Phage (with cluster) where this start called: Bunker_55 (DB), Evamon_57 (DC1), FroggyToad_60 (CZ2), Jambalaya_57 (DC1), MichelleMyBell_58 (N), Mutzi_58 (DC1), Nubi_58 (DC1), PantheRoc_40 (CZ3), Phayonce_62 (P5), Salvador_57 (DC1), Savbucketdawg_57 (DC1), Sbash_69 (I2), Shinji_58 (DC1), SmokingBunny_59 (DC1), Squirty_73 (F3), Togo_58 (DC1), Twister6_61 (DC1),

Start 65:

- Found in 1 of 61 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 55
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Portcullis_60 (DC1),

Summary by clusters:

There are 22 clusters represented in this pham: CZ2, CZ3, CZ1, DB, CZ4, I2, P5, CY1, P1, P6, AD, AF, N, CZ, CY, Y, CV, DC1, F1, F3, F4, F6,

Info for manual annotations of cluster AD:

- Start number 42 was manually annotated 1 time for cluster AD.
- Start number 49 was manually annotated 1 time for cluster AD.
- Start number 61 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster AF:

- Start number 54 was manually annotated 2 times for cluster AF.

Info for manual annotations of cluster CV:

- Start number 57 was manually annotated 1 time for cluster CV.

Info for manual annotations of cluster CY:

- Start number 57 was manually annotated 2 times for cluster CY.
- Start number 62 was manually annotated 1 time for cluster CY.

Info for manual annotations of cluster CY1:

- Start number 57 was manually annotated 1 time for cluster CY1.
- Start number 59 was manually annotated 2 times for cluster CY1.
- Start number 62 was manually annotated 2 times for cluster CY1.

Info for manual annotations of cluster CZ:

- Start number 62 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 57 was manually annotated 3 times for cluster CZ1.
- Start number 59 was manually annotated 1 time for cluster CZ1.
- Start number 62 was manually annotated 2 times for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 62 was manually annotated 1 time for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 64 was manually annotated 1 time for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 57 was manually annotated 1 time for cluster CZ4.

Info for manual annotations of cluster DB:

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

Info for manual annotations of cluster DC1:

- Start number 62 was manually annotated 1 time for cluster DC1.
- Start number 64 was manually annotated 9 times for cluster DC1.
- Start number 65 was manually annotated 1 time for cluster DC1.

Info for manual annotations of cluster F1:

- Start number 40 was manually annotated 1 time for cluster F1.
- Start number 60 was manually annotated 3 times for cluster F1.

Info for manual annotations of cluster F3:

- Start number 64 was manually annotated 1 time for cluster F3.

Info for manual annotations of cluster F4:

- Start number 60 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster I2:

- Start number 42 was manually annotated 1 time for cluster I2.
- Start number 64 was manually annotated 1 time for cluster I2.

Info for manual annotations of cluster N:

- Start number 61 was manually annotated 2 times for cluster N.
- Start number 64 was manually annotated 1 time for cluster N.

Info for manual annotations of cluster P1:

- Start number 61 was manually annotated 1 time for cluster P1.

Info for manual annotations of cluster P5:

- Start number 64 was manually annotated 1 time for cluster P5.

Info for manual annotations of cluster P6:

- Start number 63 was manually annotated 1 time for cluster P6.

Info for manual annotations of cluster Y:

- Start number 62 was manually annotated 4 times for cluster Y.

Gene Information:

Gene: Angelique_42 Start: 32816, Stop: 33574, Start Num: 57

Candidate Starts for Angelique_42:

(8, 32225), (10, 32270), (12, 32297), (14, 32363), (17, 32471), (18, 32480), (19, 32516), (22, 32561), (23, 32570), (41, 32705), (43, 32726), (48, 32744), (50, 32762), (52, 32786), (Start: 57 @32816 has 8 MA's), (Start: 64 @32825 has 15 MA's), (67, 32891), (70, 32948), (82, 33080), (83, 33104), (85, 33137), (86, 33140), (88, 33170), (123, 33239), (126, 33266), (130, 33296), (131, 33308), (154, 33422), (156, 33431), (173, 33548),

Gene: AuntGwenStacy_76 Start: 50977, Stop: 51888, Start Num: 62

Candidate Starts for AuntGwenStacy_76:

(Start: 62 @50977 has 12 MA's), (67, 51043), (68, 51076), (73, 51133), (75, 51136), (80, 51190), (82, 51205), (83, 51229), (84, 51253), (85, 51262), (86, 51265), (88, 51295), (89, 51319), (91, 51331), (105, 51358), (119, 51379), (122, 51400), (123, 51406), (129, 51457), (134, 51502), (150, 51574), (151, 51577), (153, 51613), (155, 51622), (159, 51658), (175, 51736), (180, 51763), (189, 51787), (195, 51805), (199, 51811), (204, 51859), (207, 51880),

