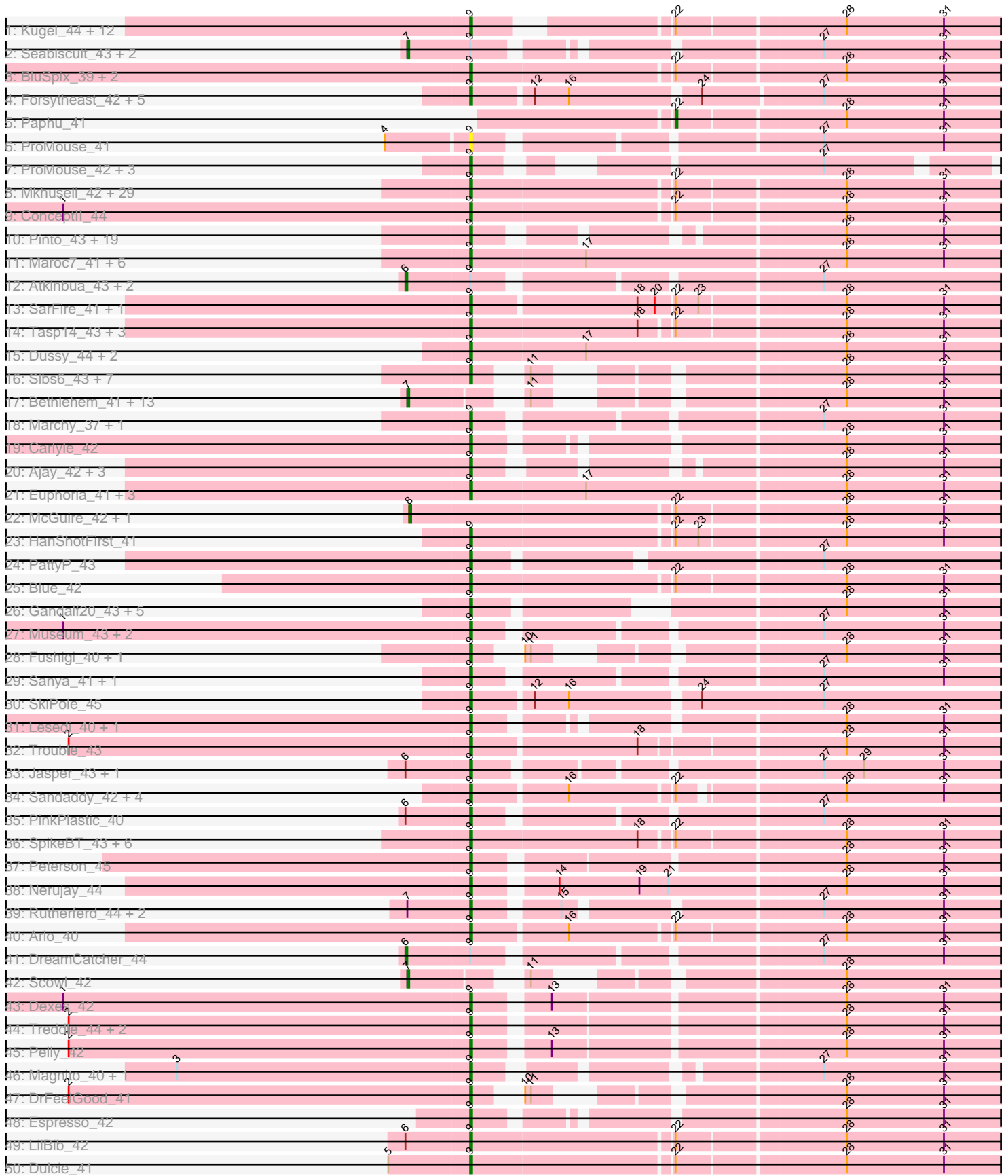


Pham 191049



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 191049 Report

This analysis was run 11/02/24 on database version 579.

Pham number 191049 has 201 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Kugel_44, Wheeler_43, Naira_43, Fajezeel_44, Greg_44, Zephyr_42, Buttons_41, Ohno789_43, Violet_40, Fenn_43, Acme_45, Pippin_44, Ciao_42
- Track 2 : Seabiscuit_43, BeesKnees_42, Dynamix_42
- Track 3 : BluSpix_39, Traft412_43, IgnatiusPatJac_41
- Track 4 : Forsytheast_42, SwissCheese_44, Alsfro_46, Corvo_43, Bruns_41, Moose_42
- Track 5 : Paphu_41
- Track 6 : ProMouse_41
- Track 7 : ProMouse_42, Kanely_43, Altman_44, PherrisBueller_42
- Track 8 : Mkhusei_42, GrecoEtereo_43, Hami1_37, StrongArm_41, MaryBeth_42, Ashballer_44, Bexan_40, Inyanga_40, Perseus_43, Applejack_38, Hermia_44, Papez_44, A6_39, Aeneas_44, Squee_42, Bxb1_39, BK1_39, Sunshine924_43, HarryOW_41, QTRlifeCrisis_43, Abrogate_420, JC27_43, Mule_40, Gyzlar_39, MetalQZJ_41, RidgeCB_42, StewieG_41, Zeuska_42, Magnar_41, Watermelon_44
- Track 9 : ConceptII_44
- Track 10 : Pinto_43, Swole_43, ILeeKay_46, Alvin_41, Marcell_41, Tote_38, Marge_42, Rohr_43, JuliaChild_43, Jerm2_43, Bob3_40, Crispicous1_41, BigMau_43, Lopton_43, Rufus_43, Froghopper_41, Petruccio_42, Molly_43, MPlant7149_41, HermioneGrange_42
- Track 11 : Maroc7_41, Bigfoot_39, CactusRose_40, Pepe_39, Solon_42, Rubeus_42, Ruotula_44
- Track 12 : Atkinbua_43, PascalRango_42, Briton15_43
- Track 13 : SarFire_41, Thor_41
- Track 14 : Tasp14_43, Lamina13_42, Homines_35, Monet_46
- Track 15 : Dussy_44, Abbyshoes_45, Kenmech_46
- Track 16 : Sibs6_43, Oogway_40, Gwendoluna_44, Jorgensen_42, JackSparrow_44, Makemake_42, Parliament_41, Adahisdi_42
- Track 17 : Bethlehem_41, Pari_42, Nhonho_42, Switzer_42, Hope4ever_43, Manatee_42, Slagathor_42, Barriga_42, Tripl3t_42, Rhynn_41, Anglerfish_42, Rajelicia_41, Arcanine_41, TwoPeat_42
- Track 18 : Marchy_37, Payneeful_42
- Track 19 : Carlyle_42
- Track 20 : Ajay_42, AFIS_41, Sumter_40, Kykar_42
- Track 21 : Euphoria_41, KyMonks1A_45, Target_43, NEHalo_41
- Track 22 : McGuire_42, KSSJEB_40
- Track 23 : HanShotFirst_41
- Track 24 : PattyP_43

- Track 25 : Blue_42
- Track 26 : Gandalf20_43, Killigrew_42, Snazzy_40, ShortQueendom_37, DD5_42, Lockley_42
- Track 27 : Museum_43, Burton_42, Petp2012_43
- Track 28 : Fushigi_40, BillKnuckles_42
- Track 29 : Sanya_41, Chanagan_40
- Track 30 : SkiPole_45
- Track 31 : Lesedi_40, Big3_41
- Track 32 : Trouble_43
- Track 33 : Jasper_43, Dreamboat_43
- Track 34 : Sandaddy_42, BPBiebs31_43, Mryolo_40, Beatrix_41, Sorpresa_42
- Track 35 : PinkPlastic_40
- Track 36 : SpikeBT_43, Norz_43, TheloniousMonk_43, BaconJack_45, Seanderson_44, Michley_41, GageAP_43
- Track 37 : Peterson_45
- Track 38 : Nerujay_44
- Track 39 : Rutherford_44, Paraselene_40, Sagefire_44
- Track 40 : Arlo_40
- Track 41 : DreamCatcher_44
- Track 42 : Scowl_42
- Track 43 : Dexes_42
- Track 44 : Treddle_44, Edtherson_43, Ringer_43
- Track 45 : Pelly_42
- Track 46 : Magnito_40, Turj99_40
- Track 47 : DrFeelGood_41
- Track 48 : Espresso_42
- Track 49 : LilBib_42
- Track 50 : Dulcie_41
- Track 51 : Dulcie_42
- Track 52 : Niza_44
- Track 53 : Marsha_42
- Track 54 : Pita2_45, PSullivan_42
- Track 55 : PhrostyMug_42
- Track 56 : Ichabod_42
- Track 57 : Teodoridan_40
- Track 58 : U2_41
- Track 59 : MrGordo_41
- Track 60 : STLscum_43

