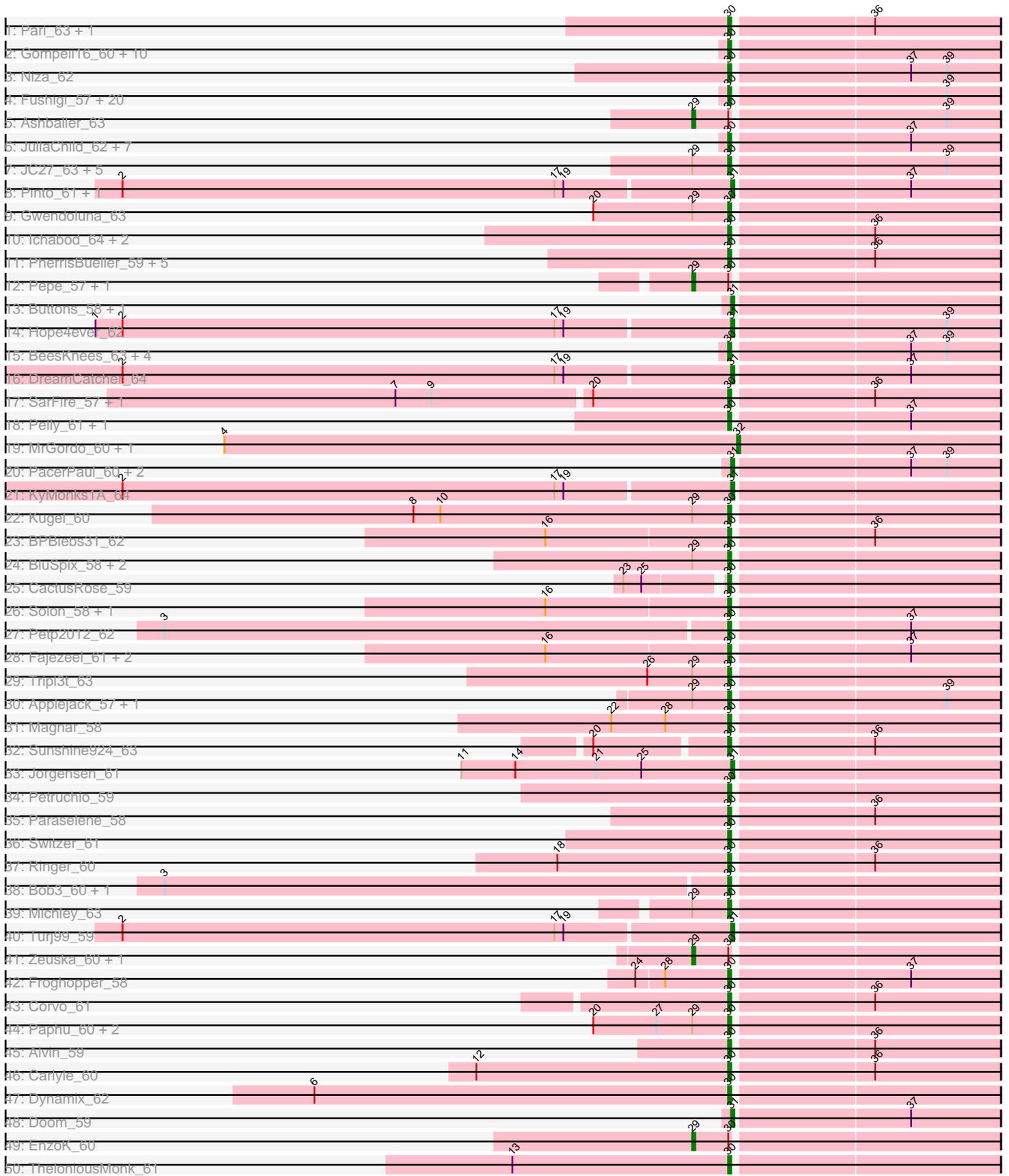# Pham 283612

Pham 283612

51: Euphoria_58
52: PP_62
53: Sheen_61

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 283612 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283612 has 125 members, 1 are drafts.