Gene: Bakery_64 Start: 46591, Stop: 47565, Start Num: 62

Candidate Starts for Bakery_64:

(Start: 59 @46588 has 3 MA's), (Start: 62 @46591 has 12 MA's), (80, 46804), (82, 46819), (84, 46867), (85, 46876), (86, 46879), (88, 46909), (89, 46933), (92, 46951), (93, 46963), (108, 46987), (143, 47194), (153, 47260), (160, 47311),

Gene: Bialota_64 Start: 45261, Stop: 46223, Start Num: 59

Candidate Starts for Bialota_64:

(Start: 59 @45261 has 3 MA's), (Start: 62 @45264 has 12 MA's), (80, 45477), (82, 45492), (86, 45552), (87, 45558), (88, 45582), (89, 45606), (97, 45645), (105, 45666), (131, 45801), (134, 45825), (150, 45912), (153, 45951), (160, 46002), (161, 46011), (175, 46077), (195, 46134),

Gene: Bipper_79 Start: 52013, Stop: 52936, Start Num: 62

Candidate Starts for Bipper_79:

(36, 51872), (37, 51875), (46, 51929), (56, 52001), (Start: 62 @52013 has 12 MA's), (67, 52079), (73, 52169), (75, 52172), (76, 52175), (80, 52226), (82, 52241), (84, 52289), (86, 52301), (89, 52355), (105, 52394), (119, 52415), (122, 52436), (123, 52442), (128, 52484), (136, 52556), (151, 52616), (152, 52619), (153, 52652), (160, 52703), (175, 52781), (199, 52856), (207, 52925),

Gene: Bosnia_44 Start: 35804, Stop: 36562, Start Num: 57

Candidate Starts for Bosnia_44:

(12, 35285), (13, 35303), (14, 35351), (18, 35468), (19, 35504), (21, 35528), (22, 35549), (23, 35558), (41, 35693), (43, 35714), (47, 35729), (48, 35732), (50, 35750), (52, 35774), (Start: 57 @35804 has 8 MA's), (Start: 64 @35813 has 15 MA's), (67, 35879), (70, 35936), (82, 36068), (85, 36125), (86, 36128), (88, 36158), (123, 36227), (124, 36233), (130, 36284), (131, 36296), (154, 36410), (156, 36419), (173, 36536),

Gene: Bosnia_68 Start: 47556, Stop: 48464, Start Num: 62

Candidate Starts for Bosnia_68:

(Start: 59 @47553 has 3 MA's), (Start: 62 @47556 has 12 MA's), (80, 47769), (82, 47784), (84, 47832), (86, 47844), (87, 47850), (88, 47874), (89, 47898), (97, 47937), (105, 47958), (150, 48201), (153, 48240), (160, 48291), (161, 48300), (200, 48387), (203, 48417),

Gene: Bradissa_64 Start: 45613, Stop: 46590, Start Num: 59

Candidate Starts for Bradissa_64:

(Start: 59 @45613 has 3 MA's), (Start: 62 @45616 has 12 MA's), (80, 45829), (82, 45844), (83, 45868), (84, 45892), (86, 45904), (88, 45934), (89, 45958), (102, 45997), (107, 46018), (114, 46036), (153, 46279), (163, 46381), (167, 46393), (171, 46408), (181, 46459), (192, 46486), (199, 46510), (203, 46543),

Gene: Bunker_55 Start: 40051, Stop: 41034, Start Num: 64

Candidate Starts for Bunker_55:

(Start: 64 @40051 has 15 MA's), (66, 40099), (69, 40165), (71, 40189), (77, 40267), (83, 40336), (84, 40360), (86, 40372), (89, 40426), (90, 40435), (94, 40459), (107, 40492), (117, 40510), (123, 40546), (153, 40738), (175, 40873), (192, 40933), (198, 40954),

Gene: Bunnybear_60 Start: 43979, Stop: 44938, Start Num: 62

Candidate Starts for Bunnybear_60:

(Start: 59 @43976 has 3 MA's), (Start: 62 @43979 has 12 MA's), (80, 44192), (82, 44207), (83, 44231), (86, 44267), (89, 44321), (102, 44378), (121, 44447), (135, 44582), (152, 44633), (153, 44666), (175, 44792), (195, 44849),

Gene: Cashline_66 Start: 46415, Stop: 47329, Start Num: 62

Candidate Starts for Cashline_66:

(Start: 59 @46412 has 3 MA's), (Start: 62 @46415 has 12 MA's), (80, 46628), (82, 46643), (83, 46667), (84, 46691), (86, 46703), (88, 46733), (89, 46757), (102, 46796), (122, 46859), (152, 47024), (153, 47057), (175, 47183), (195, 47240),

Gene: Che9c_68 Start: 47787, Stop: 48947, Start Num: 42

Candidate Starts for Che9c_68:

(31, 47724), (35, 47745), (38, 47760), (Start: 42 @47787 has 2 MA's), (Start: 49 @47823 has 1 MA's), (Start: 61 @47880 has 4 MA's), (73, 48045), (78, 48078), (82, 48117), (83, 48141), (84, 48165), (86, 48177), (88, 48207), (89, 48231), (99, 48270), (109, 48300), (122, 48357), (131, 48435), (150, 48621), (153, 48660), (160, 48711), (164, 48753), (182, 48822), (192, 48846), (196, 48867), (205, 48936),

Gene: Confidence_65 Start: 43164, Stop: 44039, Start Num: 62

Candidate Starts for Confidence_65:

(Start: 62 @43164 has 12 MA's), (80, 43377), (82, 43392), (83, 43416), (84, 43440), (86, 43452), (88, 43482), (89, 43506), (102, 43545), (153, 43815), (160, 43866), (201, 43962),

Gene: Cracklewink_79 Start: 51047, Stop: 51973, Start Num: 62

Candidate Starts for Cracklewink_79:

(36, 50906), (37, 50909), (46, 50963), (56, 51035), (Start: 62 @51047 has 12 MA's), (67, 51113), (73, 51203), (75, 51206), (80, 51260), (82, 51275), (84, 51323), (86, 51335), (89, 51389), (105, 51428), (119, 51449), (122, 51470), (123, 51476), (128, 51518), (136, 51590), (151, 51650), (152, 51653), (153, 51686), (160, 51737), (175, 51818), (180, 51845), (195, 51887), (197, 51890), (199, 51893), (207, 51962),

Gene: Easley_38 Start: 29182, Stop: 29937, Start Num: 57

Candidate Starts for Easley_38:

(22, 28927), (23, 28936), (26, 28966), (41, 29071), (43, 29092), (50, 29128), (52, 29152), (53, 29164), (Start: 57 @29182 has 8 MA's), (Start: 64 @29191 has 15 MA's), (67, 29257), (70, 29314), (72, 29323), (82, 29446), (83, 29470), (86, 29506), (88, 29536), (123, 29605), (124, 29611), (126, 29632), (131, 29674), (160, 29833), (173, 29914),

Gene: EnalisNailo_63 Start: 45150, Stop: 46124, Start Num: 62

Candidate Starts for EnalisNailo_63:

(Start: 59 @45147 has 3 MA's), (Start: 62 @45150 has 12 MA's), (80, 45363), (82, 45378), (83, 45402), (84, 45426), (86, 45438), (88, 45468), (89, 45492), (102, 45531), (107, 45552), (114, 45570), (153, 45813), (163, 45915), (167, 45927), (171, 45942), (181, 45993), (192, 46020), (199, 46044), (203, 46077),

Gene: Estave1_68 Start: 43517, Stop: 44377, Start Num: 60

Candidate Starts for Estave1_68:

(Start: 60 @43517 has 5 MA's), (78, 43706), (81, 43736), (82, 43745), (83, 43769), (84, 43793), (86, 43805), (88, 43835), (89, 43859), (95, 43898), (104, 43925), (111, 43940), (122, 44003), (124, 44015), (140, 44144), (150, 44165), (153, 44204), (160, 44255),

Gene: Evamon_57 Start: 43585, Stop: 44697, Start Num: 64

Candidate Starts for Evamon_57:

(16, 43177), (33, 43426), (Start: 42 @43483 has 2 MA's), (Start: 64 @43585 has 15 MA's), (82, 43807), (84, 43855), (86, 43867), (89, 43921), (93, 43951), (150, 44308), (153, 44347), (160, 44398), (187, 44536), (199, 44617),

Gene: Fairfaxidum_42 Start: 32933, Stop: 33688, Start Num: 57

Candidate Starts for Fairfaxidum_42:

(Start: 57 @32933 has 8 MA's), (Start: 64 @32942 has 15 MA's), (67, 33008), (70, 33065), (80, 33182), (82, 33197), (83, 33221), (86, 33257), (88, 33287), (123, 33356), (126, 33383), (127, 33386), (154, 33539), (156, 33548), (173, 33665),