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

The start number called the most often in the published annotations is 9, it was called in 163 of the 191 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- A6_39, AFIS_41, Abbyshoes_45, Abrogate_420, Acme_45, Adahisdi_42, Aeneas_44, Ajay_42, Alsfro_46, Altman_44, Alvin_41, Applejack_38, Arlo_40, Ashballer_44, BK1_39, BPBiebs31_43, BaconJack_45, Beatrix_41, Bexan_40, Big3_41, BigMau_43, Bigfoot_39, BillKnuckles_42, BluSpix_39, Blue_42, Bob3_40, Bruns_41, Burton_42, Buttons_41, Bxb1_39, CactusRose_40, Carlyle_42,

Chanagan_40, Ciao_42, ConceptII_44, Corvo_43, Crispicious1_41, DD5_42, Dexes_42, DrFeelGood_41, Dreamboat_43, Dulcie_41, Dulcie_42, Dussy_44, Edtherson_43, Espresso_42, Euphoria_41, Fajezeel_44, Fenn_43, Forsytheast_42, Froghopper_41, Fushigi_40, GageAP_43, Gandalf20_43, GrecoEtereo_43, Greg_44, Gwendoluna_44, Gyzlar_39, Hami1_37, HanShotFirst_41, HarryOW_41, Hermia_44, HermioneGrange_42, Homines_35, ILeeKay_46, IgnatiusPatJac_41, Inyanga_40, JC27_43, JackSparrow_44, Jasper_43, Jerm2_43, Jorgensen_42, JuliaChild_43, Kanely_43, Kenmech_46, Killigrew_42, Kugel_44, KyMonks1A_45, Kykar_42, Lamina13_42, Lesedi_40, LilBib_42, Lockley_42, Lopton_43, MPlant7149_41, Magnar_41, Magnito_40, Makemake_42, Marcell_41, Marchy_37, Marge_42, Maroc7_41, MaryBeth_42, MetalQZJ_41, Michley_41, Mkhuseleli_42, Molly_43, Monet_46, Moose_42, MrGordo_41, Mryolo_40, Mule_40, Museum_43, NEHalo_41, Naira_43, Nerujay_44, Niza_44, Norz_43, Ohno789_43, Oogway_40, PSullivan_42, Papez_44, Paraselene_40, Parliament_41, PattyP_43, Payneful_42, Pelly_42, Pepe_39, Perseus_43, Peterson_45, Petp2012_43, Petruchio_42, PherrisBueller_42, PhrostyMug_42, PinkPlastic_40, Pinto_43, Pippin_44, Pita2_45, ProMouse_41, ProMouse_42, QTRlifeCrisis_43, RidgeCB_42, Ringer_43, Rohr_43, Rubeus_42, Rufus_43, Ruotula_44, Rutherford_44, STLscum_43, Sagefire_44, Sandaddy_42, Sanya_41, SarFire_41, Seanderson_44, ShortQueendom_37, Sibs6_43, SkiPole_45, Snazzy_40, Solon_42, Sorpresa_42, SpikeBT_43, Squee_42, StewieG_41, StrongArm_41, Sumter_40, Sunshine924_43, SwissCheese_44, Swole_43, Target_43, Tasp14_43, Teodoridan_40, TheloniousMonk_43, Thor_41, Tote_38, Traft412_43, Treddle_44, Trouble_43, Turj99_40, Violet_40, Watermelon_44, Wheeler_43, Zephyr_42, Zeuska_42,

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

- Atkinbua_43, BeesKnees_42, Briton15_43, DreamCatcher_44, Dynamix_42, PascalRango_42, Seabiscuit_43,

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

- Anglerfish_42, Arcanine_41, Barriga_42, Bethlehem_41, Hope4ever_43, Ichabod_42, KSSJEB_40, Manatee_42, Marsha_42, McGuire_42, Nhonho_42, Paphu_41, Pari_42, Rajelicia_41, Rhynn_41, Scowl_42, Slagathor_42, Switzer_42, Tripl3t_42, TwoPeat_42, U2_41,

Summary by start number:

Start 6:

- Found in 8 of 201 (4.0%) of genes in pham
- Manual Annotations of this start: 4 of 191
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Atkinbua_43 (A1), Briton15_43 (A1), DreamCatcher_44 (A1), PascalRango_42 (A1),

Start 7:

- Found in 24 of 201 (11.9%) of genes in pham
- Manual Annotations of this start: 21 of 191
- Called 87.5% of time when present
- Phage (with cluster) where this start called: Anglerfish_42 (A1), Arcanine_41 (A1), Barriga_42 (A1), BeesKnees_42 (A1), Bethlehem_41 (A1), Dynamix_42 (A1), Hope4ever_43 (A1), Ichabod_42 (A1), Manatee_42 (A1), Marsha_42 (A1), Nhonho_42 (A1), Pari_42 (A1), Rajelicia_41 (A1), Rhynn_41 (A1), Scowl_42 (A1), Seabiscuit_43 (A1), Slagathor_42 (A1), Switzer_42 (A1), Tripl3t_42 (A1),

TwoPeat_42 (A1), U2_41 (A1),

Start 8:

- Found in 2 of 201 (1.0%) of genes in pham
- Manual Annotations of this start: 2 of 191
- Called 100.0% of time when present
- Phage (with cluster) where this start called: KSSJEB_40 (A1), McGuire_42 (A1),

Start 9:

- Found in 180 of 201 (89.6%) of genes in pham
- Manual Annotations of this start: 163 of 191
- Called 96.1% of time when present
- Phage (with cluster) where this start called: A6_39 (A1), AFIS_41 (A1), Abbyshoes_45 (A1), Abrogate_420 (A1), Acme_45 (A1), Adahisdi_42 (A1), Aeneas_44 (A1), Ajay_42 (A1), Alsfro_46 (A1), Altman_44 (A1), Alvin_41 (A1), Applejack_38 (A1), Arlo_40 (A1), Ashballer_44 (A1), BK1_39 (A1), BPBiebs31_43 (A1), BaconJack_45 (A1), Beatrix_41 (A1), Bexan_40 (A1), Big3_41 (A1), BigMau_43 (A1), Bigfoot_39 (A1), BillKnuckles_42 (A1), BluSpix_39 (A1), Blue_42 (A1), Bob3_40 (A1), Bruns_41 (A1), Burton_42 (A1), Buttons_41 (A1), Bxb1_39 (A1), CactusRose_40 (A1), Carlyle_42 (A1), Chanagan_40 (A1), Ciao_42 (A1), ConceptII_44 (A1), Corvo_43 (A1), Crispicous1_41 (A1), DD5_42 (A1), Dexes_42 (A1), DrFeelGood_41 (A1), Dreamboat_43 (A1), Dulcie_41 (A1), Dulcie_42 (A1), Dussy_44 (A1), Edtherson_43 (A1), Espresso_42 (A1), Euphoria_41 (A1), Fajezeel_44 (A1), Fenn_43 (A1), Forsytheast_42 (A1), Froghopper_41 (A1), Fushigi_40 (A1), GageAP_43 (A1), Gandalf20_43 (A1), GrecoEtereo_43 (A1), Greg_44 (A1), Gwendoluna_44 (A1), Gyzlar_39 (A1), Hami1_37 (A1), HanShotFirst_41 (A1), HarryOW_41 (A1), Hermia_44 (A1), HermioneGrange_42 (A1), Homines_35 (A1), ILeeKay_46 (A1), IgnatiusPatJac_41 (A1), Inyanga_40 (A1), JC27_43 (A1), JackSparrow_44 (A1), Jasper_43 (A1), Jerm2_43 (A1), Jorgensen_42 (A1), JuliaChild_43 (A1), Kanely_43 (A1), Kenmech_46 (A1), Killigrew_42 (A1), Kugel_44 (A1), KyMonks1A_45 (A1), Kykar_42 (A1), Lamina13_42 (A1), Lesedi_40 (A1), LilBib_42 (A1), Lockley_42 (A1), Lopton_43 (A1), MPlant7149_41 (A1), Magnar_41 (A1), Magnito_40 (A1), Makemake_42 (A1), Marcell_41 (A1), Marchy_37 (A1), Marge_42 (A1), Maroc7_41 (A1), MaryBeth_42 (A1), MetalQZJ_41 (A1), Michley_41 (A1), Mkhusele_42 (A1), Molly_43 (A1), Monet_46 (A1), Moose_42 (A1), MrGordo_41 (A1), Mryolo_40 (A1), Mule_40 (A1), Museum_43 (A1), NEHalo_41 (A1), Naira_43 (A1), Nerujay_44 (A1), Niza_44 (A1), Norz_43 (A1), Ohno789_43 (A1), Oogway_40 (A1), PSullivan_42 (A1), Papez_44 (A1), Paraselene_40 (A1), Parliament_41 (A1), PattyP_43 (A1), Payneful_42 (A1), Pelly_42 (A1), Pepe_39 (A1), Perseus_43 (A1), Peterson_45 (A1), Petp2012_43 (A1), Petruccio_42 (A1), PherrisBueller_42 (A1), PhrostyMug_42 (A1), PinkPlastic_40 (A1), Pinto_43 (A1), Pippin_44 (A1), Pita2_45 (A1), ProMouse_41 (A1), ProMouse_42 (A1), QTRLifeCrisis_43 (A1), RidgeCB_42 (A1), Ringer_43 (A1), Rohr_43 (A1), Rubeus_42 (A1), Rufus_43 (A1), Ruotula_44 (A1), Rutherford_44 (A1), STLscum_43 (A1), Sagefire_44 (A1), Sandaddy_42 (A1), Sanya_41 (A1), SarFire_41 (A1), Seanderson_44 (A1), ShortQueendom_37 (A1), Sibs6_43 (A1), SkiPole_45 (A1), Snazzy_40 (A1), Solon_42 (A1), Sorpresa_42 (A1), SpikeBT_43 (A1), Squee_42 (A1), StewieG_41 (A1), StrongArm_41 (A1), Sumter_40 (A1), Sunshine924_43 (A1), SwissCheese_44 (A1), Swole_43 (A1), Target_43 (A1), Tasp14_43 (A1), Teodoridan_40 (A1), TheloniousMonk_43 (A1), Thor_41 (A1), Tote_38 (A1), Traft412_43 (A1), Treddle_44 (A1), Trouble_43 (A1), Turj99_40 (A1), Violet_40 (A1), Watermelon_44 (A1), Wheeler_43 (A1), Zephyr_42 (A1), Zeuska_42 (A1),