Phages represented in each track:
• Track 1 : Pari_63, Squee_61
• Track 2 : Gompeii16_60, Bircsak_60, Nhonho_59, Crispicous1_58, Papez_63, Snazzy_59, Edtherson_60, KSSJEB_61, Ruotula_63, Traft412_63, Mryolo_57
• Track 3 : Niza_62
• Track 4 : Fushigi_57, Licorice_62, Zephyr_62, Abrogate_600, Killigrew_60, Marcell_57, Sibs6_63, Kanely_62, PhrostyMug_61, Trouble_62, PattyP_63, Altman_63, Briton15_65, Pippin_61, Watermelon_61, Marchy_55, Aeneas_64, Ciao_59, Seabiscuit_64, McGuire_62, HanShotFirst_62
• Track 5 : Ashballer_63
• Track 6 : JuliaChild_62, Sagefire_63, Swole_62, GrecoEtereo_60, GMonster_58, QTRlifeCrisis_61, Tote_57, RidgeCB_60
• Track 7 : JC27_63, Forsytheast_59, Moose_59, SwissCheese_61, Bruns_59, Seanderson_60
• Track 8 : Pinto_61, Rufus_62
• Track 9 : Gwendoluna_63
• Track 10 : Ichabod_64, HermioneGrange_62, MPlant7149_60
• Track 11 : PherrisBueller_59, GageAP_61, Dreamboat_61, Graduation_64, Scowl_61, Makemake_62
• Track 12 : Pepe_57, SkiPole_65
• Track 13 : Buttons_58, JackSparrow_63
• Track 14 : Hope4ever_62
• Track 15 : BeesKnees_63, Marsha_60, ConceptII_63, Nerujay_63, Gandalf20_63
• Track 16 : DreamCatcher_64
• Track 17 : SarFire_57, Thor_57
• Track 18 : Pelly_61, Dexes_60
• Track 19 : MrGordo_60, Big3_59
• Track 20 : PacerPaul_60, Zeeculate_58, Francis47_59
• Track 21 : KyMonks1A_64
• Track 22 : Kugel_60
• Track 23 : BPBiebs31_62
• Track 24 : BluSpix_58, Eyeball_62, IgnatiusPatJac_60
• Track 25 : CactusRose_59
• Track 26 : Solon_58, Lesedi_56
• Track 27 : Petp2012_62
• Track 28 : Fajezeel_61, Acme_62, Greg_61
• Track 29 : Tripl3t_63
• Track 30 : Applejack_57, BarrowTuph_61

- Track 31 : Magnar_58
- Track 32 : Sunshine924_63
- Track 33 : Jorgensen_61
- Track 34 : Petruchio_59
- Track 35 : Paraselene_58
- Track 36 : Switzer_61
- Track 37 : Ringer_60
- Track 38 : Bob3_60, Barriga_62
- Track 39 : Michley_63
- Track 40 : Turj99_59
- Track 41 : Zeuska_60, Teodoridan_58
- Track 42 : Froghopper_58
- Track 43 : Corvo_61
- Track 44 : Paphu_60, Tasp14_64, Parliament_62
- Track 45 : Alvin_59
- Track 46 : Carlyle_60
- Track 47 : Dynamix_62
- Track 48 : Doom_59
- Track 49 : EnzoK_60
- Track 50 : TheloniousMonk_61
- Track 51 : Euphoria_58
- Track 52 : PP_62
- Track 53 : Sheen_61

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

The start number called the most often in the published annotations is 30, it was called in 102 of the 124 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- Abrogate_600, Acme_62, Aeneas_64, Altman_63, Alvin_59, Applejack_57, BPBiebs31_62, Barriga_62, BarrowTuph_61, BeesKnees_63, Bircsak_60, BluSpix_58, Bob3_60, Briton15_65, Bruns_59, CactusRose_59, Carlyle_60, Ciao_59, ConceptII_63, Corvo_61, Crispicous1_58, Dexes_60, Dreamboat_61, Dynamix_62, Edtherson_60, Euphoria_58, Eyeball_62, Fajezeel_61, Forsytheast_59, Froghopper_58, Fushigi_57, GMonster_58, GageAP_61, Gandalf20_63, Gompeii16_60, Graduation_64, GrecoEtereo_60, Greg_61, Gwendoluna_63, HanShotFirst_62, HermioneGrange_62, Ichabod_64, IgnatiusPatJac_60, JC27_63, JuliaChild_62, KSSJEB_61, Kanely_62, Killigrew_60, Kugel_60, Lesedi_56, Licorice_62, MPlant7149_60, Magnar_58, Makemake_62, Marcell_57, Marchy_55, Marsha_60, McGuire_62, Michley_63, Moose_59, Mryolo_57, Nerujay_63, Nhonho_59, Niza_62, Papez_63, Paphu_60, Paraselene_58, Pari_63, Parliament_62, PattyP_63, Pelly_61, Petp2012_62, Petruchio_59, PherrisBueller_59, PhrostyMug_61, Pippin_61, QTRlifeCrisis_61, RidgeCB_60, Ringer_60, Ruotula_63, Sagefire_63, SarFire_57, Scowl_61, Seabiscuit_64, Seanderson_60, Sibs6_63, Snazzy_59, Solon_58, Squee_61, Sunshine924_63, SwissCheese_61, Switzer_61, Swole_62, Tasp14_64, TheloniousMonk_61, Thor_57, Tote_57, Traft412_63, Tripl3t_63, Trouble_62, Watermelon_61, Zephyr_62,

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

• Ashballer_63, EnzoK_60, Pepe_57, SkiPole_65, Teodoridan_58, Zeuska_60,

Genes that do not have the "Most Annotated" start:
• Big3_59, Buttons_58, Doom_59, DreamCatcher_64, Francis47_59, Hope4ever_62, JackSparrow_63, Jorgensen_61, KyMonks1A_64, MrGordo_60, PP_62, PacerPaul_60, Pinto_61, Rufus_62, Sheen_61, Turj99_59, Zeeculate_58,

Summary by start number:

Start 29:
• Found in 24 of 125 (19.2%) of genes in pham
• Manual Annotations of this start: 5 of 124
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Ashballer_63 (A1), EnzoK_60 (A1), Pepe_57 (A1), SkiPole_65 (A1), Teodoridan_58 (A1), Zeuska_60 (A1),