Gene: Farewell_74 Start: 49357, Stop: 50385, Start Num: 54

Candidate Starts for Farewell_74:

(18, 49045), (25, 49153), (31, 49210), (45, 49297), (Start: 54 @49357 has 2 MA's), (73, 49543), (78, 49576), (82, 49615), (83, 49639), (86, 49675), (88, 49705), (89, 49729), (122, 49849), (153, 50047), (168, 50146), (178, 50185), (179, 50188),

Gene: FroggyToad_60 Start: 40470, Stop: 41480, Start Num: 64

Candidate Starts for FroggyToad_60:

(Start: 59 @40467 has 3 MA's), (Start: 64 @40470 has 15 MA's), (82, 40692), (84, 40740), (86, 40752), (89, 40806), (94, 40839), (116, 40899), (118, 40902), (150, 41166), (153, 41205), (160, 41256), (176, 41334), (194, 41391), (199, 41400), (202, 41409),

Gene: Hilltopfarm_77 Start: 50683, Stop: 51594, Start Num: 62

Candidate Starts for Hilltopfarm_77:

(Start: 62 @50683 has 12 MA's), (67, 50749), (68, 50782), (73, 50839), (75, 50842), (80, 50896), (82, 50911), (83, 50935), (84, 50959), (85, 50968), (86, 50971), (88, 51001), (89, 51025), (91, 51037), (105, 51064), (119, 51085), (122, 51106), (123, 51112), (129, 51163), (134, 51208), (150, 51280), (151, 51283), (153, 51319), (155, 51328), (159, 51364), (175, 51442), (180, 51469), (189, 51493), (195, 51511), (199, 51517), (204, 51565), (207, 51586),

Gene: Hyzer_77 Start: 51291, Stop: 52247, Start Num: 62

Candidate Starts for Hyzer_77:

(Start: 62 @51291 has 12 MA's), (80, 51504), (82, 51519), (84, 51567), (86, 51579), (87, 51585), (89, 51633), (97, 51672), (131, 51828), (150, 51936), (153, 51975), (160, 52026), (175, 52101), (195, 52158),

Gene: Jablanski_42 Start: 33173, Stop: 33928, Start Num: 57

Candidate Starts for Jablanski_42:

(1, 31784), (2, 31901), (3, 32177), (4, 32237), (5, 32246), (6, 32531), (12, 32654), (14, 32720), (17, 32828), (18, 32837), (19, 32873), (21, 32897), (22, 32918), (23, 32927), (24, 32942), (27, 32975), (41,

33062), (43, 33083), (50, 33119), (52, 33143), (Start: 57 @33173 has 8 MA's), (Start: 64 @33182 has 15 MA's), (67, 33248), (70, 33305), (78, 33398), (80, 33422), (82, 33437), (83, 33461), (86, 33497), (88, 33527), (123, 33596), (125, 33608), (173, 33905),

Gene: Jambalaya_57 Start: 43481, Stop: 44557, Start Num: 64

Candidate Starts for Jambalaya_57:

(11, 42953), (16, 43073), (33, 43322), (Start: 42 @43379 has 2 MA's), (Start: 64 @43481 has 15 MA's), (67, 43547), (80, 43694), (82, 43709), (86, 43769), (88, 43799), (89, 43823), (96, 43862), (103, 43874), (112, 43901), (150, 44177), (153, 44216), (160, 44267), (176, 44360), (186, 44402), (187, 44405), (193, 44429), (199, 44486),

Gene: Jung_58 Start: 38220, Stop: 39305, Start Num: 61

Candidate Starts for Jung_58:

(Start: 42 @38127 has 2 MA's), (Start: 49 @38163 has 1 MA's), (Start: 61 @38220 has 4 MA's), (78, 38409), (82, 38448), (83, 38472), (84, 38496), (86, 38508), (89, 38562), (106, 38625), (142, 38874), (146, 38895), (150, 38931), (153, 38970), (160, 39021), (168, 39069), (178, 39108), (179, 39111), (206, 39291),

Gene: Karhdo_62 Start: 41895, Stop: 42809, Start Num: 60

Candidate Starts for Karhdo_62:

(Start: 60 @41895 has 5 MA's), (78, 42084), (81, 42114), (82, 42123), (83, 42147), (84, 42171), (86, 42183), (88, 42213), (89, 42237), (116, 42324), (144, 42534), (150, 42597), (153, 42636), (160, 42687),

Gene: Lilas_64 Start: 46685, Stop: 47662, Start Num: 59

Candidate Starts for Lilas_64:

(Start: 59 @46685 has 3 MA's), (Start: 62 @46688 has 12 MA's), (80, 46901), (82, 46916), (83, 46940), (84, 46964), (86, 46976), (88, 47006), (89, 47030), (102, 47069), (107, 47090), (114, 47108), (153, 47351), (163, 47453), (167, 47465), (171, 47480), (181, 47531), (192, 47558), (199, 47582), (203, 47615),

Gene: LunaStella_64 Start: 41657, Stop: 42571, Start Num: 60

Candidate Starts for LunaStella_64:

(Start: 60 @41657 has 5 MA's), (78, 41846), (81, 41876), (82, 41885), (83, 41909), (84, 41933), (86, 41945), (89, 41999), (107, 42077), (111, 42089), (133, 42251), (137, 42290), (149, 42341), (151, 42380), (152, 42383), (158, 42458), (162, 42491), (174, 42560),

Gene: Mao1_74 Start: 53504, Stop: 54538, Start Num: 61

Candidate Starts for Mao1_74:

(20, 53216), (34, 53360), (Start: 42 @53411 has 2 MA's), (Start: 49 @53447 has 1 MA's), (Start: 61 @53504 has 4 MA's), (67, 53570), (79, 53705), (82, 53726), (83, 53750), (84, 53774), (86, 53786), (88, 53816), (89, 53840), (90, 53849), (98, 53879), (120, 53945), (153, 54170), (165, 54284), (166, 54293), (168, 54305), (179, 54347), (205, 54524),

Gene: Mask_74 Start: 55334, Stop: 56491, Start Num: 49

Candidate Starts for Mask_74:

(22, 55145), (26, 55184), (30, 55223), (32, 55235), (Start: 42 @55298 has 2 MA's), (Start: 49 @55334 has 1 MA's), (Start: 61 @55391 has 4 MA's), (67, 55457), (79, 55592), (82, 55613), (83, 55637), (84, 55661), (86, 55673), (88, 55703), (89, 55727), (98, 55766), (122, 55862), (138, 56018), (150, 56102), (176, 56285), (179, 56294), (190, 56336), (199, 56411), (205, 56480),

Gene: Matteo_57 Start: 38326, Stop: 39264, Start Num: 62

Candidate Starts for Matteo_57:

(Start: 59 @38323 has 3 MA's), (Start: 62 @38326 has 12 MA's), (80, 38539), (82, 38554), (86, 38614), (87, 38620), (88, 38644), (89, 38668), (97, 38707), (105, 38728), (131, 38863), (134, 38887), (153, 38992), (160, 39043), (161, 39052), (175, 39118), (195, 39175),

Gene: Melissauren88_67 Start: 42455, Stop: 43651, Start Num: 40

Candidate Starts for Melissauren88_67:

(Start: 40 @42455 has 1 MA's), (Start: 62 @42566 has 12 MA's), (78, 42755), (82, 42794), (83, 42818), (84, 42842), (86, 42854), (89, 42908), (106, 42971), (142, 43220), (146, 43241), (150, 43277), (153, 43316), (160, 43367), (168, 43415), (178, 43454), (179, 43457), (206, 43637),

Gene: MichelleMyBell_58 Start: 36242, Stop: 37285, Start Num: 64

Candidate Starts for MichelleMyBell_58:

(28, 36056), (29, 36065), (39, 36116), (44, 36155), (58, 36236), (Start: 64 @36242 has 15 MA's), (69, 36356), (71, 36380), (74, 36431), (77, 36458), (78, 36464), (83, 36527), (86, 36563), (88, 36593), (89, 36617), (94, 36650), (138, 36881), (150, 36965), (153, 37004), (157, 37046), (160, 37055), (185, 37169), (205, 37271),

Gene: Mutzi_58 Start: 45499, Stop: 46572, Start Num: 64

Candidate Starts for Mutzi_58:

(Start: 64 @45499 has 15 MA's), (81, 45706), (82, 45715), (84, 45763), (85, 45772), (86, 45775), (89, 45829), (91, 45841), (96, 45868), (103, 45880), (112, 45907), (150, 46183), (153, 46222), (160, 46273), (176, 46366), (186, 46408), (187, 46411), (191, 46426), (193, 46435), (199, 46492),

Gene: Nubi_58 Start: 43690, Stop: 44802, Start Num: 64

Candidate Starts for Nubi_58:

(16, 43282), (33, 43531), (Start: 42 @43588 has 2 MA's), (Start: 64 @43690 has 15 MA's), (82, 43912), (84, 43960), (86, 43972), (89, 44026), (93, 44056), (150, 44413), (153, 44452), (160, 44503), (187, 44641), (199, 44722),

Gene: Panchino_53 Start: 37157, Stop: 38233, Start Num: 61

Candidate Starts for Panchino_53:

(22, 36911), (26, 36950), (30, 36989), (32, 37001), (Start: 42 @37064 has 2 MA's), (Start: 49 @37100 has 1 MA's), (Start: 61 @37157 has 4 MA's), (67, 37223), (79, 37358), (82, 37379), (83, 37403), (84, 37427), (86, 37439), (88, 37469), (89, 37493), (98, 37532), (122, 37628), (148, 37829), (150, 37859), (153, 37898), (160, 37949), (168, 37997), (178, 38036), (179, 38039), (206, 38219),

Gene: PantheRoc_40 Start: 31175, Stop: 31924, Start Num: 64

Candidate Starts for PantheRoc_40:

(22, 30911), (23, 30920), (41, 31055), (43, 31076), (48, 31094), (50, 31112), (52, 31136), (Start: 64 @31175 has 15 MA's), (67, 31241), (70, 31298), (82, 31430), (83, 31454), (86, 31490), (88, 31520), (123, 31589), (125, 31601), (126, 31616), (132, 31667), (154, 31772), (173, 31898),

Gene: Phayonce_62 Start: 41740, Stop: 42756, Start Num: 64

Candidate Starts for Phayonce_62:

(Start: 42 @41635 has 2 MA's), (Start: 64 @41740 has 15 MA's), (81, 41974), (82, 41983), (83, 42007), (84, 42031), (86, 42043), (88, 42073), (89, 42097), (114, 42184), (136, 42343), (141, 42364), (150, 42412), (153, 42451), (160, 42502), (169, 42562), (178, 42595), (179, 42598), (184, 42613), (188, 42622),

Gene: Polkaroo_60 Start: 39586, Stop: 40767, Start Num: 42

Candidate Starts for Polkaroo_60:

(15, 39283), (Start: 42 @39586 has 2 MA's), (Start: 49 @39622 has 1 MA's), (Start: 61 @39679 has 4 MA's), (78, 39868), (82, 39907), (83, 39931), (84, 39955), (86, 39967), (88, 39997), (89, 40021), (98,

40060), (122, 40156), (124, 40168), (142, 40336), (146, 40357), (150, 40393), (153, 40432), (160, 40483), (168, 40531), (178, 40570), (179, 40573), (206, 40753),

Gene: Portcullis_60 Start: 43893, Stop: 44867, Start Num: 65

Candidate Starts for Portcullis_60:

(Start: 65 @43893 has 1 MA's), (80, 44100), (82, 44115), (83, 44139), (84, 44163), (85, 44172), (86, 44175), (88, 44205), (89, 44229), (90, 44238), (102, 44268), (131, 44409), (134, 44433), (138, 44481), (143, 44508), (150, 44535), (153, 44574), (160, 44625), (172, 44694), (199, 44784),

Gene: Purky_68 Start: 43277, Stop: 44338, Start Num: 63

Candidate Starts for Purky_68:

(Start: 63 @43277 has 1 MA's), (67, 43364), (76, 43454), (81, 43511), (82, 43520), (83, 43544), (86, 43580), (88, 43610), (89, 43634), (110, 43718), (145, 43970), (150, 44006), (153, 44045), (160, 44096), (170, 44156), (179, 44189), (197, 44255), (202, 44264), (205, 44324),

Gene: Pytheas_42 Start: 33172, Stop: 33927, Start Num: 57

Candidate Starts for Pytheas_42:

(1, 31783), (2, 31900), (3, 32176), (4, 32236), (5, 32245), (6, 32530), (12, 32653), (14, 32719), (17, 32827), (18, 32836), (19, 32872), (21, 32896), (22, 32917), (23, 32926), (24, 32941), (27, 32974), (41, 33061), (43, 33082), (50, 33118), (52, 33142), (Start: 57 @33172 has 8 MA's), (Start: 64 @33181 has 15 MA's), (67, 33247), (70, 33304), (78, 33397), (80, 33421), (82, 33436), (83, 33460), (86, 33496), (88, 33526), (123, 33595), (125, 33607), (173, 33904),

Gene: Salvador_57 Start: 43583, Stop: 44695, Start Num: 64

Candidate Starts for Salvador_57:

(16, 43175), (33, 43424), (Start: 42 @43481 has 2 MA's), (Start: 64 @43583 has 15 MA's), (82, 43805), (84, 43853), (86, 43865), (89, 43919), (93, 43949), (150, 44306), (153, 44345), (160, 44396), (187, 44534), (199, 44615),

Gene: Savbucketdawg_57 Start: 43481, Stop: 44557, Start Num: 64

Candidate Starts for Savbucketdawg_57:

(11, 42953), (16, 43073), (33, 43322), (Start: 42 @43379 has 2 MA's), (Start: 64 @43481 has 15 MA's), (67, 43547), (80, 43694), (82, 43709), (86, 43769), (88, 43799), (89, 43823), (96, 43862), (103, 43874), (112, 43901), (150, 44177), (153, 44216), (160, 44267), (176, 44360), (186, 44402), (187, 44405), (193, 44429), (199, 44486),

Gene: Sbash_69 Start: 45812, Stop: 46789, Start Num: 64

Candidate Starts for Sbash_69:

(Start: 42 @45707 has 2 MA's), (Start: 64 @45812 has 15 MA's), (67, 45899), (82, 46055), (83, 46079), (84, 46103), (85, 46112), (86, 46115), (89, 46169), (114, 46253), (115, 46262), (122, 46289), (129, 46346), (147, 46439), (150, 46466), (153, 46505), (160, 46556), (177, 46640), (183, 46655), (197, 46706), (205, 46775),

Gene: Sejanus_73 Start: 53759, Stop: 54952, Start Num: 42

Candidate Starts for Sejanus_73:

(22, 53606), (26, 53645), (30, 53684), (32, 53696), (Start: 42 @53759 has 2 MA's), (Start: 49 @53795 has 1 MA's), (Start: 61 @53852 has 4 MA's), (67, 53918), (79, 54053), (82, 54074), (83, 54098), (84, 54122), (86, 54134), (88, 54164), (89, 54188), (98, 54227), (122, 54323), (138, 54479), (150, 54563), (176, 54746), (179, 54755), (190, 54797), (199, 54872), (205, 54941),

Gene: Shinji_58 Start: 43933, Stop: 45006, Start Num: 64

Candidate Starts for Shinji_58:

(Start: 64 @43933 has 15 MA's), (81, 44140), (82, 44149), (84, 44197), (85, 44206), (86, 44209), (89, 44263), (91, 44275), (96, 44302), (103, 44314), (112, 44341), (150, 44617), (153, 44656), (160, 44707), (176, 44800), (186, 44842), (187, 44845), (191, 44860), (193, 44869), (199, 44926),

Gene: Shweta_56 Start: 36930, Stop: 37940, Start Num: 61

Candidate Starts for Shweta_56:

(35, 36795), (38, 36810), (Start: 42 @36837 has 2 MA's), (Start: 49 @36873 has 1 MA's), (Start: 61 @36930 has 4 MA's), (73, 37086), (78, 37119), (82, 37158), (83, 37182), (84, 37206), (86, 37218), (88, 37248), (89, 37272), (98, 37311), (122, 37407), (124, 37419), (153, 37605), (168, 37704), (178, 37743), (179, 37746), (206, 37926),

Gene: SimranZ1_66 Start: 42610, Stop: 43263, Start Num: 60

Candidate Starts for SimranZ1_66:

(Start: 60 @42610 has 5 MA's), (78, 42799), (82, 42838), (83, 42862), (84, 42886), (86, 42898), (88, 42928), (89, 42952), (95, 42991), (104, 43018), (111, 43033), (122, 43093), (124, 43105),

Gene: SmokingBunny_59 Start: 44365, Stop: 45438, Start Num: 64

Candidate Starts for SmokingBunny_59:

(Start: 64 @44365 has 15 MA's), (81, 44572), (82, 44581), (84, 44629), (85, 44638), (86, 44641), (89, 44695), (91, 44707), (96, 44734), (103, 44746), (112, 44773), (150, 45049), (153, 45088), (160, 45139), (176, 45232), (186, 45274), (187, 45277), (191, 45292), (193, 45301), (199, 45358),

Gene: Sparky_73 Start: 50951, Stop: 51979, Start Num: 54

Candidate Starts for Sparky_73:

(18, 50639), (25, 50747), (31, 50804), (45, 50891), (Start: 54 @50951 has 2 MA's), (73, 51137), (78, 51170), (82, 51209), (83, 51233), (86, 51269), (88, 51299), (89, 51323), (122, 51443), (153, 51641), (168, 51740), (178, 51779), (179, 51782),

Gene: Squirty_73 Start: 48317, Stop: 49249, Start Num: 64

Candidate Starts for Squirty_73:

(Start: 64 @48317 has 15 MA's), (76, 48473), (82, 48539), (83, 48563), (84, 48587), (86, 48599), (89, 48653), (108, 48704), (124, 48764), (137, 48875), (150, 48938), (152, 48944), (153, 48977), (160, 49028), (187, 49124), (190, 49130), (197, 49166),