Start 22:

- Found in 75 of 201 (37.3%) of genes in pham
- Manual Annotations of this start: 1 of 191
- Called 1.3% of time when present
- Phage (with cluster) where this start called: Paphu_41 (A1),

Summary by clusters:

There is one cluster represented in this pham: A1

Info for manual annotations of cluster A1:

- Start number 6 was manually annotated 4 times for cluster A1.
- Start number 7 was manually annotated 21 times for cluster A1.
- Start number 8 was manually annotated 2 times for cluster A1.
- Start number 9 was manually annotated 163 times for cluster A1.
- Start number 22 was manually annotated 1 time for cluster A1.

Gene Information:

Gene: A6_39 Start: 31351, Stop: 31064, Start Num: 9

Candidate Starts for A6_39:

(Start: 9 @31351 has 163 MA's), (Start: 22 @31249 has 1 MA's), (28, 31165), (31, 31114),

Gene: AFIS_41 Start: 32120, Stop: 31854, Start Num: 9

Candidate Starts for AFIS_41:

(Start: 9 @32120 has 163 MA's), (28, 31955), (31, 31904),

Gene: Abbyshoes_45 Start: 32556, Stop: 32263, Start Num: 9

Candidate Starts for Abbyshoes_45:

(Start: 9 @32556 has 163 MA's), (17, 32496), (28, 32364), (31, 32313),

Gene: Abrogate_420 Start: 32810, Stop: 32541, Start Num: 9

Candidate Starts for Abrogate_420:

(Start: 9 @32810 has 163 MA's), (Start: 22 @32726 has 1 MA's), (28, 32642), (31, 32591),

Gene: Acme_45 Start: 32668, Stop: 32381, Start Num: 9

Candidate Starts for Acme_45:

(Start: 9 @32668 has 163 MA's), (Start: 22 @32566 has 1 MA's), (28, 32482), (31, 32431),

Gene: Adahisdi_42 Start: 32146, Stop: 31904, Start Num: 9

Candidate Starts for Adahisdi_42:

(Start: 9 @32146 has 163 MA's), (11, 32131), (28, 32005), (31, 31954),

Gene: Aeneas_44 Start: 32342, Stop: 32055, Start Num: 9

Candidate Starts for Aeneas_44:

(Start: 9 @32342 has 163 MA's), (Start: 22 @32240 has 1 MA's), (28, 32156), (31, 32105),

Gene: Ajay_42 Start: 31958, Stop: 31695, Start Num: 9

Candidate Starts for Ajay_42:

(Start: 9 @31958 has 163 MA's), (28, 31796), (31, 31745),

Gene: Alsfro_46 Start: 32728, Stop: 32444, Start Num: 9
Candidate Starts for Alsfro_46:
(Start: 9 @32728 has 163 MA's), (12, 32698), (16, 32680), (24, 32617), (27, 32557), (31, 32494),

Gene: Altman_44 Start: 32975, Stop: 32700, Start Num: 9
Candidate Starts for Altman_44:
(Start: 9 @32975 has 163 MA's), (27, 32813),

Gene: Alvin_41 Start: 32479, Stop: 32210, Start Num: 9
Candidate Starts for Alvin_41:
(Start: 9 @32479 has 163 MA's), (28, 32311), (31, 32260),

Gene: Anglerfish_42 Start: 32229, Stop: 31957, Start Num: 7
Candidate Starts for Anglerfish_42:
(Start: 7 @32229 has 21 MA's), (11, 32184), (28, 32058), (31, 32007),

Gene: Applejack_38 Start: 29040, Stop: 28771, Start Num: 9
Candidate Starts for Applejack_38:
(Start: 9 @29040 has 163 MA's), (Start: 22 @28956 has 1 MA's), (28, 28872), (31, 28821),

Gene: Arcanine_41 Start: 31349, Stop: 31077, Start Num: 7
Candidate Starts for Arcanine_41:
(Start: 7 @31349 has 21 MA's), (11, 31304), (28, 31178), (31, 31127),

Gene: Arlo_40 Start: 31869, Stop: 31585, Start Num: 9
Candidate Starts for Arlo_40:
(Start: 9 @31869 has 163 MA's), (16, 31821), (Start: 22 @31770 has 1 MA's), (28, 31686), (31, 31635),

Gene: Ashballer_44 Start: 33124, Stop: 32837, Start Num: 9
Candidate Starts for Ashballer_44:
(Start: 9 @33124 has 163 MA's), (Start: 22 @33022 has 1 MA's), (28, 32938), (31, 32887),

Gene: Atkinbua_43 Start: 32341, Stop: 32033, Start Num: 6
Candidate Starts for Atkinbua_43:
(Start: 6 @32341 has 4 MA's), (Start: 9 @32308 has 163 MA's), (27, 32146),

Gene: BK1_39 Start: 31351, Stop: 31064, Start Num: 9
Candidate Starts for BK1_39:
(Start: 9 @31351 has 163 MA's), (Start: 22 @31249 has 1 MA's), (28, 31165), (31, 31114),

Gene: BPBiebs31_43 Start: 32462, Stop: 32184, Start Num: 9
Candidate Starts for BPBiebs31_43:
(Start: 9 @32462 has 163 MA's), (16, 32414), (Start: 22 @32363 has 1 MA's), (28, 32285), (31, 32234),

Gene: BaconJack_45 Start: 33097, Stop: 32810, Start Num: 9
Candidate Starts for BaconJack_45:
(Start: 9 @33097 has 163 MA's), (18, 33010), (Start: 22 @32995 has 1 MA's), (28, 32911), (31, 32860),

Gene: Barriga_42 Start: 31831, Stop: 31559, Start Num: 7
Candidate Starts for Barriga_42:

(Start: 7 @31831 has 21 MA's), (11, 31786), (28, 31660), (31, 31609),

Gene: Beatrix_41 Start: 33308, Stop: 33030, Start Num: 9

Candidate Starts for Beatrix_41:

(Start: 9 @33308 has 163 MA's), (16, 33260), (Start: 22 @33209 has 1 MA's), (28, 33131), (31, 33080),

Gene: BeesKnees_42 Start: 31917, Stop: 31615, Start Num: 7

Candidate Starts for BeesKnees_42:

(Start: 7 @31917 has 21 MA's), (Start: 9 @31884 has 163 MA's), (27, 31728), (31, 31665),

Gene: Bethlehem_41 Start: 32590, Stop: 32318, Start Num: 7

Candidate Starts for Bethlehem_41:

(Start: 7 @32590 has 21 MA's), (11, 32545), (28, 32419), (31, 32368),

Gene: Bexan_40 Start: 32987, Stop: 32718, Start Num: 9

Candidate Starts for Bexan_40:

(Start: 9 @32987 has 163 MA's), (Start: 22 @32903 has 1 MA's), (28, 32819), (31, 32768),

Gene: Big3_41 Start: 32438, Stop: 32196, Start Num: 9

Candidate Starts for Big3_41:

(Start: 9 @32438 has 163 MA's), (28, 32297), (31, 32246),

Gene: BigMau_43 Start: 31979, Stop: 31692, Start Num: 9

Candidate Starts for BigMau_43:

(Start: 9 @31979 has 163 MA's), (28, 31793), (31, 31742),

Gene: Bigfoot_39 Start: 31627, Stop: 31334, Start Num: 9

Candidate Starts for Bigfoot_39:

(Start: 9 @31627 has 163 MA's), (17, 31567), (28, 31435), (31, 31384),

Gene: BillKnuckles_42 Start: 32660, Stop: 32418, Start Num: 9

Candidate Starts for BillKnuckles_42:

(Start: 9 @32660 has 163 MA's), (10, 32648), (11, 32645), (28, 32519), (31, 32468),

Gene: BluSpix_39 Start: 28079, Stop: 27792, Start Num: 9

Candidate Starts for BluSpix_39:

(Start: 9 @28079 has 163 MA's), (Start: 22 @27977 has 1 MA's), (28, 27893), (31, 27842),

Gene: Blue_42 Start: 32763, Stop: 32476, Start Num: 9

Candidate Starts for Blue_42:

(Start: 9 @32763 has 163 MA's), (Start: 22 @32661 has 1 MA's), (28, 32577), (31, 32526),

Gene: Bob3_40 Start: 31329, Stop: 31042, Start Num: 9

Candidate Starts for Bob3_40:

(Start: 9 @31329 has 163 MA's), (28, 31143), (31, 31092),

Gene: Briton15_43 Start: 32176, Stop: 31868, Start Num: 6

Candidate Starts for Briton15_43:

(Start: 6 @32176 has 4 MA's), (Start: 9 @32143 has 163 MA's), (27, 31981),

Gene: Bruns_41 Start: 32058, Stop: 31774, Start Num: 9

Candidate Starts for Bruns_41:

(Start: 9 @32058 has 163 MA's), (12, 32028), (16, 32010), (24, 31947), (27, 31887), (31, 31824),

Gene: Burton_42 Start: 31887, Stop: 31612, Start Num: 9

Candidate Starts for Burton_42:

(1, 32100), (Start: 9 @31887 has 163 MA's), (27, 31725), (31, 31662),

Gene: Buttons_41 Start: 30867, Stop: 30580, Start Num: 9

Candidate Starts for Buttons_41:

(Start: 9 @30867 has 163 MA's), (Start: 22 @30765 has 1 MA's), (28, 30681), (31, 30630),

Gene: Bxb1_39 Start: 31929, Stop: 31642, Start Num: 9

Candidate Starts for Bxb1_39:

(Start: 9 @31929 has 163 MA's), (Start: 22 @31827 has 1 MA's), (28, 31743), (31, 31692),

Gene: CactusRose_40 Start: 31757, Stop: 31464, Start Num: 9

Candidate Starts for CactusRose_40:

(Start: 9 @31757 has 163 MA's), (17, 31697), (28, 31565), (31, 31514),

Gene: Carlyle_42 Start: 30593, Stop: 30324, Start Num: 9

Candidate Starts for Carlyle_42:

(Start: 9 @30593 has 163 MA's), (28, 30425), (31, 30374),

Gene: Chanagan_40 Start: 31424, Stop: 31164, Start Num: 9

Candidate Starts for Chanagan_40:

(Start: 9 @31424 has 163 MA's), (27, 31277), (31, 31214),

Gene: Ciao_42 Start: 32124, Stop: 31837, Start Num: 9

Candidate Starts for Ciao_42:

(Start: 9 @32124 has 163 MA's), (Start: 22 @32022 has 1 MA's), (28, 31938), (31, 31887),

Gene: ConceptII_44 Start: 33141, Stop: 32854, Start Num: 9

Candidate Starts for ConceptII_44:

(1, 33354), (Start: 9 @33141 has 163 MA's), (Start: 22 @33039 has 1 MA's), (28, 32955), (31, 32904),

Gene: Corvo_43 Start: 32998, Stop: 32714, Start Num: 9

Candidate Starts for Corvo_43:

(Start: 9 @32998 has 163 MA's), (12, 32968), (16, 32950), (24, 32887), (27, 32827), (31, 32764),

Gene: Crispicous1_41 Start: 31747, Stop: 31478, Start Num: 9

Candidate Starts for Crispicous1_41:

(Start: 9 @31747 has 163 MA's), (28, 31579), (31, 31528),

Gene: DD5_42 Start: 33007, Stop: 32720, Start Num: 9

Candidate Starts for DD5_42:

(Start: 9 @33007 has 163 MA's), (28, 32821), (31, 32770),

Gene: Dexes_42 Start: 32732, Stop: 32454, Start Num: 9

Candidate Starts for Dexes_42:

(1, 32945), (Start: 9 @32732 has 163 MA's), (13, 32699), (28, 32555), (31, 32504),

Gene: DrFeelGood_41 Start: 32592, Stop: 32350, Start Num: 9

Candidate Starts for DrFeelGood_41:

(2, 32802), (Start: 9 @32592 has 163 MA's), (10, 32580), (11, 32577), (28, 32451), (31, 32400),

Gene: DreamCatcher_44 Start: 33224, Stop: 32916, Start Num: 6

Candidate Starts for DreamCatcher_44:

(Start: 6 @33224 has 4 MA's), (Start: 9 @33191 has 163 MA's), (27, 33029), (31, 32966),

Gene: Dreamboat_43 Start: 31963, Stop: 31688, Start Num: 9

Candidate Starts for Dreamboat_43:

(Start: 6 @31996 has 4 MA's), (Start: 9 @31963 has 163 MA's), (27, 31801), (29, 31780), (31, 31738),

Gene: Dulcie_41 Start: 31878, Stop: 31591, Start Num: 9

Candidate Starts for Dulcie_41:

(5, 31920), (Start: 9 @31878 has 163 MA's), (Start: 22 @31776 has 1 MA's), (28, 31692), (31, 31641),

Gene: Dulcie_42 Start: 32111, Stop: 31875, Start Num: 9

Candidate Starts for Dulcie_42:

(Start: 9 @32111 has 163 MA's), (27, 31967),

Gene: Dussy_44 Start: 32576, Stop: 32283, Start Num: 9

Candidate Starts for Dussy_44:

(Start: 9 @32576 has 163 MA's), (17, 32516), (28, 32384), (31, 32333),

Gene: Dynamix_42 Start: 31903, Stop: 31601, Start Num: 7

Candidate Starts for Dynamix_42:

(Start: 7 @31903 has 21 MA's), (Start: 9 @31870 has 163 MA's), (27, 31714), (31, 31651),

Gene: Edtherson_43 Start: 33072, Stop: 32794, Start Num: 9

Candidate Starts for Edtherson_43:

(2, 33282), (Start: 9 @33072 has 163 MA's), (28, 32895), (31, 32844),

Gene: Espresso_42 Start: 32440, Stop: 32171, Start Num: 9

Candidate Starts for Espresso_42:

(Start: 9 @32440 has 163 MA's), (28, 32272), (31, 32221),

Gene: Euphoria_41 Start: 31928, Stop: 31635, Start Num: 9

Candidate Starts for Euphoria_41:

(Start: 9 @31928 has 163 MA's), (17, 31868), (28, 31736), (31, 31685),

Gene: Fajezeel_44 Start: 32497, Stop: 32210, Start Num: 9

Candidate Starts for Fajezeel_44:

(Start: 9 @32497 has 163 MA's), (Start: 22 @32395 has 1 MA's), (28, 32311), (31, 32260),

Gene: Fenn_43 Start: 33821, Stop: 33534, Start Num: 9

Candidate Starts for Fenn_43:

(Start: 9 @33821 has 163 MA's), (Start: 22 @33719 has 1 MA's), (28, 33635), (31, 33584),

Gene: Forsytheast_42 Start: 32276, Stop: 31992, Start Num: 9

Candidate Starts for Forsytheast_42:

(Start: 9 @32276 has 163 MA's), (12, 32246), (16, 32228), (24, 32165), (27, 32105), (31, 32042),