Start 30:
• Found in 108 of 125 (86.4%) of genes in pham
• Manual Annotations of this start: 102 of 124
• Called 94.4% of time when present
• Phage (with cluster) where this start called: Abrogate_600 (A1), Acme_62 (A1), Aeneas_64 (A1), Altman_63 (A1), Alvin_59 (A1), Applejack_57 (A1), BPBiebs31_62 (A1), Barriga_62 (A1), BarrowTuph_61 (A1), BeesKnees_63 (A1), Bircsak_60 (A1), BluSpix_58 (A1), Bob3_60 (A1), Briton15_65 (A1), Bruns_59 (A1), CactusRose_59 (A1), Carlyle_60 (A1), Ciao_59 (A1), ConceptII_63 (A1), Corvo_61 (A1), Crispicous1_58 (A1), Dexes_60 (A1), Dreamboat_61 (A1), Dynamix_62 (A1), Edtherson_60 (A1), Euphoria_58 (A1), Eyeball_62 (A1), Fajezeel_61 (A1), Forsytheast_59 (A1), Froghopper_58 (A1), Fushigi_57 (A1), GMonster_58 (A1), GageAP_61 (A1), Gandalf20_63 (A1), Gompeii16_60 (A1), Graduation_64 (A1), GrecoEtereo_60 (A1), Greg_61 (A1), Gwendoluna_63 (A1), HanShotFirst_62 (A1), HermioneGrange_62 (A1), Ichabod_64 (A1), IgnatiusPatJac_60 (A1), JC27_63 (A1), JuliaChild_62 (A1), KSSJEB_61 (A1), Kanely_62 (A1), Killigrew_60 (A1), Kugel_60 (A1), Lesedi_56 (A1), Licorice_62 (A1), MPlant7149_60 (A1), Magnar_58 (A1), Makemake_62 (A1), Marcell_57 (A1), Marchy_55 (A1), Marsha_60 (A1), McGuire_62 (A1), Michley_63 (A1), Moose_59 (A1), Mryolo_57 (A1), Nerujay_63 (A1), Nhonho_59 (A1), Niza_62 (A1), Papez_63 (A1), Paphu_60 (A1), Paraselene_58 (A1), Pari_63 (A1), Parliament_62 (A1), PattyP_63 (A1), Pelly_61 (A1), Petp2012_62 (A1), Petruchio_59 (A1), PherrisBueller_59 (A1), PhrostyMug_61 (A1), Pippin_61 (A1), QTRlifeCrisis_61 (A1), RidgeCB_60 (A1), Ringer_60 (A1), Ruotula_63 (A1), Sagefire_63 (A1), SarFire_57 (A1), Scowl_61 (A1), Seabiscuit_64 (A1), Seanderson_60 (A1), Sibs6_63 (A1), Snazzy_59 (A1), Solon_58 (A1), Squee_61 (A1), Sunshine924_63 (A1), SwissCheese_61 (A1), Switzer_61 (A1), Swole_62 (A1), Tasp14_64 (A1), TheloniousMonk_61 (A1), Thor_57 (A1), Tote_57 (A1), Traft412_63 (A1), Tripl3t_63 (A1), Trouble_62 (A1), Watermelon_61 (A1), Zephyr_62 (A1),

Start 31:
• Found in 13 of 125 (10.4%) of genes in pham
• Manual Annotations of this start: 13 of 124
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Buttons_58 (A1), Doom_59 (A1), DreamCatcher_64 (A1), Francis47_59 (A1), Hope4ever_62 (A1), JackSparrow_63 (A1), Jorgensen_61 (A1), KyMonks1A_64 (A1), PacerPaul_60 (A1), Pinto_61 (A1), Rufus_62 (A1), Turj99_59 (A1), Zeeculate_58 (A1),

Start 32:
• Found in 4 of 125 (3.2%) of genes in pham
• Manual Annotations of this start: 4 of 124
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Big3_59 (A1), MrGordo_60 (A1), PP_62 (A7), Sheen_61 (A7),

Summary by clusters:

There are 2 clusters represented in this pham: A1, A7,

Info for manual annotations of cluster A1:
•Start number 29 was manually annotated 5 times for cluster A1.
•Start number 30 was manually annotated 102 times for cluster A1.
•Start number 31 was manually annotated 13 times for cluster A1.
•Start number 32 was manually annotated 2 times for cluster A1.

Info for manual annotations of cluster A7:
•Start number 32 was manually annotated 2 times for cluster A7.

