

Pham 157674



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 157674 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157674 has 137 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Monet_92, Treddle_90, Bxb1_84, Homines_83, Fushigi_84, Crispicous1_86
- Track 2 : HanShotFirst_90
- Track 3 : Kugel_94, Petp2012_89, Pelly_91, Tripl3t_91, Arlo_96, Zephyr_92, Bigfoot_86, Ohno789_95, Moose_95, STLscum_100, Atkinbua_98, Kenmech_93, Ajay_84, Pepe_86, Bruns_96, BillKnuckles_86, Turj99_86, Acme_91, MetalQZJ_88, GageAP_90, Rubeus_88, DrFeelGood_85, Hermia_81, Maroc7_92, Sibs6_95, Magnar_91, Niza_89, Chanagan_87, Euphoria_95, Greg_90, MaryBeth_91, Carlyle_91, MrGordo_92, Fajezeel_90, Fascinus_86, GrecoEtereo_92, Kykar_88, DreamCatcher_102, Adahisdi_85, NEHalo_88, Oogway_87, Traft412_86, ILeeKay_91, Ruotula_94, ConceptII_97, SwissCheese_95, Alvin_86, Dussy_87, Museum_90, Dexes_93, Forsytheast_96, AFIS_88, Rufus_93, Bethlehem_87, Corvo_94, Eyeball_94, TheloniousMonk_90, Hope4ever_88, Abbysshoes_89, Burton_90, Lopton_88, Wheeler_96, CactusRose_96, Snazzy_92, SpikeBT_87, PattyP_92
- Track 4 : Violet_87
- Track 5 : KSSJEB_91, Altman_94, Kanely_93, Seanderson_89
- Track 6 : TwoPeat_85, Molly_89, PSullivan_85, Swole_88, KBG_87, JuliaChild_91, Tote_86, Pita2_91, Doom_84
- Track 7 : Anglerfish_93
- Track 8 : Scowl_90
- Track 9 : Bircsak_90, Gompeii16_90, Gwendoluna_90
- Track 10 : Francis47_93, LilBib_80, Agaliana_87, Slagathor_92, Marcell_83, Pinto_87, Norz_90, PacerPaul_93, Seabiscuit_95
- Track 11 : Teodoridan_93, Espresso_86, Mryolo_84
- Track 12 : Squee_92, Naira_96, Fenn_97
- Track 13 : KyMonks1A_96, Target_90
- Track 14 : Petruccio_88
- Track 15 : Ichabod_96, Thor_98, SarFire_98, BPBiebs31_97
- Track 16 : QTRlifeCrisis_87
- Track 17 : Dynamix_92, Briton15_95, Switzer_91
- Track 18 : Papez_93, Michley_91, Graduation_93
- Track 19 : BeesKnees_95, Jasper_93, McGuire_92, Dreamboat_93
- Track 20 : Watermelon_89
- Track 21 : Paphu_87
- Track 22 : Magnito_91
- Track 23 : PascalRango_92, Manatee_92

- Track 24 : Gyzlar_83
- Track 25 : FrogHopper_79
- Track 26 : Buttons_85
- Track 27 : HINdeR_81
- Track 28 : PP_04
- Track 29 : JacoRen57_68
- Track 30 : Omega_235

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

The start number called the most often in the published annotations is 18, it was called in 109 of the 125 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AFIS_88, Abbyshoes_89, Acme_91, Adahisdi_85, Agaliana_87, Ajay_84, Altman_94, Alvin_86, Anglerfish_93, Arlo_96, Atkinbua_98, BeesKnees_95, Bethlehem_87, Bigfoot_86, BillKnuckles_86, Bruns_96, Burton_90, Buttons_85, Bxb1_84, CactusRose_96, Carlyle_91, Chanagan_87, Conceptll_97, Corvo_94, Crispicious1_86, Dexes_93, Doom_84, DrFeelGood_85, DreamCatcher_102, Dreamboat_93, Dussy_87, Espresso_86, Euphoria_95, Eyeball_94, Fajezeel_90, Fascinus_86, Fenn_97, Forsytheast_96, Francis47_93, FrogHopper_79, Fushigi_84, GageAP_90, GrecoEtereo_92, Greg_90, Gyzlar_83, Hermia_81, Homines_83, Hope4ever_88, ILeeKay_91, Jasper_93, JuliaChild_91, KBG_87, KSSJEB_91, Kanely_93, Kenmech_93, Kugel_94, KyMonks1A_96, Kykar_88, LilBib_80, Lopton_88, Magnar_91, Magnito_91, Manatee_92, Marcell_83, Maroc7_92, MaryBeth_91, McGuire_92, MetalQZJ_88, Molly_89, Monet_92, Moose_95, MrGordo_92, Mryolo_84, Museum_90, NEHalo_88, Naira_96, Niza_89, Norz_90, Ohno789_95, Omega_235, Oogway_87, PSullivan_85, PacerPaul_93, Paphu_87, PascalRango_92, PattyP_92, Pelly_91, Pepe_86, Petp2012_89, Petruccio_88, Pinto_87, Pita2_91, QTRlifeCrisis_87, Rubeus_88, Rufus_93, Ruotula_94, STLscum_100, Scowl_90, Seabiscuit_95, Seanderson_89, Sibs6_95, Slagathor_92, Snazzy_92, SpikeBT_87, Squee_92, SwissCheese_95, Swole_88, Target_90, Teodoridan_93, TheloniousMonk_90, Tote_86, Traff412_86, Treddle_90, Tripl3t_91, Turj99_86, TwoPeat_85, Violet_87, Watermelon_89, Wheeler_96, Zephyr_92,