Gene: Froghopper_41 Start: 31912, Stop: 31643, Start Num: 9

Candidate Starts for Froghopper_41:

(Start: 9 @31912 has 163 MA's), (28, 31744), (31, 31693),

Gene: Fushigi_40 Start: 30062, Stop: 29820, Start Num: 9
Candidate Starts for Fushigi_40:
(Start: 9 @30062 has 163 MA's), (10, 30050), (11, 30047), (28, 29921), (31, 29870),

Gene: GageAP_43 Start: 32207, Stop: 31920, Start Num: 9
Candidate Starts for GageAP_43:
(Start: 9 @32207 has 163 MA's), (18, 32120), (Start: 22 @32105 has 1 MA's), (28, 32021), (31, 31970),

Gene: Gandalf20_43 Start: 32955, Stop: 32689, Start Num: 9
Candidate Starts for Gandalf20_43:
(Start: 9 @32955 has 163 MA's), (28, 32790), (31, 32739),

Gene: GrecoEtereo_43 Start: 32600, Stop: 32331, Start Num: 9
Candidate Starts for GrecoEtereo_43:
(Start: 9 @32600 has 163 MA's), (Start: 22 @32516 has 1 MA's), (28, 32432), (31, 32381),

Gene: Greg_44 Start: 32497, Stop: 32210, Start Num: 9
Candidate Starts for Greg_44:
(Start: 9 @32497 has 163 MA's), (Start: 22 @32395 has 1 MA's), (28, 32311), (31, 32260),

Gene: Gwendoluna_44 Start: 34030, Stop: 33788, Start Num: 9
Candidate Starts for Gwendoluna_44:
(Start: 9 @34030 has 163 MA's), (11, 34015), (28, 33889), (31, 33838),

Gene: Gyzlar_39 Start: 30598, Stop: 30311, Start Num: 9
Candidate Starts for Gyzlar_39:
(Start: 9 @30598 has 163 MA's), (Start: 22 @30496 has 1 MA's), (28, 30412), (31, 30361),

Gene: Hami1_37 Start: 27036, Stop: 26749, Start Num: 9
Candidate Starts for Hami1_37:
(Start: 9 @27036 has 163 MA's), (Start: 22 @26934 has 1 MA's), (28, 26850), (31, 26799),

Gene: HanShotFirst_41 Start: 31631, Stop: 31344, Start Num: 9
Candidate Starts for HanShotFirst_41:
(Start: 9 @31631 has 163 MA's), (Start: 22 @31529 has 1 MA's), (23, 31517), (28, 31445), (31, 31394),

Gene: HarryOW_41 Start: 31772, Stop: 31503, Start Num: 9
Candidate Starts for HarryOW_41:
(Start: 9 @31772 has 163 MA's), (Start: 22 @31688 has 1 MA's), (28, 31604), (31, 31553),

Gene: Hermia_44 Start: 33346, Stop: 33059, Start Num: 9
Candidate Starts for Hermia_44:
(Start: 9 @33346 has 163 MA's), (Start: 22 @33244 has 1 MA's), (28, 33160), (31, 33109),

Gene: HermioneGrange_42 Start: 32473, Stop: 32186, Start Num: 9
Candidate Starts for HermioneGrange_42:
(Start: 9 @32473 has 163 MA's), (28, 32287), (31, 32236),

Gene: Homines_35 Start: 28560, Stop: 28273, Start Num: 9
Candidate Starts for Homines_35:

(Start: 9 @28560 has 163 MA's), (18, 28473), (Start: 22 @28458 has 1 MA's), (28, 28374), (31, 28323),

Gene: Hope4ever_43 Start: 32649, Stop: 32377, Start Num: 7
Candidate Starts for Hope4ever_43:
(Start: 7 @32649 has 21 MA's), (11, 32604), (28, 32478), (31, 32427),

Gene: ILeeKay_46 Start: 33003, Stop: 32734, Start Num: 9
Candidate Starts for ILeeKay_46:
(Start: 9 @33003 has 163 MA's), (28, 32835), (31, 32784),

Gene: Ichabod_42 Start: 32035, Stop: 31742, Start Num: 7
Candidate Starts for Ichabod_42:
(Start: 7 @32035 has 21 MA's), (28, 31843), (31, 31792),

Gene: IgnatiusPatJac_41 Start: 32024, Stop: 31737, Start Num: 9
Candidate Starts for IgnatiusPatJac_41:
(Start: 9 @32024 has 163 MA's), (Start: 22 @31922 has 1 MA's), (28, 31838), (31, 31787),

Gene: Inyanga_40 Start: 31370, Stop: 31083, Start Num: 9
Candidate Starts for Inyanga_40:
(Start: 9 @31370 has 163 MA's), (Start: 22 @31268 has 1 MA's), (28, 31184), (31, 31133),

Gene: JC27_43 Start: 32694, Stop: 32407, Start Num: 9
Candidate Starts for JC27_43:
(Start: 9 @32694 has 163 MA's), (Start: 22 @32592 has 1 MA's), (28, 32508), (31, 32457),

Gene: JackSparrow_44 Start: 32959, Stop: 32717, Start Num: 9
Candidate Starts for JackSparrow_44:
(Start: 9 @32959 has 163 MA's), (11, 32944), (28, 32818), (31, 32767),

Gene: Jasper_43 Start: 31849, Stop: 31574, Start Num: 9
Candidate Starts for Jasper_43:
(Start: 6 @31882 has 4 MA's), (Start: 9 @31849 has 163 MA's), (27, 31687), (29, 31666), (31, 31624),

Gene: Jerm2_43 Start: 32728, Stop: 32441, Start Num: 9
Candidate Starts for Jerm2_43:
(Start: 9 @32728 has 163 MA's), (28, 32542), (31, 32491),

Gene: Jorgensen_42 Start: 32074, Stop: 31832, Start Num: 9
Candidate Starts for Jorgensen_42:
(Start: 9 @32074 has 163 MA's), (11, 32059), (28, 31933), (31, 31882),

Gene: JuliaChild_43 Start: 32464, Stop: 32177, Start Num: 9
Candidate Starts for JuliaChild_43:
(Start: 9 @32464 has 163 MA's), (28, 32278), (31, 32227),

Gene: KSSJEB_40 Start: 31672, Stop: 31355, Start Num: 8
Candidate Starts for KSSJEB_40:
(Start: 8 @31672 has 2 MA's), (Start: 22 @31540 has 1 MA's), (28, 31456), (31, 31405),

Gene: Kanely_43 Start: 32751, Stop: 32476, Start Num: 9
Candidate Starts for Kanely_43:

(Start: 9 @32751 has 163 MA's), (27, 32589),

Gene: Kenmech_46 Start: 33702, Stop: 33409, Start Num: 9

Candidate Starts for Kenmech_46:

(Start: 9 @33702 has 163 MA's), (17, 33642), (28, 33510), (31, 33459),

Gene: Killigrew_42 Start: 32390, Stop: 32124, Start Num: 9

Candidate Starts for Killigrew_42:

(Start: 9 @32390 has 163 MA's), (28, 32225), (31, 32174),

Gene: Kugel_44 Start: 32894, Stop: 32625, Start Num: 9

Candidate Starts for Kugel_44:

(Start: 9 @32894 has 163 MA's), (Start: 22 @32810 has 1 MA's), (28, 32726), (31, 32675),

Gene: KyMonks1A_45 Start: 32790, Stop: 32497, Start Num: 9

Candidate Starts for KyMonks1A_45:

(Start: 9 @32790 has 163 MA's), (17, 32730), (28, 32598), (31, 32547),

Gene: Kykar_42 Start: 32080, Stop: 31793, Start Num: 9

Candidate Starts for Kykar_42:

(Start: 9 @32080 has 163 MA's), (28, 31894), (31, 31843),

Gene: Lamina13_42 Start: 31873, Stop: 31586, Start Num: 9

Candidate Starts for Lamina13_42:

(Start: 9 @31873 has 163 MA's), (18, 31786), (Start: 22 @31771 has 1 MA's), (28, 31687), (31, 31636),

Gene: Lesedi_40 Start: 31735, Stop: 31466, Start Num: 9

Candidate Starts for Lesedi_40:

(Start: 9 @31735 has 163 MA's), (28, 31567), (31, 31516),

Gene: LilBib_42 Start: 32838, Stop: 32551, Start Num: 9

Candidate Starts for LilBib_42:

(Start: 6 @32871 has 4 MA's), (Start: 9 @32838 has 163 MA's), (Start: 22 @32736 has 1 MA's), (28, 32652), (31, 32601),