Gene Information:
Gene: Abrogate_600 Start: 42412, Stop: 42326, Start Num: 30
Candidate Starts for Abrogate_600:
(Start: 30 @42412 has 102 MA's), (39, 42343),

Gene: Acme_62 Start: 40967, Stop: 40881, Start Num: 30
Candidate Starts for Acme_62:
(16, 41027), (Start: 30 @40967 has 102 MA's), (37, 40910),

Gene: Aeneas_64 Start: 42831, Stop: 42745, Start Num: 30
Candidate Starts for Aeneas_64:
(Start: 30 @42831 has 102 MA's), (39, 42762),

Gene: Altman_63 Start: 41128, Stop: 41042, Start Num: 30
Candidate Starts for Altman_63:
(Start: 30 @41128 has 102 MA's), (39, 41059),

Gene: Alvin_59 Start: 40335, Stop: 40249, Start Num: 30
Candidate Starts for Alvin_59:
(Start: 30 @40335 has 102 MA's), (36, 40290),

Gene: Applejack_57 Start: 38781, Stop: 38695, Start Num: 30
Candidate Starts for Applejack_57:
(Start: 29 @38793 has 5 MA's), (Start: 30 @38781 has 102 MA's), (39, 38712),

Gene: Ashballer_63 Start: 41368, Stop: 41270, Start Num: 29
Candidate Starts for Ashballer_63:
(Start: 29 @41368 has 5 MA's), (Start: 30 @41356 has 102 MA's), (39, 41287),

Gene: BPBiebs31_62 Start: 41315, Stop: 41229, Start Num: 30
Candidate Starts for BPBiebs31_62:
(16, 41375), (Start: 30 @41315 has 102 MA's), (36, 41270),

Gene: Barriga_62 Start: 39540, Stop: 39454, Start Num: 30
Candidate Starts for Barriga_62:
(3, 39726), (Start: 30 @39540 has 102 MA's),

Gene: BarrowTuph_61 Start: 40453, Stop: 40367, Start Num: 30
Candidate Starts for BarrowTuph_61:
(Start: 29 @40465 has 5 MA's), (Start: 30 @40453 has 102 MA's), (39, 40384),

Gene: BeesKnees_63 Start: 40393, Stop: 40307, Start Num: 30
Candidate Starts for BeesKnees_63:
(Start: 30 @40393 has 102 MA's), (37, 40336), (39, 40324),

Gene: Big3_59 Start: 41093, Stop: 41007, Start Num: 32
Candidate Starts for Big3_59:
(4, 41264), (Start: 32 @41093 has 4 MA's),

Gene: Bircsak_60 Start: 42546, Stop: 42460, Start Num: 30
Candidate Starts for Bircsak_60:
(Start: 30 @42546 has 102 MA's),

Gene: BluSpix_58 Start: 36376, Stop: 36290, Start Num: 30
Candidate Starts for BluSpix_58:
(Start: 29 @36388 has 5 MA's), (Start: 30 @36376 has 102 MA's),

Gene: Bob3_60 Start: 40364, Stop: 40278, Start Num: 30
Candidate Starts for Bob3_60:
(3, 40550), (Start: 30 @40364 has 102 MA's),

Gene: Briton15_65 Start: 42585, Stop: 42499, Start Num: 30
Candidate Starts for Briton15_65:
(Start: 30 @42585 has 102 MA's), (39, 42516),

Gene: Bruns_59 Start: 39510, Stop: 39424, Start Num: 30
Candidate Starts for Bruns_59:
(Start: 29 @39522 has 5 MA's), (Start: 30 @39510 has 102 MA's), (39, 39441),

Gene: Buttons_58 Start: 38459, Stop: 38373, Start Num: 31
Candidate Starts for Buttons_58:
(Start: 31 @38459 has 13 MA's),

Gene: CactusRose_59 Start: 40649, Stop: 40563, Start Num: 30
Candidate Starts for CactusRose_59:
(23, 40679), (25, 40673), (Start: 30 @40649 has 102 MA's),

Gene: Carlyle_60 Start: 39245, Stop: 39159, Start Num: 30
Candidate Starts for Carlyle_60:
(12, 39329), (Start: 30 @39245 has 102 MA's), (36, 39200),

Gene: Ciao_59 Start: 39917, Stop: 39831, Start Num: 30

Candidate Starts for Ciao_59:
(Start: 30 @39917 has 102 MA's), (39, 39848),

Gene: ConceptII_63 Start: 41983, Stop: 41897, Start Num: 30
Candidate Starts for ConceptII_63:
(Start: 30 @41983 has 102 MA's), (37, 41926), (39, 41914),

Gene: Corvo_61 Start: 41462, Stop: 41376, Start Num: 30
Candidate Starts for Corvo_61:
(Start: 30 @41462 has 102 MA's), (36, 41417),

Gene: Crispicous1_58 Start: 39702, Stop: 39616, Start Num: 30
Candidate Starts for Crispicous1_58:
(Start: 30 @39702 has 102 MA's),

Gene: Dexes_60 Start: 40821, Stop: 40735, Start Num: 30
Candidate Starts for Dexes_60:
(Start: 30 @40821 has 102 MA's), (37, 40764),

Gene: Doom_59 Start: 41395, Stop: 41309, Start Num: 31
Candidate Starts for Doom_59:
(Start: 31 @41395 has 13 MA's), (37, 41338),

Gene: DreamCatcher_64 Start: 41458, Stop: 41372, Start Num: 31
Candidate Starts for DreamCatcher_64:
(2, 41659), (17, 41515), (19, 41512), (Start: 31 @41458 has 13 MA's), (37, 41401),

Gene: Dreamboat_61 Start: 39688, Stop: 39602, Start Num: 30
Candidate Starts for Dreamboat_61:
(Start: 30 @39688 has 102 MA's), (36, 39643),