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

- BPBiebs31_97, Bircsak_90, Briton15_95, Dynamix_92, Gompeii16_90, Graduation_93, Gwendoluna_90, HanShotFirst_90, Ichabod_96, Michley_91, Papez_93, SarFire_98, Switzer_91, Thor_98,

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

- HINdeR_81, JacoRen57_68, PP_04,

Summary by start number:

Start 8:

- Found in 3 of 137 (2.2%) of genes in pham
- Manual Annotations of this start: 2 of 125
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Bircsak_90 (A1), Gompeii16_90 (A1), Gwendoluna_90 (A1),

Start 10:

- Found in 10 of 137 (7.3%) of genes in pham
- Manual Annotations of this start: 7 of 125
- Called 70.0% of time when present
- Phage (with cluster) where this start called: BPBiebs31_97 (A1), Briton15_95 (A1), Dynamix_92 (A1), Ichabod_96 (A1), SarFire_98 (A1), Switzer_91 (A1), Thor_98 (A1),

Start 12:

- Found in 4 of 137 (2.9%) of genes in pham
- Manual Annotations of this start: 3 of 125
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Graduation_93 (A1), Michley_91 (A1), Papez_93 (A1),

Start 13:

- Found in 1 of 137 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 125
- Called 100.0% of time when present
- Phage (with cluster) where this start called: HINdeR_81 (A7),

Start 14:

- Found in 1 of 137 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 125
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PP_04 (A7),

Start 15:

- Found in 1 of 137 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 125
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JacoRen57_68 (AB),

Start 16:

- Found in 2 of 137 (1.5%) of genes in pham
- Manual Annotations of this start: 1 of 125
- Called 50.0% of time when present
- Phage (with cluster) where this start called: HanShotFirst_90 (A1),

Start 18:

- Found in 134 of 137 (97.8%) of genes in pham
- Manual Annotations of this start: 109 of 125
- Called 89.6% of time when present
- Phage (with cluster) where this start called: AFIS_88 (A1), Abbyshoes_89 (A1), Acme_91 (A1), Adahisdi_85 (A1), Agaliana_87 (A1), Ajay_84 (A1), Altman_94 (A1), Alvin_86 (A1), Anglerfish_93 (A1), Arlo_96 (A1), Atkinbua_98 (A1), BeesKnees_95 (A1), Bethlehem_87 (A1), Bigfoot_86 (A1), BillKnuckles_86 (A1), Bruns_96 (A1), Burton_90 (A1), Buttons_85 (A1), Bxb1_84 (A1), CactusRose_96 (A1), Carlyle_91 (A1), Chanagan_87 (A1), ConceptII_97 (A1), Corvo_94 (A1), Crispicous1_86 (A1), Dexes_93 (A1), Doom_84 (A1), DrFeelGood_85 (A1), DreamCatcher_102 (A1), Dreamboat_93 (A1), Dussy_87 (A1), Espresso_86 (A1), Euphoria_95 (A1),

EyeBall_94 (A1), Fajezeel_90 (A1), Fascinus_86 (A1), Fenn_97 (A1), Forsytheast_96 (A1), Francis47_93 (A1), FrogHopper_79 (A1), Fushigi_84 (A1), GageAP_90 (A1), GrecoEtereo_92 (A1), Greg_90 (A1), Gyzlar_83 (A1), Hermia_81 (A1), Homines_83 (A1), Hope4ever_88 (A1), ILeeKay_91 (A1), Jasper_93 (A1), JuliaChild_91 (A1), KBG_87 (A1), KSSJEB_91 (A1), Kanely_93 (A1), Kenmech_93 (A1), Kugel_94 (A1), KyMonks1A_96 (A1), Kykar_88 (A1), LilBib_80 (A1), Lopton_88 (A1), Magnar_91 (A1), Magnito_91 (A1), Manatee_92 (A1), Marcell_83 (A1), Maroc7_92 (A1), MaryBeth_91 (A1), McGuire_92 (A1), MetalQZJ_88 (A1), Molly_89 (A1), Monet_92 (A1), Moose_95 (A1), MrGordo_92 (A1), Mryolo_84 (A1), Museum_90 (A1), NEHalo_88 (A1), Naira_96 (A1), Niza_89 (A1), Norz_90 (A1), Ohno789_95 (A1), Omega_235 (J), Oogway_87 (A1), PSullivan_85 (A1), PacerPaul_93 (A1), Paphu_87 (A1), PascalRango_92 (A1), PattyP_92 (A1), Pelly_91 (A1), Pepe_86 (A1), Petp2012_89 (A1), Petruccio_88 (A1), Pinto_87 (A1), Pita2_91 (A1), QTRLifeCrisis_87 (A1), Rubeus_88 (A1), Rufus_93 (A1), Ruotula_94 (A1), STLscum_100 (A1), Scowl_90 (A1), Seabiscuit_95 (A1), Seanderson_89 (A1), Sibs6_95 (A1), Slagathor_92 (A1), Snazzy_92 (A1), SpikeBT_87 (A1), Squee_92 (A1), SwissCheese_95 (A1), Swole_88 (A1), Target_90 (A1), Teodoridan_93 (A1), TheloniousMonk_90 (A1), Tote_86 (A1), Traft412_86 (A1), Treddle_90 (A1), Tripl3t_91 (A1), Turj99_86 (A1), TwoPeat_85 (A1), Violet_87 (A1), Watermelon_89 (A1), Wheeler_96 (A1), Zephyr_92 (A1),