Gene: Lockley_42 Start: 32169, Stop: 31882, Start Num: 9

Candidate Starts for Lockley_42:

(Start: 9 @32169 has 163 MA's), (28, 31983), (31, 31932),

Gene: Lopton_43 Start: 33670, Stop: 33383, Start Num: 9

Candidate Starts for Lopton_43:

(Start: 9 @33670 has 163 MA's), (28, 33484), (31, 33433),

Gene: MPlant7149_41 Start: 31538, Stop: 31251, Start Num: 9

Candidate Starts for MPlant7149_41:

(Start: 9 @31538 has 163 MA's), (28, 31352), (31, 31301),

Gene: Magnar_41 Start: 32111, Stop: 31824, Start Num: 9

Candidate Starts for Magnar_41:

(Start: 9 @32111 has 163 MA's), (Start: 22 @32009 has 1 MA's), (28, 31925), (31, 31874),

Gene: Magnito_40 Start: 31519, Stop: 31256, Start Num: 9

Candidate Starts for Magnito_40:

(3, 31672), (Start: 9 @31519 has 163 MA's), (27, 31369), (31, 31306),

Gene: Makemake_42 Start: 33140, Stop: 32898, Start Num: 9

Candidate Starts for Makemake_42:

(Start: 9 @33140 has 163 MA's), (11, 33125), (28, 32999), (31, 32948),

Gene: Manatee_42 Start: 31549, Stop: 31277, Start Num: 7

Candidate Starts for Manatee_42:

(Start: 7 @31549 has 21 MA's), (11, 31504), (28, 31378), (31, 31327),

Gene: Marcell_41 Start: 32228, Stop: 31941, Start Num: 9

Candidate Starts for Marcell_41:

(Start: 9 @32228 has 163 MA's), (28, 32042), (31, 31991),

Gene: Marchy_37 Start: 28991, Stop: 28716, Start Num: 9

Candidate Starts for Marchy_37:

(Start: 9 @28991 has 163 MA's), (27, 28829), (31, 28766),

Gene: Marge_42 Start: 32616, Stop: 32329, Start Num: 9

Candidate Starts for Marge_42:

(Start: 9 @32616 has 163 MA's), (28, 32430), (31, 32379),

Gene: Maroc7_41 Start: 32085, Stop: 31792, Start Num: 9

Candidate Starts for Maroc7_41:

(Start: 9 @32085 has 163 MA's), (17, 32025), (28, 31893), (31, 31842),

Gene: Marsha_42 Start: 33305, Stop: 33012, Start Num: 7

Candidate Starts for Marsha_42:

(Start: 7 @33305 has 21 MA's), (27, 33125), (31, 33062),

Gene: MaryBeth_42 Start: 32218, Stop: 31931, Start Num: 9

Candidate Starts for MaryBeth_42:

(Start: 9 @32218 has 163 MA's), (Start: 22 @32116 has 1 MA's), (28, 32032), (31, 31981),

Gene: McGuire_42 Start: 31890, Stop: 31573, Start Num: 8

Candidate Starts for McGuire_42:

(Start: 8 @31890 has 2 MA's), (Start: 22 @31758 has 1 MA's), (28, 31674), (31, 31623),

Gene: MetalQZJ_41 Start: 32218, Stop: 31931, Start Num: 9

Candidate Starts for MetalQZJ_41:

(Start: 9 @32218 has 163 MA's), (Start: 22 @32116 has 1 MA's), (28, 32032), (31, 31981),

Gene: Michley_41 Start: 31705, Stop: 31418, Start Num: 9

Candidate Starts for Michley_41:

(Start: 9 @31705 has 163 MA's), (18, 31618), (Start: 22 @31603 has 1 MA's), (28, 31519), (31, 31468),

Gene: Mkhuseleli_42 Start: 31904, Stop: 31617, Start Num: 9

Candidate Starts for Mkhuseleli_42:

(Start: 9 @31904 has 163 MA's), (Start: 22 @31802 has 1 MA's), (28, 31718), (31, 31667),

Gene: Molly_43 Start: 31772, Stop: 31485, Start Num: 9

Candidate Starts for Molly_43:
(Start: 9 @31772 has 163 MA's), (28, 31586), (31, 31535),

Gene: Monet_46 Start: 34034, Stop: 33747, Start Num: 9
Candidate Starts for Monet_46:
(Start: 9 @34034 has 163 MA's), (18, 33947), (Start: 22 @33932 has 1 MA's), (28, 33848), (31, 33797),

Gene: Moose_42 Start: 32276, Stop: 31992, Start Num: 9
Candidate Starts for Moose_42:
(Start: 9 @32276 has 163 MA's), (12, 32246), (16, 32228), (24, 32165), (27, 32105), (31, 32042),

Gene: MrGordo_41 Start: 31553, Stop: 31281, Start Num: 9
Candidate Starts for MrGordo_41:
(Start: 9 @31553 has 163 MA's), (26, 31424), (27, 31394), (30, 31364), (31, 31331),

Gene: Mryolo_40 Start: 31754, Stop: 31476, Start Num: 9
Candidate Starts for Mryolo_40:
(Start: 9 @31754 has 163 MA's), (16, 31706), (Start: 22 @31655 has 1 MA's), (28, 31577), (31, 31526),

Gene: Mule_40 Start: 30066, Stop: 29797, Start Num: 9
Candidate Starts for Mule_40:
(Start: 9 @30066 has 163 MA's), (Start: 22 @29982 has 1 MA's), (28, 29898), (31, 29847),

Gene: Museum_43 Start: 31826, Stop: 31551, Start Num: 9
Candidate Starts for Museum_43:
(1, 32039), (Start: 9 @31826 has 163 MA's), (27, 31664), (31, 31601),

Gene: NEHalo_41 Start: 31803, Stop: 31510, Start Num: 9
Candidate Starts for NEHalo_41:
(Start: 9 @31803 has 163 MA's), (17, 31743), (28, 31611), (31, 31560),

Gene: Naira_43 Start: 33868, Stop: 33581, Start Num: 9
Candidate Starts for Naira_43:
(Start: 9 @33868 has 163 MA's), (Start: 22 @33766 has 1 MA's), (28, 33682), (31, 33631),

Gene: Nerujay_44 Start: 32902, Stop: 32618, Start Num: 9
Candidate Starts for Nerujay_44:
(Start: 9 @32902 has 163 MA's), (14, 32866), (19, 32824), (21, 32809), (28, 32719), (31, 32668),

Gene: Nhonho_42 Start: 32575, Stop: 32303, Start Num: 7
Candidate Starts for Nhonho_42:
(Start: 7 @32575 has 21 MA's), (11, 32530), (28, 32404), (31, 32353),

Gene: Niza_44 Start: 33243, Stop: 32980, Start Num: 9
Candidate Starts for Niza_44:
(Start: 9 @33243 has 163 MA's), (27, 33093), (31, 33030),

Gene: Norz_43 Start: 32715, Stop: 32428, Start Num: 9
Candidate Starts for Norz_43:
(Start: 9 @32715 has 163 MA's), (18, 32628), (Start: 22 @32613 has 1 MA's), (28, 32529), (31, 32478),

Gene: Ohno789_43 Start: 32978, Stop: 32691, Start Num: 9
Candidate Starts for Ohno789_43:
(Start: 9 @32978 has 163 MA's), (Start: 22 @32876 has 1 MA's), (28, 32792), (31, 32741),

Gene: Oogway_40 Start: 31353, Stop: 31111, Start Num: 9
Candidate Starts for Oogway_40:
(Start: 9 @31353 has 163 MA's), (11, 31338), (28, 31212), (31, 31161),

Gene: PSullivan_42 Start: 31747, Stop: 31505, Start Num: 9
Candidate Starts for PSullivan_42:
(Start: 9 @31747 has 163 MA's), (11, 31732), (28, 31606), (31, 31555),

Gene: Papez_44 Start: 33929, Stop: 33642, Start Num: 9
Candidate Starts for Papez_44:
(Start: 9 @33929 has 163 MA's), (Start: 22 @33827 has 1 MA's), (28, 33743), (31, 33692),

Gene: Paphu_41 Start: 32017, Stop: 31832, Start Num: 22
Candidate Starts for Paphu_41:
(Start: 22 @32017 has 1 MA's), (28, 31933), (31, 31882),

Gene: Paraselene_40 Start: 32250, Stop: 31978, Start Num: 9
Candidate Starts for Paraselene_40:
(Start: 7 @32283 has 21 MA's), (Start: 9 @32250 has 163 MA's), (15, 32211), (27, 32091), (31, 32028),