Gene: Dynamix_62 Start: 40205, Stop: 40119, Start Num: 30
Candidate Starts for Dynamix_62:
(6, 40343), (Start: 30 @40205 has 102 MA's),

Gene: Edtherson_60 Start: 41389, Stop: 41303, Start Num: 30
Candidate Starts for Edtherson_60:
(Start: 30 @41389 has 102 MA's),

Gene: EnzoK_60 Start: 38092, Stop: 37994, Start Num: 29
Candidate Starts for EnzoK_60:
(Start: 29 @38092 has 5 MA's), (Start: 30 @38080 has 102 MA's),

Gene: Euphoria_58 Start: 40112, Stop: 40026, Start Num: 30
Candidate Starts for Euphoria_58:
(Start: 30 @40112 has 102 MA's), (37, 40055),

Gene: Eyeball_62 Start: 41559, Stop: 41473, Start Num: 30
Candidate Starts for Eyeball_62:
(Start: 29 @41571 has 5 MA's), (Start: 30 @41559 has 102 MA's),

Gene: Fajezeel_61 Start: 40257, Stop: 40171, Start Num: 30
Candidate Starts for Fajezeel_61:

(16, 40317), (Start: 30 @40257 has 102 MA's), (37, 40200),

Gene: Forsytheast_59 Start: 39678, Stop: 39592, Start Num: 30
Candidate Starts for Forsytheast_59:
(Start: 29 @39690 has 5 MA's), (Start: 30 @39678 has 102 MA's), (39, 39609),

Gene: Francis47_59 Start: 41463, Stop: 41377, Start Num: 31
Candidate Starts for Francis47_59:
(Start: 31 @41463 has 13 MA's), (37, 41406), (39, 41394),

Gene: Froghopper_58 Start: 39483, Stop: 39397, Start Num: 30
Candidate Starts for Froghopper_58:
(24, 39513), (28, 39504), (Start: 30 @39483 has 102 MA's), (37, 39426),

Gene: Fushigi_57 Start: 38939, Stop: 38853, Start Num: 30
Candidate Starts for Fushigi_57:
(Start: 30 @38939 has 102 MA's), (39, 38870),

Gene: GMonster_58 Start: 40388, Stop: 40302, Start Num: 30
Candidate Starts for GMonster_58:
(Start: 30 @40388 has 102 MA's), (37, 40331),

Gene: GageAP_61 Start: 41027, Stop: 40941, Start Num: 30
Candidate Starts for GageAP_61:
(Start: 30 @41027 has 102 MA's), (36, 40982),

Gene: Gandalf20_63 Start: 42121, Stop: 42035, Start Num: 30
Candidate Starts for Gandalf20_63:
(Start: 30 @42121 has 102 MA's), (37, 42064), (39, 42052),

Gene: Gompeii16_60 Start: 42547, Stop: 42461, Start Num: 30
Candidate Starts for Gompeii16_60:
(Start: 30 @42547 has 102 MA's),

Gene: Graduation_64 Start: 41860, Stop: 41774, Start Num: 30
Candidate Starts for Graduation_64:
(Start: 30 @41860 has 102 MA's), (36, 41815),

Gene: GrecoEtereo_60 Start: 40025, Stop: 39939, Start Num: 30
Candidate Starts for GrecoEtereo_60:
(Start: 30 @40025 has 102 MA's), (37, 39968),

Gene: Greg_61 Start: 40257, Stop: 40171, Start Num: 30
Candidate Starts for Greg_61:
(16, 40317), (Start: 30 @40257 has 102 MA's), (37, 40200),

Gene: Gwendoluna_63 Start: 42377, Stop: 42291, Start Num: 30
Candidate Starts for Gwendoluna_63:
(20, 42422), (Start: 29 @42389 has 5 MA's), (Start: 30 @42377 has 102 MA's),

Gene: HanShotFirst_62 Start: 42534, Stop: 42448, Start Num: 30
Candidate Starts for HanShotFirst_62:
(Start: 30 @42534 has 102 MA's), (39, 42465),

Gene: HermioneGrange_62 Start: 41601, Stop: 41515, Start Num: 30
Candidate Starts for HermioneGrange_62:
(Start: 30 @41601 has 102 MA's), (36, 41556),

Gene: Hope4ever_62 Start: 41007, Stop: 40921, Start Num: 31
Candidate Starts for Hope4ever_62:
(1, 41217), (2, 41208), (17, 41064), (19, 41061), (Start: 31 @41007 has 13 MA's), (39, 40938),

Gene: Ichabod_64 Start: 41728, Stop: 41642, Start Num: 30
Candidate Starts for Ichabod_64:
(Start: 30 @41728 has 102 MA's), (36, 41683),

Gene: IgnatiusPatJac_60 Start: 40321, Stop: 40235, Start Num: 30
Candidate Starts for IgnatiusPatJac_60:
(Start: 29 @40333 has 5 MA's), (Start: 30 @40321 has 102 MA's),

Gene: JC27_63 Start: 41045, Stop: 40959, Start Num: 30
Candidate Starts for JC27_63:
(Start: 29 @41057 has 5 MA's), (Start: 30 @41045 has 102 MA's), (39, 40976),