Summary by clusters:

There are 4 clusters represented in this pham: A1, J, AB, A7,

Info for manual annotations of cluster A1:

- Start number 8 was manually annotated 2 times for cluster A1.
- Start number 10 was manually annotated 7 times for cluster A1.
- Start number 12 was manually annotated 3 times for cluster A1.
- Start number 16 was manually annotated 1 time for cluster A1.
- Start number 18 was manually annotated 108 times for cluster A1.

Info for manual annotations of cluster A7:

- Start number 13 was manually annotated 1 time for cluster A7.
- Start number 14 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster AB:

- Start number 15 was manually annotated 1 time for cluster AB.

Info for manual annotations of cluster J:

- Start number 18 was manually annotated 1 time for cluster J.

Gene Information:

Gene: AFIS_88 Start: 51338, Stop: 51135, Start Num: 18

Candidate Starts for AFIS_88:

(Start: 18 @51338 has 109 MA's), (27, 51203),

Gene: Abbyshoes_89 Start: 50942, Stop: 50739, Start Num: 18

Candidate Starts for Abbyshoes_89:

(Start: 18 @50942 has 109 MA's), (27, 50807),

Gene: Acme_91 Start: 51412, Stop: 51209, Start Num: 18
Candidate Starts for Acme_91:
(Start: 18 @51412 has 109 MA's), (27, 51277),

Gene: Adahisdi_85 Start: 51316, Stop: 51113, Start Num: 18
Candidate Starts for Adahisdi_85:
(Start: 18 @51316 has 109 MA's), (27, 51181),

Gene: Agaliana_87 Start: 49294, Stop: 49091, Start Num: 18
Candidate Starts for Agaliana_87:
(Start: 18 @49294 has 109 MA's),

Gene: Ajay_84 Start: 49128, Stop: 48925, Start Num: 18
Candidate Starts for Ajay_84:
(Start: 18 @49128 has 109 MA's), (27, 48993),

Gene: Altman_94 Start: 52124, Stop: 51921, Start Num: 18
Candidate Starts for Altman_94:
(Start: 18 @52124 has 109 MA's), (27, 51989),

Gene: Alvin_86 Start: 49180, Stop: 48977, Start Num: 18
Candidate Starts for Alvin_86:
(Start: 18 @49180 has 109 MA's), (27, 49045),

Gene: Anglerfish_93 Start: 51993, Stop: 51790, Start Num: 18
Candidate Starts for Anglerfish_93:
(Start: 18 @51993 has 109 MA's), (27, 51858), (29, 51822),

Gene: Arlo_96 Start: 52566, Stop: 52363, Start Num: 18
Candidate Starts for Arlo_96:
(Start: 18 @52566 has 109 MA's), (27, 52431),

Gene: Atkinbua_98 Start: 52558, Stop: 52355, Start Num: 18
Candidate Starts for Atkinbua_98:
(Start: 18 @52558 has 109 MA's), (27, 52423),

Gene: BPBiabs31_97 Start: 52824, Stop: 52570, Start Num: 10
Candidate Starts for BPBiabs31_97:
(Start: 10 @52824 has 7 MA's), (Start: 18 @52773 has 109 MA's), (27, 52638),

Gene: BeesKnees_95 Start: 51081, Stop: 50878, Start Num: 18
Candidate Starts for BeesKnees_95:
(Start: 18 @51081 has 109 MA's), (27, 50946),

Gene: Bethlehem_87 Start: 51847, Stop: 51644, Start Num: 18
Candidate Starts for Bethlehem_87:
(Start: 18 @51847 has 109 MA's), (27, 51712),

Gene: Bigfoot_86 Start: 51251, Stop: 51048, Start Num: 18
Candidate Starts for Bigfoot_86:
(Start: 18 @51251 has 109 MA's), (27, 51116),

Gene: BillKnuckles_86 Start: 51482, Stop: 51279, Start Num: 18
Candidate Starts for BillKnuckles_86:
(Start: 18 @51482 has 109 MA's), (27, 51347),

Gene: Bircsak_90 Start: 52909, Stop: 52619, Start Num: 8
Candidate Starts for Bircsak_90:
(2, 53011), (Start: 8 @52909 has 2 MA's), (Start: 18 @52822 has 109 MA's), (27, 52687),