Gene: TChen_66 Start: 43608, Stop: 44522, Start Num: 60

Candidate Starts for TChen_66:

(Start: 60 @43608 has 5 MA's), (78, 43797), (81, 43827), (82, 43836), (83, 43860), (84, 43884), (86, 43896), (89, 43950), (107, 44028), (111, 44040), (133, 44202), (137, 44241), (149, 44292), (151, 44331), (152, 44334), (158, 44409), (162, 44442), (174, 44511),

Gene: ThankyouJordi_41 Start: 33401, Stop: 34156, Start Num: 57

Candidate Starts for ThankyouJordi_41:

(6, 32759), (7, 32798), (12, 32882), (14, 32948), (17, 33056), (18, 33065), (19, 33101), (21, 33125), (22, 33146), (23, 33155), (41, 33290), (43, 33311), (50, 33347), (52, 33371), (Start: 57 @33401 has 8 MA's), (Start: 64 @33410 has 15 MA's), (67, 33476), (70, 33533), (80, 33650), (82, 33665), (83, 33689), (86, 33725), (88, 33755), (123, 33824), (125, 33836), (160, 34052), (173, 34133),

Gene: Togo_58 Start: 44365, Stop: 45438, Start Num: 64

Candidate Starts for Togo_58:

(Start: 64 @44365 has 15 MA's), (81, 44572), (82, 44581), (84, 44629), (85, 44638), (86, 44641), (89, 44695), (91, 44707), (96, 44734), (103, 44746), (112, 44773), (150, 45049), (153, 45088), (160, 45139), (176, 45232), (186, 45274), (187, 45277), (191, 45292), (193, 45301), (199, 45358),

Gene: Toron_70 Start: 43464, Stop: 44393, Start Num: 55

Candidate Starts for Toron_70:

(51, 43431), (55, 43464), (Start: 61 @43476 has 4 MA's), (73, 43632), (76, 43638), (81, 43695), (82, 43704), (83, 43728), (86, 43764), (88, 43794), (89, 43818), (91, 43830), (100, 43860), (113, 43899), (122, 43953), (124, 43965), (129, 44010), (139, 44088), (150, 44121), (153, 44160), (160, 44211), (175, 44310),

Gene: Twister6_61 Start: 44083, Stop: 45177, Start Num: 64

Candidate Starts for Twister6_61:

(9, 43501), (16, 43675), (33, 43924), (Start: 42 @43981 has 2 MA's), (Start: 64 @44083 has 15 MA's), (82, 44305), (84, 44353), (86, 44365), (88, 44395), (101, 44470), (124, 44560), (150, 44788), (153, 44827), (160, 44878), (176, 44971), (186, 45013), (187, 45016), (191, 45031), (193, 45040), (199, 45097),

Gene: Typha_76 Start: 50977, Stop: 51888, Start Num: 62

Candidate Starts for Typha_76:

(Start: 62 @50977 has 12 MA's), (67, 51043), (68, 51076), (73, 51133), (75, 51136), (80, 51190), (82, 51205), (83, 51229), (84, 51253), (85, 51262), (86, 51265), (88, 51295), (89, 51319), (91, 51331), (105, 51358), (119, 51379), (122, 51400), (123, 51406), (129, 51457), (134, 51502), (150, 51574), (151, 51577), (153, 51613), (155, 51622), (159, 51658), (175, 51736), (180, 51763), (189, 51787), (195, 51805), (199, 51811), (204, 51859), (207, 51880),

Gene: WelcomeAyanna_41 Start: 33548, Stop: 34303, Start Num: 57

Candidate Starts for WelcomeAyanna_41:

(6, 32906), (7, 32945), (12, 33029), (14, 33095), (17, 33203), (18, 33212), (19, 33248), (21, 33272), (22, 33293), (23, 33302), (41, 33437), (43, 33458), (50, 33494), (52, 33518), (Start: 57 @33548 has 8 MA's), (Start: 64 @33557 has 15 MA's), (67, 33623), (70, 33680), (80, 33797), (82, 33812), (83, 33836), (86, 33872), (88, 33902), (123, 33971), (125, 33983), (160, 34199), (173, 34280),

Gene: Zirinka_64 Start: 45252, Stop: 46211, Start Num: 62

Candidate Starts for Zirinka_64:

(Start: 59 @45249 has 3 MA's), (Start: 62 @45252 has 12 MA's), (80, 45465), (82, 45480), (86, 45540), (87, 45546), (88, 45570), (89, 45594), (97, 45633), (105, 45654), (131, 45789), (134, 45813), (150, 45900), (153, 45939), (160, 45990), (161, 45999), (175, 46065), (195, 46122),