Gene: JackSparrow_63 Start: 40917, Stop: 40831, Start Num: 31
Candidate Starts for JackSparrow_63:
(Start: 31 @40917 has 13 MA's),

Gene: Jorgensen_61 Start: 40326, Stop: 40240, Start Num: 31
Candidate Starts for Jorgensen_61:
(11, 40416), (14, 40398), (21, 40371), (25, 40356), (Start: 31 @40326 has 13 MA's),

Gene: JuliaChild_62 Start: 41341, Stop: 41255, Start Num: 30
Candidate Starts for JuliaChild_62:
(Start: 30 @41341 has 102 MA's), (37, 41284),

Gene: KSSJEB_61 Start: 40326, Stop: 40240, Start Num: 30
Candidate Starts for KSSJEB_61:
(Start: 30 @40326 has 102 MA's),

Gene: Kanely_62 Start: 40905, Stop: 40819, Start Num: 30
Candidate Starts for Kanely_62:
(Start: 30 @40905 has 102 MA's), (39, 40836),

Gene: Killigrew_60 Start: 41100, Stop: 41014, Start Num: 30
Candidate Starts for Killigrew_60:
(Start: 30 @41100 has 102 MA's), (39, 41031),

Gene: Kugel_60 Start: 41153, Stop: 41067, Start Num: 30
Candidate Starts for Kugel_60:
(8, 41258), (10, 41249), (Start: 29 @41165 has 5 MA's), (Start: 30 @41153 has 102 MA's),

Gene: KyMonks1A_64 Start: 40904, Stop: 40818, Start Num: 31
Candidate Starts for KyMonks1A_64:
(2, 41105), (17, 40961), (19, 40958), (Start: 31 @40904 has 13 MA's),

Gene: Lesedi_56 Start: 38890, Stop: 38804, Start Num: 30
Candidate Starts for Lesedi_56:
(16, 38950), (Start: 30 @38890 has 102 MA's),

Gene: Licorice_62 Start: 42392, Stop: 42306, Start Num: 30
Candidate Starts for Licorice_62:
(Start: 30 @42392 has 102 MA's), (39, 42323),

Gene: MPlant7149_60 Start: 39489, Stop: 39403, Start Num: 30
Candidate Starts for MPlant7149_60:
(Start: 30 @39489 has 102 MA's), (36, 39444),

Gene: Magnar_58 Start: 40505, Stop: 40419, Start Num: 30
Candidate Starts for Magnar_58:
(22, 40544), (28, 40526), (Start: 30 @40505 has 102 MA's),

Gene: Makemake_62 Start: 41962, Stop: 41876, Start Num: 30
Candidate Starts for Makemake_62:
(Start: 30 @41962 has 102 MA's), (36, 41917),

Gene: Marcell_57 Start: 39512, Stop: 39426, Start Num: 30
Candidate Starts for Marcell_57:
(Start: 30 @39512 has 102 MA's), (39, 39443),

Gene: Marchy_55 Start: 37600, Stop: 37514, Start Num: 30
Candidate Starts for Marchy_55:
(Start: 30 @37600 has 102 MA's), (39, 37531),

Gene: Marsha_60 Start: 41987, Stop: 41901, Start Num: 30
Candidate Starts for Marsha_60:
(Start: 30 @41987 has 102 MA's), (37, 41930), (39, 41918),

Gene: McGuire_62 Start: 40165, Stop: 40079, Start Num: 30
Candidate Starts for McGuire_62:
(Start: 30 @40165 has 102 MA's), (39, 40096),

Gene: Michley_63 Start: 41093, Stop: 41007, Start Num: 30
Candidate Starts for Michley_63:
(Start: 29 @41105 has 5 MA's), (Start: 30 @41093 has 102 MA's),

Gene: Moose_59 Start: 39678, Stop: 39592, Start Num: 30
Candidate Starts for Moose_59:
(Start: 29 @39690 has 5 MA's), (Start: 30 @39678 has 102 MA's), (39, 39609),

Gene: MrGordo_60 Start: 40333, Stop: 40247, Start Num: 32
Candidate Starts for MrGordo_60:
(4, 40504), (Start: 32 @40333 has 4 MA's),

Gene: Mryolo_57 Start: 40375, Stop: 40289, Start Num: 30
Candidate Starts for Mryolo_57:
(Start: 30 @40375 has 102 MA's),

Gene: Nerujay_63 Start: 42121, Stop: 42035, Start Num: 30

Candidate Starts for Nerujay_63:
(Start: 30 @42121 has 102 MA's), (37, 42064), (39, 42052),

Gene: Nhonho_59 Start: 41389, Stop: 41303, Start Num: 30
Candidate Starts for Nhonho_59:
(Start: 30 @41389 has 102 MA's),

Gene: Niza_62 Start: 41988, Stop: 41902, Start Num: 30
Candidate Starts for Niza_62:
(Start: 30 @41988 has 102 MA's), (37, 41931), (39, 41919),