Gene: Pari_42 Start: 31615, Stop: 31343, Start Num: 7
Candidate Starts for Pari_42:
(Start: 7 @31615 has 21 MA's), (11, 31570), (28, 31444), (31, 31393),

Gene: Parliament_41 Start: 32362, Stop: 32120, Start Num: 9
Candidate Starts for Parliament_41:
(Start: 9 @32362 has 163 MA's), (11, 32347), (28, 32221), (31, 32170),

Gene: PascalRango_42 Start: 31959, Stop: 31651, Start Num: 6
Candidate Starts for PascalRango_42:
(Start: 6 @31959 has 4 MA's), (Start: 9 @31926 has 163 MA's), (27, 31764),

Gene: PattyP_43 Start: 32119, Stop: 31841, Start Num: 9
Candidate Starts for PattyP_43:
(Start: 9 @32119 has 163 MA's), (27, 31954),

Gene: Payneful_42 Start: 31708, Stop: 31433, Start Num: 9
Candidate Starts for Payneful_42:
(Start: 9 @31708 has 163 MA's), (27, 31546), (31, 31483),

Gene: Pelly_42 Start: 32653, Stop: 32375, Start Num: 9
Candidate Starts for Pelly_42:
(2, 32863), (Start: 9 @32653 has 163 MA's), (13, 32620), (28, 32476), (31, 32425),

Gene: Pepe_39 Start: 30383, Stop: 30090, Start Num: 9
Candidate Starts for Pepe_39:
(Start: 9 @30383 has 163 MA's), (17, 30323), (28, 30191), (31, 30140),

Gene: Perseus_43 Start: 32944, Stop: 32657, Start Num: 9
Candidate Starts for Perseus_43:
(Start: 9 @32944 has 163 MA's), (Start: 22 @32842 has 1 MA's), (28, 32758), (31, 32707),

Gene: Peterson_45 Start: 34507, Stop: 34229, Start Num: 9
Candidate Starts for Peterson_45:
(Start: 9 @34507 has 163 MA's), (28, 34330), (31, 34279),

Gene: Petp2012_43 Start: 32744, Stop: 32469, Start Num: 9
Candidate Starts for Petp2012_43:
(1, 32957), (Start: 9 @32744 has 163 MA's), (27, 32582), (31, 32519),

Gene: Petruchio_42 Start: 32089, Stop: 31823, Start Num: 9
Candidate Starts for Petruchio_42:
(Start: 9 @32089 has 163 MA's), (28, 31924), (31, 31873),

Gene: PherrisBueller_42 Start: 31714, Stop: 31439, Start Num: 9
Candidate Starts for PherrisBueller_42:
(Start: 9 @31714 has 163 MA's), (27, 31552),

Gene: PhrostyMug_42 Start: 32222, Stop: 31953, Start Num: 9
Candidate Starts for PhrostyMug_42:
(1, 32435), (Start: 9 @32222 has 163 MA's), (Start: 22 @32138 has 1 MA's), (28, 32054), (31, 32003),

Gene: PinkPlastic_40 Start: 31628, Stop: 31353, Start Num: 9
Candidate Starts for PinkPlastic_40:
(Start: 6 @31661 has 4 MA's), (Start: 9 @31628 has 163 MA's), (27, 31466),

Gene: Pinto_43 Start: 32048, Stop: 31785, Start Num: 9
Candidate Starts for Pinto_43:
(Start: 9 @32048 has 163 MA's), (28, 31886), (31, 31835),

Gene: Pippin_44 Start: 32541, Stop: 32254, Start Num: 9
Candidate Starts for Pippin_44:
(Start: 9 @32541 has 163 MA's), (Start: 22 @32439 has 1 MA's), (28, 32355), (31, 32304),

Gene: Pita2_45 Start: 33244, Stop: 33002, Start Num: 9
Candidate Starts for Pita2_45:
(Start: 9 @33244 has 163 MA's), (11, 33229), (28, 33103), (31, 33052),

Gene: ProMouse_41 Start: 32226, Stop: 31951, Start Num: 9
Candidate Starts for ProMouse_41:
(4, 32268), (Start: 9 @32226 has 163 MA's), (27, 32064), (31, 32001),

Gene: ProMouse_42 Start: 32459, Stop: 32223, Start Num: 9
Candidate Starts for ProMouse_42:
(Start: 9 @32459 has 163 MA's), (27, 32315),

Gene: QTRlifeCrisis_43 Start: 33063, Stop: 32776, Start Num: 9
Candidate Starts for QTRlifeCrisis_43:
(Start: 9 @33063 has 163 MA's), (Start: 22 @32961 has 1 MA's), (28, 32877), (31, 32826),

Gene: Rajelicia_41 Start: 32011, Stop: 31739, Start Num: 7
Candidate Starts for Rajelicia_41:
(Start: 7 @32011 has 21 MA's), (11, 31966), (28, 31840), (31, 31789),

Gene: Rhynn_41 Start: 32026, Stop: 31754, Start Num: 7
Candidate Starts for Rhynn_41:
(Start: 7 @32026 has 21 MA's), (11, 31981), (28, 31855), (31, 31804),

Gene: RidgeCB_42 Start: 32076, Stop: 31789, Start Num: 9
Candidate Starts for RidgeCB_42:
(Start: 9 @32076 has 163 MA's), (Start: 22 @31974 has 1 MA's), (28, 31890), (31, 31839),

Gene: Ringer_43 Start: 32905, Stop: 32642, Start Num: 9
Candidate Starts for Ringer_43:
(2, 33115), (Start: 9 @32905 has 163 MA's), (28, 32743), (31, 32692),

Gene: Rohr_43 Start: 32774, Stop: 32487, Start Num: 9
Candidate Starts for Rohr_43:
(Start: 9 @32774 has 163 MA's), (28, 32588), (31, 32537),

Gene: Rubeus_42 Start: 30560, Stop: 30267, Start Num: 9
Candidate Starts for Rubeus_42:
(Start: 9 @30560 has 163 MA's), (17, 30500), (28, 30368), (31, 30317),

Gene: Rufus_43 Start: 32397, Stop: 32110, Start Num: 9
Candidate Starts for Rufus_43:
(Start: 9 @32397 has 163 MA's), (28, 32211), (31, 32160),

Gene: Ruotula_44 Start: 33384, Stop: 33091, Start Num: 9
Candidate Starts for Ruotula_44:
(Start: 9 @33384 has 163 MA's), (17, 33324), (28, 33192), (31, 33141),

Gene: Rutherferd_44 Start: 33293, Stop: 33021, Start Num: 9
Candidate Starts for Rutherferd_44:
(Start: 7 @33326 has 21 MA's), (Start: 9 @33293 has 163 MA's), (15, 33254), (27, 33134), (31, 33071),

Gene: STLscum_43 Start: 33104, Stop: 32826, Start Num: 9
Candidate Starts for STLscum_43:
(Start: 9 @33104 has 163 MA's), (16, 33056), (Start: 22 @33005 has 1 MA's), (28, 32927),

Gene: Sagefire_44 Start: 33226, Stop: 32954, Start Num: 9
Candidate Starts for Sagefire_44:
(Start: 7 @33259 has 21 MA's), (Start: 9 @33226 has 163 MA's), (15, 33187), (27, 33067), (31, 33004),

Gene: Sandaddy_42 Start: 32672, Stop: 32394, Start Num: 9
Candidate Starts for Sandaddy_42:
(Start: 9 @32672 has 163 MA's), (16, 32624), (Start: 22 @32573 has 1 MA's), (28, 32495), (31, 32444),

Gene: Sanya_41 Start: 32962, Stop: 32687, Start Num: 9
Candidate Starts for Sanya_41:

(Start: 9 @32962 has 163 MA's), (27, 32800), (31, 32737),

Gene: SarFire_41 Start: 32238, Stop: 31951, Start Num: 9

Candidate Starts for SarFire_41:

(Start: 9 @32238 has 163 MA's), (18, 32154), (20, 32145), (Start: 22 @32136 has 1 MA's), (23, 32124), (28, 32052), (31, 32001),

Gene: Scowl_42 Start: 32734, Stop: 32462, Start Num: 7

Candidate Starts for Scowl_42:

(Start: 7 @32734 has 21 MA's), (11, 32689), (28, 32563),

Gene: Seabiscuit_43 Start: 31886, Stop: 31584, Start Num: 7

Candidate Starts for Seabiscuit_43:

(Start: 7 @31886 has 21 MA's), (Start: 9 @31853 has 163 MA's), (27, 31697), (31, 31634),