Gene: Briton15_95 Start: 52689, Stop: 52435, Start Num: 10
Candidate Starts for Briton15_95:
(Start: 10 @52689 has 7 MA's), (Start: 18 @52638 has 109 MA's),

Gene: Bruns_96 Start: 52614, Stop: 52411, Start Num: 18
Candidate Starts for Bruns_96:
(Start: 18 @52614 has 109 MA's), (27, 52479),

Gene: Burton_90 Start: 52230, Stop: 52027, Start Num: 18
Candidate Starts for Burton_90:
(Start: 18 @52230 has 109 MA's), (27, 52095),

Gene: Buttons_85 Start: 48633, Stop: 48430, Start Num: 18
Candidate Starts for Buttons_85:
(Start: 18 @48633 has 109 MA's), (27, 48498), (31, 48438),

Gene: Bxb1_84 Start: 48903, Stop: 49112, Start Num: 18
Candidate Starts for Bxb1_84:
(Start: 18 @48903 has 109 MA's), (27, 49044), (31, 49104),

Gene: CactusRose_96 Start: 52264, Stop: 52061, Start Num: 18
Candidate Starts for CactusRose_96:
(Start: 18 @52264 has 109 MA's), (27, 52129),

Gene: Carlyle_91 Start: 50831, Stop: 50628, Start Num: 18
Candidate Starts for Carlyle_91:
(Start: 18 @50831 has 109 MA's), (27, 50696),

Gene: Chanagan_87 Start: 50342, Stop: 50139, Start Num: 18
Candidate Starts for Chanagan_87:
(Start: 18 @50342 has 109 MA's), (27, 50207),

Gene: ConceptII_97 Start: 52890, Stop: 52687, Start Num: 18
Candidate Starts for ConceptII_97:
(Start: 18 @52890 has 109 MA's), (27, 52755),

Gene: Corvo_94 Start: 52995, Stop: 52792, Start Num: 18
Candidate Starts for Corvo_94:
(Start: 18 @52995 has 109 MA's), (27, 52860),

Gene: Crispicous1_86 Start: 49167, Stop: 49370, Start Num: 18
Candidate Starts for Crispicous1_86:
(Start: 18 @49167 has 109 MA's), (27, 49302), (31, 49362),

Gene: Dexes_93 Start: 53941, Stop: 53738, Start Num: 18

Candidate Starts for Dexes_93:
(Start: 18 @53941 has 109 MA's), (27, 53806),

Gene: Doom_84 Start: 50622, Stop: 50419, Start Num: 18
Candidate Starts for Doom_84:
(3, 50769), (4, 50757), (6, 50733), (Start: 18 @50622 has 109 MA's), (27, 50487), (31, 50427),

Gene: DrFeelGood_85 Start: 49766, Stop: 49563, Start Num: 18
Candidate Starts for DrFeelGood_85:
(Start: 18 @49766 has 109 MA's), (27, 49631),

Gene: DreamCatcher_102 Start: 53024, Stop: 52821, Start Num: 18
Candidate Starts for DreamCatcher_102:
(Start: 18 @53024 has 109 MA's), (27, 52889),

Gene: Dreamboat_93 Start: 50459, Stop: 50256, Start Num: 18
Candidate Starts for Dreamboat_93:
(Start: 18 @50459 has 109 MA's), (27, 50324),

Gene: Dussy_87 Start: 50962, Stop: 50759, Start Num: 18
Candidate Starts for Dussy_87:
(Start: 18 @50962 has 109 MA's), (27, 50827),

Gene: Dynamix_92 Start: 50284, Stop: 50030, Start Num: 10
Candidate Starts for Dynamix_92:
(Start: 10 @50284 has 7 MA's), (Start: 18 @50233 has 109 MA's),

Gene: Espresso_86 Start: 50463, Stop: 50666, Start Num: 18
Candidate Starts for Espresso_86:
(Start: 18 @50463 has 109 MA's), (27, 50598),

Gene: Euphoria_95 Start: 53188, Stop: 52985, Start Num: 18
Candidate Starts for Euphoria_95:
(Start: 18 @53188 has 109 MA's), (27, 53053),

Gene: Eyeball_94 Start: 51846, Stop: 51643, Start Num: 18
Candidate Starts for Eyeball_94:
(Start: 18 @51846 has 109 MA's), (27, 51711),

Gene: Fajezeel_90 Start: 50702, Stop: 50499, Start Num: 18
Candidate Starts for Fajezeel_90:
(Start: 18 @50702 has 109 MA's), (27, 50567),

Gene: Fascinus_86 Start: 51761, Stop: 51558, Start Num: 18
Candidate Starts for Fascinus_86:
(Start: 18 @51761 has 109 MA's), (27, 51626),

Gene: Fenn_97 Start: 52841, Stop: 52638, Start Num: 18
Candidate Starts for Fenn_97:
(Start: 18 @52841 has 109 MA's), (27, 52706),

Gene: Forsytheast_96 Start: 52313, Stop: 52110, Start Num: 18
Candidate Starts for Forsytheast_96:

(Start: 18 @52313 has 109 MA's), (27, 52178),

Gene: Francis47_93 Start: 53565, Stop: 53362, Start Num: 18

Candidate Starts for Francis47_93:

(Start: 18 @53565 has 109 MA's),

Gene: Froghopper_79 Start: 47225, Stop: 47428, Start Num: 18

Candidate Starts for Froghopper_79:

(Start: 16 @47216 has 1 MA's), (Start: 18 @47225 has 109 MA's), (27, 47357),

Gene: Fushigi_84 Start: 48765, Stop: 48968, Start Num: 18

Candidate Starts for Fushigi_84:

(Start: 18 @48765 has 109 MA's), (27, 48900), (31, 48960),

Gene: GageAP_90 Start: 51509, Stop: 51306, Start Num: 18

Candidate Starts for GageAP_90:

(Start: 18 @51509 has 109 MA's), (27, 51374),

Gene: Gompeii16_90 Start: 52910, Stop: 52620, Start Num: 8

Candidate Starts for Gompeii16_90:

(2, 53012), (Start: 8 @52910 has 2 MA's), (Start: 18 @52823 has 109 MA's), (27, 52688),

Gene: Graduation_93 Start: 51162, Stop: 50911, Start Num: 12

Candidate Starts for Graduation_93:

(Start: 12 @51162 has 3 MA's), (Start: 18 @51114 has 109 MA's), (27, 50979),

Gene: GrecoEtereo_92 Start: 51814, Stop: 51611, Start Num: 18

Candidate Starts for GrecoEtereo_92:

(Start: 18 @51814 has 109 MA's), (27, 51679),

Gene: Greg_90 Start: 50702, Stop: 50499, Start Num: 18

Candidate Starts for Greg_90:

(Start: 18 @50702 has 109 MA's), (27, 50567),

Gene: Gwendoluna_90 Start: 51399, Stop: 51109, Start Num: 8

Candidate Starts for Gwendoluna_90:

(2, 51501), (Start: 8 @51399 has 2 MA's), (Start: 18 @51312 has 109 MA's), (27, 51177),

Gene: Gyzlar_83 Start: 47405, Stop: 47608, Start Num: 18

Candidate Starts for Gyzlar_83:

(7, 47294), (Start: 18 @47405 has 109 MA's), (27, 47540), (31, 47600),

Gene: HINdeR_81 Start: 50361, Stop: 50110, Start Num: 13

Candidate Starts for HINdeR_81:

(Start: 12 @50364 has 3 MA's), (Start: 13 @50361 has 1 MA's), (17, 50316), (21, 50265), (23, 50247), (28, 50175),

Gene: HanShotFirst_90 Start: 51379, Stop: 51594, Start Num: 16

Candidate Starts for HanShotFirst_90:

(1, 51163), (Start: 16 @51379 has 1 MA's), (Start: 18 @51388 has 109 MA's), (27, 51523),

Gene: Hermia_81 Start: 49274, Stop: 49071, Start Num: 18

Candidate Starts for Hermia_81:

(Start: 18 @49274 has 109 MA's), (27, 49139),

Gene: Homines_83 Start: 46852, Stop: 47055, Start Num: 18

Candidate Starts for Homines_83:

(Start: 18 @46852 has 109 MA's), (27, 46987), (31, 47047),

Gene: Hope4ever_88 Start: 50126, Stop: 49923, Start Num: 18

Candidate Starts for Hope4ever_88:

(Start: 18 @50126 has 109 MA's), (27, 49991),

Gene: ILeeKay_91 Start: 50632, Stop: 50429, Start Num: 18

Candidate Starts for ILeeKay_91:

(Start: 18 @50632 has 109 MA's), (27, 50497),

Gene: Ichabod_96 Start: 52974, Stop: 52720, Start Num: 10

Candidate Starts for Ichabod_96:

(Start: 10 @52974 has 7 MA's), (Start: 18 @52923 has 109 MA's), (27, 52788),

Gene: JacoRen57_68 Start: 49553, Stop: 49792, Start Num: 15

Candidate Starts for JacoRen57_68:

(Start: 15 @49553 has 1 MA's), (20, 49622), (25, 49661), (29, 49754), (30, 49775),

Gene: Jasper_93 Start: 50345, Stop: 50142, Start Num: 18

Candidate Starts for Jasper_93:

(Start: 18 @50345 has 109 MA's), (27, 50210),

Gene: JuliaChild_91 Start: 51435, Stop: 51232, Start Num: 18

Candidate Starts for JuliaChild_91:

(3, 51582), (4, 51570), (6, 51546), (Start: 18 @51435 has 109 MA's), (27, 51300), (31, 51240),

Gene: KBG_87 Start: 52193, Stop: 51990, Start Num: 18

Candidate Starts for KBG_87:

(3, 52340), (4, 52328), (6, 52304), (Start: 18 @52193 has 109 MA's), (27, 52058), (31, 51998),

Gene: KSSJEB_91 Start: 50745, Stop: 50542, Start Num: 18

Candidate Starts for KSSJEB_91:

(Start: 18 @50745 has 109 MA's), (27, 50610),

Gene: Kanely_93 Start: 51901, Stop: 51698, Start Num: 18

Candidate Starts for Kanely_93:

(Start: 18 @51901 has 109 MA's), (27, 51766),

Gene: Kenmech_93 Start: 52088, Stop: 51885, Start Num: 18

Candidate Starts for Kenmech_93:

(Start: 18 @52088 has 109 MA's), (27, 51953),

Gene: Kugel_94 Start: 51995, Stop: 51792, Start Num: 18

Candidate Starts for Kugel_94:

(Start: 18 @51995 has 109 MA's), (27, 51860),

Gene: KyMonks1A_96 Start: 51763, Stop: 51560, Start Num: 18

Candidate Starts for KyMonks1A_96:

(Start: 18 @51763 has 109 MA's), (27, 51628), (31, 51568),

Gene: Kykar_88 Start: 49910, Stop: 49701, Start Num: 18
Candidate Starts for Kykar_88:
(Start: 18 @49910 has 109 MA's), (27, 49769),

Gene: LilBib_80 Start: 49937, Stop: 49734, Start Num: 18
Candidate Starts for LilBib_80:
(Start: 18 @49937 has 109 MA's),

Gene: Lopton_88 Start: 52012, Stop: 51809, Start Num: 18
Candidate Starts for Lopton_88:
(Start: 18 @52012 has 109 MA's), (27, 51877),

Gene: Magnar_91 Start: 51040, Stop: 50837, Start Num: 18
Candidate Starts for Magnar_91:
(Start: 18 @51040 has 109 MA's), (27, 50905),

Gene: Magnito_91 Start: 51185, Stop: 50982, Start Num: 18
Candidate Starts for Magnito_91:
(5, 51299), (11, 51236), (Start: 18 @51185 has 109 MA's), (27, 51050),

Gene: Manatee_92 Start: 50646, Stop: 50443, Start Num: 18
Candidate Starts for Manatee_92:
(Start: 10 @50697 has 7 MA's), (Start: 18 @50646 has 109 MA's),

Gene: Marcell_83 Start: 48789, Stop: 48586, Start Num: 18
Candidate Starts for Marcell_83:
(Start: 18 @48789 has 109 MA's),

Gene: Maroc7_92 Start: 52980, Stop: 52777, Start Num: 18
Candidate Starts for Maroc7_92:
(Start: 18 @52980 has 109 MA's), (27, 52845),

Gene: MaryBeth_91 Start: 51469, Stop: 51266, Start Num: 18
Candidate Starts for MaryBeth_91:
(Start: 18 @51469 has 109 MA's), (27, 51334),

Gene: McGuire_92 Start: 50898, Stop: 50695, Start Num: 18
Candidate Starts for McGuire_92:
(Start: 18 @50898 has 109 MA's), (27, 50763),

Gene: MetalQZJ_88 Start: 51469, Stop: 51266, Start Num: 18
Candidate Starts for MetalQZJ_88:
(Start: 18 @51469 has 109 MA's), (27, 51334),

Gene: Michley_91 Start: 50597, Stop: 50346, Start Num: 12
Candidate Starts for Michley_91:
(Start: 12 @50597 has 3 MA's), (Start: 18 @50549 has 109 MA's), (27, 50414),

Gene: Molly_89 Start: 49678, Stop: 49475, Start Num: 18
Candidate Starts for Molly_89:
(3, 49825), (4, 49813), (6, 49789), (Start: 18 @49678 has 109 MA's), (27, 49543), (31, 49483),

Gene: Monet_92 Start: 51735, Stop: 51938, Start Num: 18
Candidate Starts for Monet_92:
(Start: 18 @51735 has 109 MA's), (27, 51870), (31, 51930),

Gene: Moose_95 Start: 52313, Stop: 52110, Start Num: 18
Candidate Starts for Moose_95:
(Start: 18 @52313 has 109 MA's), (27, 52178),

Gene: MrGordo_92 Start: 50603, Stop: 50400, Start Num: 18
Candidate Starts for MrGordo_92:
(Start: 18 @50603 has 109 MA's), (27, 50468),

Gene: Mryolo_84 Start: 48769, Stop: 48972, Start Num: 18
Candidate Starts for Mryolo_84:
(Start: 18 @48769 has 109 MA's), (27, 48904),

Gene: Museum_90 Start: 51040, Stop: 50837, Start Num: 18
Candidate Starts for Museum_90:
(Start: 18 @51040 has 109 MA's), (27, 50905),

Gene: NEHalo_88 Start: 50148, Stop: 49945, Start Num: 18
Candidate Starts for NEHalo_88:
(Start: 18 @50148 has 109 MA's), (27, 50013),

Gene: Naira_96 Start: 52973, Stop: 52770, Start Num: 18
Candidate Starts for Naira_96:
(Start: 18 @52973 has 109 MA's), (27, 52838),

Gene: Niza_89 Start: 51286, Stop: 51083, Start Num: 18
Candidate Starts for Niza_89:
(Start: 18 @51286 has 109 MA's), (27, 51151),