Gene: PP_62 Start: 43352, Stop: 43272, Start Num: 32
Candidate Starts for PP_62:
(15, 43421), (Start: 32 @43352 has 4 MA's), (34, 43322), (35, 43319), (39, 43283),

Gene: PacerPaul_60 Start: 40830, Stop: 40744, Start Num: 31
Candidate Starts for PacerPaul_60:
(Start: 31 @40830 has 13 MA's), (37, 40773), (39, 40761),

Gene: Papez_63 Start: 42358, Stop: 42272, Start Num: 30
Candidate Starts for Papez_63:
(Start: 30 @42358 has 102 MA's),

Gene: Paphu_60 Start: 41264, Stop: 41178, Start Num: 30
Candidate Starts for Paphu_60:
(20, 41309), (27, 41288), (Start: 29 @41276 has 5 MA's), (Start: 30 @41264 has 102 MA's),

Gene: Paraselene_58 Start: 40895, Stop: 40809, Start Num: 30
Candidate Starts for Paraselene_58:
(Start: 30 @40895 has 102 MA's), (36, 40850),

Gene: Pari_63 Start: 40356, Stop: 40270, Start Num: 30
Candidate Starts for Pari_63:
(Start: 30 @40356 has 102 MA's), (36, 40311),

Gene: Parliament_62 Start: 43056, Stop: 42970, Start Num: 30
Candidate Starts for Parliament_62:
(20, 43101), (27, 43080), (Start: 29 @43068 has 5 MA's), (Start: 30 @43056 has 102 MA's),

Gene: PattyP_63 Start: 42048, Stop: 41962, Start Num: 30
Candidate Starts for PattyP_63:
(Start: 30 @42048 has 102 MA's), (39, 41979),

Gene: Pelly_61 Start: 42060, Stop: 41974, Start Num: 30
Candidate Starts for Pelly_61:
(Start: 30 @42060 has 102 MA's), (37, 42003),

Gene: Pepe_57 Start: 39121, Stop: 39023, Start Num: 29
Candidate Starts for Pepe_57:
(Start: 29 @39121 has 5 MA's), (Start: 30 @39109 has 102 MA's),

Gene: Petp2012_62 Start: 42556, Stop: 42470, Start Num: 30
Candidate Starts for Petp2012_62:

(3, 42742), (Start: 30 @42556 has 102 MA's), (37, 42499),

Gene: Petruchio_59 Start: 39783, Stop: 39697, Start Num: 30
Candidate Starts for Petruchio_59:
(Start: 30 @39783 has 102 MA's),

Gene: PherrisBueller_59 Start: 39225, Stop: 39139, Start Num: 30
Candidate Starts for PherrisBueller_59:
(Start: 30 @39225 has 102 MA's), (36, 39180),

Gene: PhrostyMug_61 Start: 42378, Stop: 42292, Start Num: 30
Candidate Starts for PhrostyMug_61:
(Start: 30 @42378 has 102 MA's), (39, 42309),

Gene: Pinto_61 Start: 40708, Stop: 40622, Start Num: 31
Candidate Starts for Pinto_61:
(2, 40909), (17, 40765), (19, 40762), (Start: 31 @40708 has 13 MA's), (37, 40651),

Gene: Pippin_61 Start: 40310, Stop: 40224, Start Num: 30
Candidate Starts for Pippin_61:
(Start: 30 @40310 has 102 MA's), (39, 40241),

Gene: QTRlifeCrisis_61 Start: 41246, Stop: 41160, Start Num: 30
Candidate Starts for QTRlifeCrisis_61:
(Start: 30 @41246 has 102 MA's), (37, 41189),

Gene: RidgeCB_60 Start: 40684, Stop: 40598, Start Num: 30
Candidate Starts for RidgeCB_60:
(Start: 30 @40684 has 102 MA's), (37, 40627),

Gene: Ringer_60 Start: 41576, Stop: 41490, Start Num: 30
Candidate Starts for Ringer_60:
(18, 41633), (Start: 30 @41576 has 102 MA's), (36, 41531),

Gene: Rufus_62 Start: 41185, Stop: 41099, Start Num: 31
Candidate Starts for Rufus_62:
(2, 41386), (17, 41242), (19, 41239), (Start: 31 @41185 has 13 MA's), (37, 41128),

Gene: Ruotula_63 Start: 42698, Stop: 42612, Start Num: 30
Candidate Starts for Ruotula_63:
(Start: 30 @42698 has 102 MA's),

Gene: Sagefire_63 Start: 42564, Stop: 42478, Start Num: 30
Candidate Starts for Sagefire_63:
(Start: 30 @42564 has 102 MA's), (37, 42507),

Gene: SarFire_57 Start: 39630, Stop: 39544, Start Num: 30
Candidate Starts for SarFire_57:
(7, 39738), (9, 39726), (20, 39675), (Start: 30 @39630 has 102 MA's), (36, 39585),

Gene: Scowl_61 Start: 40456, Stop: 40370, Start Num: 30
Candidate Starts for Scowl_61:
(Start: 30 @40456 has 102 MA's), (36, 40411),

Gene: Seabiscuit_64 Start: 40427, Stop: 40341, Start Num: 30
Candidate Starts for Seabiscuit_64:
(Start: 30 @40427 has 102 MA's), (39, 40358),