Gene: Seanderson_44 Start: 33065, Stop: 32796, Start Num: 9

Candidate Starts for Seanderson_44:

(Start: 9 @33065 has 163 MA's), (18, 32996), (Start: 22 @32981 has 1 MA's), (28, 32897), (31, 32846),

Gene: ShortQueendom_37 Start: 28736, Stop: 28473, Start Num: 9

Candidate Starts for ShortQueendom_37:

(Start: 9 @28736 has 163 MA's), (28, 28574), (31, 28523),

Gene: Sibs6_43 Start: 31379, Stop: 31137, Start Num: 9

Candidate Starts for Sibs6_43:

(Start: 9 @31379 has 163 MA's), (11, 31364), (28, 31238), (31, 31187),

Gene: SkiPole_45 Start: 33095, Stop: 32808, Start Num: 9

Candidate Starts for SkiPole_45:

(Start: 9 @33095 has 163 MA's), (12, 33065), (16, 33047), (24, 32984), (27, 32921),

Gene: Slagathor_42 Start: 31936, Stop: 31664, Start Num: 7

Candidate Starts for Slagathor_42:

(Start: 7 @31936 has 21 MA's), (11, 31891), (28, 31765), (31, 31714),

Gene: Snazzy_40 Start: 31803, Stop: 31540, Start Num: 9

Candidate Starts for Snazzy_40:

(Start: 9 @31803 has 163 MA's), (28, 31641), (31, 31590),

Gene: Solon_42 Start: 32559, Stop: 32266, Start Num: 9

Candidate Starts for Solon_42:

(Start: 9 @32559 has 163 MA's), (17, 32499), (28, 32367), (31, 32316),

Gene: Sorpresa_42 Start: 32674, Stop: 32396, Start Num: 9

Candidate Starts for Sorpresa_42:

(Start: 9 @32674 has 163 MA's), (16, 32626), (Start: 22 @32575 has 1 MA's), (28, 32497), (31, 32446),

Gene: SpikeBT_43 Start: 32904, Stop: 32617, Start Num: 9

Candidate Starts for SpikeBT_43:

(Start: 9 @32904 has 163 MA's), (18, 32817), (Start: 22 @32802 has 1 MA's), (28, 32718), (31, 32667),

Gene: Squee_42 Start: 32648, Stop: 32391, Start Num: 9

Candidate Starts for Squee_42:

(Start: 9 @32648 has 163 MA's), (Start: 22 @32576 has 1 MA's), (28, 32492), (31, 32441),

Gene: StewieG_41 Start: 30093, Stop: 29824, Start Num: 9

Candidate Starts for StewieG_41:

(Start: 9 @30093 has 163 MA's), (Start: 22 @30009 has 1 MA's), (28, 29925), (31, 29874),

Gene: StrongArm_41 Start: 33115, Stop: 32846, Start Num: 9

Candidate Starts for StrongArm_41:

(Start: 9 @33115 has 163 MA's), (Start: 22 @33031 has 1 MA's), (28, 32947), (31, 32896),

Gene: Sumter_40 Start: 32264, Stop: 31995, Start Num: 9

Candidate Starts for Sumter_40:

(Start: 9 @32264 has 163 MA's), (28, 32096), (31, 32045),

Gene: Sunshine924_43 Start: 31944, Stop: 31675, Start Num: 9

Candidate Starts for Sunshine924_43:

(Start: 9 @31944 has 163 MA's), (Start: 22 @31860 has 1 MA's), (28, 31776), (31, 31725),

Gene: SwissCheese_44 Start: 32776, Stop: 32492, Start Num: 9

Candidate Starts for SwissCheese_44:

(Start: 9 @32776 has 163 MA's), (12, 32746), (16, 32728), (24, 32665), (27, 32605), (31, 32542),

Gene: Switzer_42 Start: 31952, Stop: 31680, Start Num: 7

Candidate Starts for Switzer_42:

(Start: 7 @31952 has 21 MA's), (11, 31907), (28, 31781), (31, 31730),

Gene: Swole_43 Start: 31939, Stop: 31652, Start Num: 9

Candidate Starts for Swole_43:

(Start: 9 @31939 has 163 MA's), (28, 31753), (31, 31702),

Gene: Target_43 Start: 31342, Stop: 31049, Start Num: 9

Candidate Starts for Target_43:

(Start: 9 @31342 has 163 MA's), (17, 31282), (28, 31150), (31, 31099),

Gene: Tasp14_43 Start: 32497, Stop: 32210, Start Num: 9

Candidate Starts for Tasp14_43:

(Start: 9 @32497 has 163 MA's), (18, 32410), (Start: 22 @32395 has 1 MA's), (28, 32311), (31, 32260),

Gene: Teodoridan_40 Start: 31572, Stop: 31282, Start Num: 9

Candidate Starts for Teodoridan_40:

(Start: 9 @31572 has 163 MA's), (17, 31512), (27, 31395), (31, 31332),

Gene: TheloniousMonk_43 Start: 33509, Stop: 33222, Start Num: 9

Candidate Starts for TheloniousMonk_43:

(Start: 9 @33509 has 163 MA's), (18, 33422), (Start: 22 @33407 has 1 MA's), (28, 33323), (31, 33272),

Gene: Thor_41 Start: 31596, Stop: 31309, Start Num: 9

Candidate Starts for Thor_41:

(Start: 9 @31596 has 163 MA's), (18, 31512), (20, 31503), (Start: 22 @31494 has 1 MA's), (23, 31482), (28, 31410), (31, 31359),

Gene: Tote_38 Start: 29206, Stop: 28919, Start Num: 9
Candidate Starts for Tote_38:
(Start: 9 @29206 has 163 MA's), (28, 29020), (31, 28969),

Gene: Traft412_43 Start: 33023, Stop: 32742, Start Num: 9
Candidate Starts for Traft412_43:
(Start: 9 @33023 has 163 MA's), (Start: 22 @32921 has 1 MA's), (28, 32843), (31, 32792),

Gene: Treddle_44 Start: 33543, Stop: 33265, Start Num: 9
Candidate Starts for Treddle_44:
(2, 33753), (Start: 9 @33543 has 163 MA's), (28, 33366), (31, 33315),

Gene: Tripl3t_42 Start: 32942, Stop: 32670, Start Num: 7
Candidate Starts for Tripl3t_42:
(Start: 7 @32942 has 21 MA's), (11, 32897), (28, 32771), (31, 32720),

Gene: Trouble_43 Start: 33193, Stop: 32909, Start Num: 9
Candidate Starts for Trouble_43:
(2, 33403), (Start: 9 @33193 has 163 MA's), (18, 33109), (28, 33010), (31, 32959),

Gene: Turj99_40 Start: 31789, Stop: 31526, Start Num: 9
Candidate Starts for Turj99_40:
(3, 31942), (Start: 9 @31789 has 163 MA's), (27, 31639), (31, 31576),

Gene: TwoPeat_42 Start: 32242, Stop: 31970, Start Num: 7
Candidate Starts for TwoPeat_42:
(Start: 7 @32242 has 21 MA's), (11, 32197), (28, 32071), (31, 32020),

Gene: U2_41 Start: 31935, Stop: 31663, Start Num: 7
Candidate Starts for U2_41:
(Start: 7 @31935 has 21 MA's), (11, 31890), (25, 31818), (28, 31764), (31, 31713),

Gene: Violet_40 Start: 32375, Stop: 32088, Start Num: 9
Candidate Starts for Violet_40:
(Start: 9 @32375 has 163 MA's), (Start: 22 @32273 has 1 MA's), (28, 32189), (31, 32138),

Gene: Watermelon_44 Start: 32965, Stop: 32696, Start Num: 9
Candidate Starts for Watermelon_44:
(Start: 9 @32965 has 163 MA's), (Start: 22 @32881 has 1 MA's), (28, 32797), (31, 32746),

Gene: Wheeler_43 Start: 32673, Stop: 32386, Start Num: 9
Candidate Starts for Wheeler_43:
(Start: 9 @32673 has 163 MA's), (Start: 22 @32571 has 1 MA's), (28, 32487), (31, 32436),

Gene: Zephyr_42 Start: 32359, Stop: 32072, Start Num: 9
Candidate Starts for Zephyr_42:
(Start: 9 @32359 has 163 MA's), (Start: 22 @32257 has 1 MA's), (28, 32173), (31, 32122),

Gene: Zeuska_42 Start: 32583, Stop: 32314, Start Num: 9
Candidate Starts for Zeuska_42:

(Start: 9 @32583 has 163 MA's), (Start: 22 @32499 has 1 MA's), (28, 32415), (31, 32364),