Gene: Norz_90 Start: 53476, Stop: 53273, Start Num: 18
Candidate Starts for Norz_90:
(Start: 18 @53476 has 109 MA's),

Gene: Ohno789_95 Start: 52428, Stop: 52225, Start Num: 18
Candidate Starts for Ohno789_95:
(Start: 18 @52428 has 109 MA's), (27, 52293),

Gene: Omega_235 Start: 109887, Stop: 109675, Start Num: 18
Candidate Starts for Omega_235:
(9, 109956), (Start: 18 @109887 has 109 MA's), (21, 109839), (22, 109821), (26, 109782), (29, 109710), (31, 109686),

Gene: Oogway_87 Start: 51358, Stop: 51155, Start Num: 18
Candidate Starts for Oogway_87:
(Start: 18 @51358 has 109 MA's), (27, 51223),

Gene: PP_04 Start: 1143, Stop: 901, Start Num: 14
Candidate Starts for PP_04:
(Start: 14 @1143 has 1 MA's), (17, 1104), (19, 1074), (23, 1035), (24, 1026), (28, 966),

Gene: PSullivan_85 Start: 49195, Stop: 48992, Start Num: 18
Candidate Starts for PSullivan_85:
(3, 49342), (4, 49330), (6, 49306), (Start: 18 @49195 has 109 MA's), (27, 49060), (31, 49000),

Gene: PacerPaul_93 Start: 52361, Stop: 52158, Start Num: 18
Candidate Starts for PacerPaul_93:
(Start: 18 @52361 has 109 MA's),

Gene: Papez_93 Start: 51585, Stop: 51337, Start Num: 12
Candidate Starts for Papez_93:
(Start: 12 @51585 has 3 MA's), (Start: 18 @51537 has 109 MA's), (27, 51405),

Gene: Paphu_87 Start: 49638, Stop: 49841, Start Num: 18
Candidate Starts for Paphu_87:
(Start: 18 @49638 has 109 MA's), (27, 49773),

Gene: PascalRango_92 Start: 52074, Stop: 51871, Start Num: 18
Candidate Starts for PascalRango_92:
(Start: 10 @52125 has 7 MA's), (Start: 18 @52074 has 109 MA's),

Gene: PattyP_92 Start: 51679, Stop: 51476, Start Num: 18
Candidate Starts for PattyP_92:
(Start: 18 @51679 has 109 MA's), (27, 51544),

Gene: Pelly_91 Start: 53346, Stop: 53143, Start Num: 18
Candidate Starts for Pelly_91:
(Start: 18 @53346 has 109 MA's), (27, 53211),

Gene: Pepe_86 Start: 50134, Stop: 49931, Start Num: 18
Candidate Starts for Pepe_86:
(Start: 18 @50134 has 109 MA's), (27, 49999),

Gene: Petp2012_89 Start: 51326, Stop: 51123, Start Num: 18
Candidate Starts for Petp2012_89:
(Start: 18 @51326 has 109 MA's), (27, 51191),

Gene: Petruccio_88 Start: 48718, Stop: 48515, Start Num: 18
Candidate Starts for Petruccio_88:
(Start: 18 @48718 has 109 MA's), (27, 48583), (31, 48523),

Gene: Pinto_87 Start: 50214, Stop: 50011, Start Num: 18
Candidate Starts for Pinto_87:
(Start: 18 @50214 has 109 MA's),

Gene: Pita2_91 Start: 50691, Stop: 50488, Start Num: 18
Candidate Starts for Pita2_91:
(3, 50838), (4, 50826), (6, 50802), (Start: 18 @50691 has 109 MA's), (27, 50556), (31, 50496),

Gene: QTRlifeCrisis_87 Start: 49246, Stop: 49043, Start Num: 18
Candidate Starts for QTRlifeCrisis_87:
(Start: 10 @49297 has 7 MA's), (Start: 18 @49246 has 109 MA's), (27, 49111),

Gene: Rubeus_88 Start: 48657, Stop: 48454, Start Num: 18

Candidate Starts for Rubeus_88:
(Start: 18 @48657 has 109 MA's), (27, 48522),

Gene: Rufus_93 Start: 51974, Stop: 51771, Start Num: 18
Candidate Starts for Rufus_93:
(Start: 18 @51974 has 109 MA's), (27, 51839),

Gene: Ruotula_94 Start: 52218, Stop: 52015, Start Num: 18
Candidate Starts for Ruotula_94:
(Start: 18 @52218 has 109 MA's), (27, 52083),

Gene: STLscum_100 Start: 51894, Stop: 51691, Start Num: 18
Candidate Starts for STLscum_100:
(Start: 18 @51894 has 109 MA's), (27, 51759),

Gene: SarFire_98 Start: 53353, Stop: 53099, Start Num: 10
Candidate Starts for SarFire_98:
(Start: 10 @53353 has 7 MA's), (Start: 18 @53302 has 109 MA's), (27, 53167),

Gene: Scowl_90 Start: 50695, Stop: 50898, Start Num: 18
Candidate Starts for Scowl_90:
(Start: 18 @50695 has 109 MA's), (27, 50827),