Gene: Seanderson_60 Start: 41890, Stop: 41804, Start Num: 30
Candidate Starts for Seanderson_60:
(Start: 29 @41902 has 5 MA's), (Start: 30 @41890 has 102 MA's), (39, 41821),

Gene: Sheen_61 Start: 42251, Stop: 42171, Start Num: 32
Candidate Starts for Sheen_61:
(5, 42407), (15, 42317), (Start: 32 @42251 has 4 MA's), (33, 42236), (38, 42185),

Gene: Sibs6_63 Start: 39536, Stop: 39450, Start Num: 30
Candidate Starts for Sibs6_63:
(Start: 30 @39536 has 102 MA's), (39, 39467),

Gene: SkiPole_65 Start: 41165, Stop: 41067, Start Num: 29
Candidate Starts for SkiPole_65:
(Start: 29 @41165 has 5 MA's), (Start: 30 @41153 has 102 MA's),

Gene: Snazzy_59 Start: 39990, Stop: 39904, Start Num: 30
Candidate Starts for Snazzy_59:
(Start: 30 @39990 has 102 MA's),

Gene: Solon_58 Start: 39862, Stop: 39776, Start Num: 30
Candidate Starts for Solon_58:
(16, 39922), (Start: 30 @39862 has 102 MA's),

Gene: Squee_61 Start: 40708, Stop: 40622, Start Num: 30
Candidate Starts for Squee_61:
(Start: 30 @40708 has 102 MA's), (36, 40663),

Gene: Sunshine924_63 Start: 40103, Stop: 40017, Start Num: 30
Candidate Starts for Sunshine924_63:
(20, 40145), (Start: 30 @40103 has 102 MA's), (36, 40058),

Gene: SwissCheese_61 Start: 40178, Stop: 40092, Start Num: 30
Candidate Starts for SwissCheese_61:
(Start: 29 @40190 has 5 MA's), (Start: 30 @40178 has 102 MA's), (39, 40109),

Gene: Switzer_61 Start: 42225, Stop: 42139, Start Num: 30
Candidate Starts for Switzer_61:
(Start: 30 @42225 has 102 MA's),

Gene: Swole_62 Start: 40815, Stop: 40729, Start Num: 30
Candidate Starts for Swole_62:
(Start: 30 @40815 has 102 MA's), (37, 40758),

Gene: Tasp14_64 Start: 42545, Stop: 42459, Start Num: 30
Candidate Starts for Tasp14_64:
(20, 42590), (27, 42569), (Start: 29 @42557 has 5 MA's), (Start: 30 @42545 has 102 MA's),

Gene: Teodoridan_58 Start: 39685, Stop: 39587, Start Num: 29
Candidate Starts for Teodoridan_58:
(Start: 29 @39685 has 5 MA's), (Start: 30 @39673 has 102 MA's),

Gene: TheloniousMonk_61 Start: 42308, Stop: 42222, Start Num: 30
Candidate Starts for TheloniousMonk_61:
(13, 42380), (Start: 30 @42308 has 102 MA's),

Gene: Thor_57 Start: 38988, Stop: 38902, Start Num: 30
Candidate Starts for Thor_57:
(7, 39096), (9, 39084), (20, 39033), (Start: 30 @38988 has 102 MA's), (36, 38943),

Gene: Tote_57 Start: 38082, Stop: 37996, Start Num: 30
Candidate Starts for Tote_57:
(Start: 30 @38082 has 102 MA's), (37, 38025),

Gene: Traft412_63 Start: 41489, Stop: 41403, Start Num: 30
Candidate Starts for Traft412_63:
(Start: 30 @41489 has 102 MA's),

Gene: Tripl3t_63 Start: 43200, Stop: 43114, Start Num: 30
Candidate Starts for Tripl3t_63:
(26, 43227), (Start: 29 @43212 has 5 MA's), (Start: 30 @43200 has 102 MA's),

Gene: Trouble_62 Start: 41402, Stop: 41316, Start Num: 30
Candidate Starts for Trouble_62:
(Start: 30 @41402 has 102 MA's), (39, 41333),

Gene: Turj99_59 Start: 41800, Stop: 41714, Start Num: 31
Candidate Starts for Turj99_59:
(2, 42001), (17, 41857), (19, 41854), (Start: 31 @41800 has 13 MA's),

Gene: Watermelon_61 Start: 40365, Stop: 40279, Start Num: 30
Candidate Starts for Watermelon_61:
(Start: 30 @40365 has 102 MA's), (39, 40296),

Gene: Zeeculate_58 Start: 41115, Stop: 41029, Start Num: 31
Candidate Starts for Zeeculate_58:
(Start: 31 @41115 has 13 MA's), (37, 41058), (39, 41046),

Gene: Zephyr_62 Start: 40532, Stop: 40446, Start Num: 30
Candidate Starts for Zephyr_62:
(Start: 30 @40532 has 102 MA's), (39, 40463),

Gene: Zeuska_60 Start: 41858, Stop: 41760, Start Num: 29
Candidate Starts for Zeuska_60:
(Start: 29 @41858 has 5 MA's), (Start: 30 @41846 has 102 MA's),