Gene: Seabiscuit_95 Start: 51387, Stop: 51184, Start Num: 18
Candidate Starts for Seabiscuit_95:
(Start: 18 @51387 has 109 MA's),

Gene: Seanderson_89 Start: 52624, Stop: 52421, Start Num: 18
Candidate Starts for Seanderson_89:
(Start: 18 @52624 has 109 MA's), (27, 52489),

Gene: Sibs6_95 Start: 49833, Stop: 49630, Start Num: 18
Candidate Starts for Sibs6_95:
(Start: 18 @49833 has 109 MA's), (27, 49698),

Gene: Slagathor_92 Start: 51592, Stop: 51389, Start Num: 18
Candidate Starts for Slagathor_92:
(Start: 18 @51592 has 109 MA's),

Gene: Snazzy_92 Start: 51835, Stop: 51632, Start Num: 18
Candidate Starts for Snazzy_92:
(Start: 18 @51835 has 109 MA's), (27, 51700),

Gene: SpikeBT_87 Start: 49792, Stop: 49589, Start Num: 18
Candidate Starts for SpikeBT_87:
(Start: 18 @49792 has 109 MA's), (27, 49657),

Gene: Squee_92 Start: 51943, Stop: 51740, Start Num: 18
Candidate Starts for Squee_92:
(Start: 18 @51943 has 109 MA's), (27, 51808),

Gene: SwissCheese_95 Start: 51439, Stop: 51236, Start Num: 18
Candidate Starts for SwissCheese_95:

(Start: 18 @51439 has 109 MA's), (27, 51304),

Gene: Switzer_91 Start: 51956, Stop: 51702, Start Num: 10

Candidate Starts for Switzer_91:

(Start: 10 @51956 has 7 MA's), (Start: 18 @51905 has 109 MA's),

Gene: Swole_88 Start: 50909, Stop: 50706, Start Num: 18

Candidate Starts for Swole_88:

(3, 51056), (4, 51044), (6, 51020), (Start: 18 @50909 has 109 MA's), (27, 50774), (31, 50714),

Gene: Target_90 Start: 48713, Stop: 48510, Start Num: 18

Candidate Starts for Target_90:

(Start: 18 @48713 has 109 MA's), (27, 48578), (31, 48518),

Gene: Teodoridan_93 Start: 50495, Stop: 50698, Start Num: 18

Candidate Starts for Teodoridan_93:

(Start: 18 @50495 has 109 MA's), (27, 50630),

Gene: TheloniousMonk_90 Start: 51663, Stop: 51460, Start Num: 18

Candidate Starts for TheloniousMonk_90:

(Start: 18 @51663 has 109 MA's), (27, 51528),

Gene: Thor_98 Start: 52711, Stop: 52457, Start Num: 10

Candidate Starts for Thor_98:

(Start: 10 @52711 has 7 MA's), (Start: 18 @52660 has 109 MA's), (27, 52525),

Gene: Tote_86 Start: 48177, Stop: 47974, Start Num: 18

Candidate Starts for Tote_86:

(3, 48324), (4, 48312), (6, 48288), (Start: 18 @48177 has 109 MA's), (27, 48042), (31, 47982),

Gene: Traft412_86 Start: 50830, Stop: 50627, Start Num: 18

Candidate Starts for Traft412_86:

(Start: 18 @50830 has 109 MA's), (27, 50695),

Gene: Treddle_90 Start: 51379, Stop: 51582, Start Num: 18

Candidate Starts for Treddle_90:

(Start: 18 @51379 has 109 MA's), (27, 51514), (31, 51574),

Gene: Tripl3t_91 Start: 53185, Stop: 52982, Start Num: 18

Candidate Starts for Tripl3t_91:

(Start: 18 @53185 has 109 MA's), (27, 53050),

Gene: Turj99_86 Start: 50763, Stop: 50560, Start Num: 18

Candidate Starts for Turj99_86:

(Start: 18 @50763 has 109 MA's), (27, 50628),

Gene: TwoPeat_85 Start: 50371, Stop: 50168, Start Num: 18

Candidate Starts for TwoPeat_85:

(3, 50518), (4, 50506), (6, 50482), (Start: 18 @50371 has 109 MA's), (27, 50236), (31, 50176),

Gene: Violet_87 Start: 50920, Stop: 51123, Start Num: 18

Candidate Starts for Violet_87:

(Start: 18 @50920 has 109 MA's), (27, 51055), (31, 51115),

Gene: Watermelon_89 Start: 50581, Stop: 50378, Start Num: 18
Candidate Starts for Watermelon_89:
(Start: 18 @50581 has 109 MA's), (27, 50446),

Gene: Wheeler_96 Start: 53218, Stop: 53015, Start Num: 18
Candidate Starts for Wheeler_96:
(Start: 18 @53218 has 109 MA's), (27, 53083),

Gene: Zephyr_92 Start: 51932, Stop: 51723, Start Num: 18
Candidate Starts for Zephyr_92:
(Start: 18 @51932 has 109 MA's), (27, 51791),