Pham 290899

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51: MilleFeuille_35
52: Bxb1_36
53: Target_40
54: Niza_41
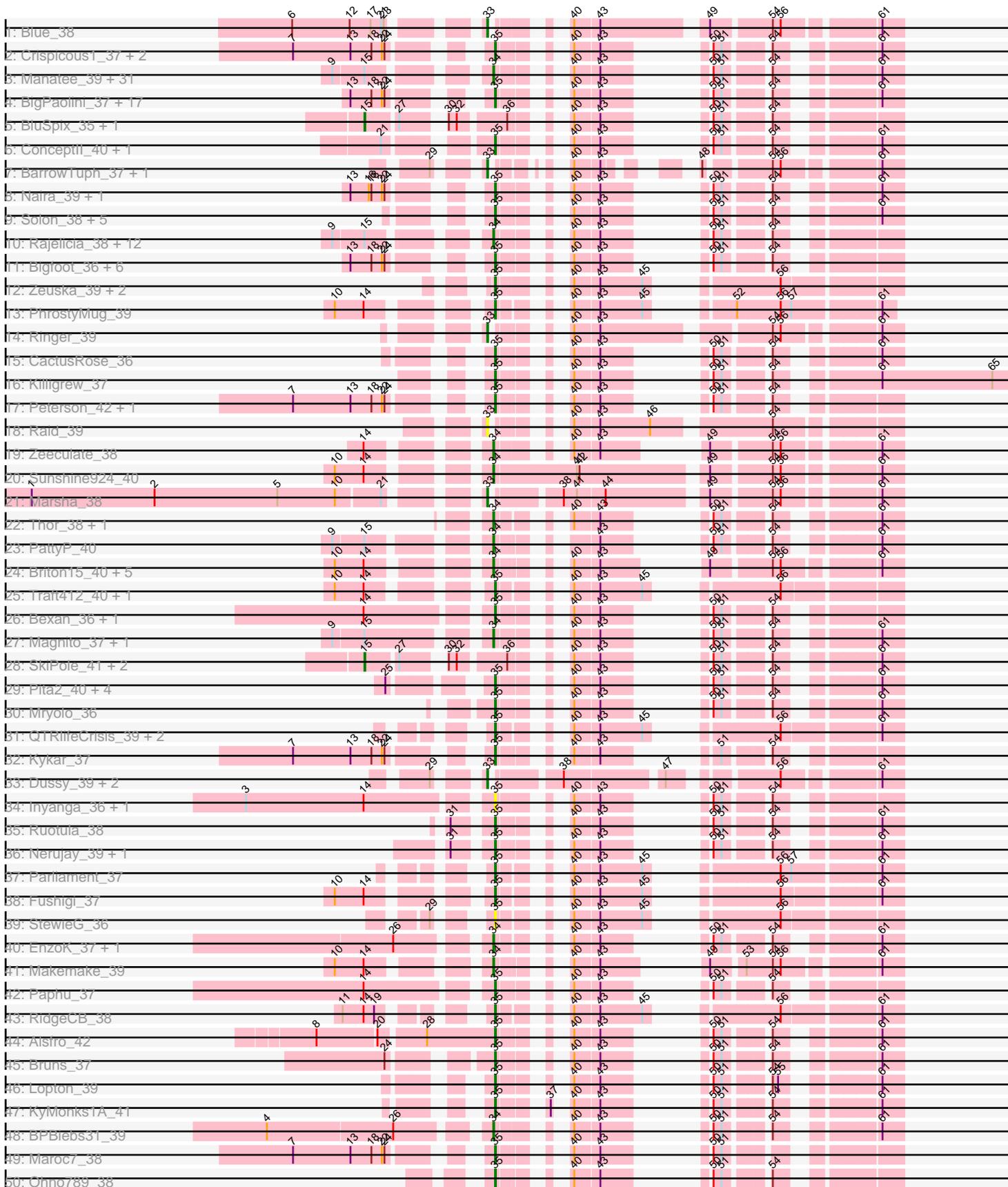55: Pelly_38
56: Big3_38 + 1
57: MrGordo_38
58: Sagefire_40
59: Jorgensen_38

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 290899 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290899 has 162 members, 22 are drafts.

Phages represented in each track:
• Track 1 : Blue_38
• Track 2 : Crispicous1_37, Magnar_38, Wheeler_39
• Track 3 : Manatee_39, DirtDevil_40, Switzer_39, Blesser_38, MPlant7149_38, Pinto_40, Violet_37, Gwendoluna_41, Marge_39, KikiBouba_40, Norz_40, Rufus_40, JuliaChild_40, GroundGoblin_40, CatBus_40, Anglerfish_40, GMonster_37, Ichabod_39, McGuire_39, Dynamix_39, Rhynn_38, Mkhuseli_39, Squee_39, Tripl3t_39, NEHalo_38, Smeagol_40, Noxious_40, Aldrich_40, Tote_35, AFIS_38, Hermia_41, Swole_40
• Track 4 : BigPaolini_37, Eyeball_38, Agaliana_36, A6_35, KBG_39, Froghopper_38, Wilkins_37, PacerPaul_39, LunarLander_39, Graduation_40, ChristmasHams_36, Topgun_37, Phlippers_36, BK1_35, Puppet_38, Francis47_38, Smairt_39, Licorice_40
• Track 5 : BluSpix_35, IgnatiusPatJac_37
• Track 6 : ConceptII_40, Teodoridan_36
• Track 7 : BarrowTuph_37, Marco3_38
• Track 8 : Naira_39, Fenn_39
• Track 9 : Solon_38, DrFeelGood_37, Lamina13_38, Sumter_37, Rubeus_38, Tasp14_39
• Track 10 : Rajelicia_38, Michley_38, Lesedi_37, GrecoEtereo_40, Gachnar_40, Arcanine_38, Buttons_38, Adahisdi_39, TheloniousMonk_40, Oogway_37, HarryOW_38, Slagathor_39, Beatrix_38
• Track 11 : Bigfoot_36, Bircsak_38, Bones_38, Gompeii16_38, Espresso_38, Doom_38, Papez_40
• Track 12 : Zeuska_39, Applejack_35, Abrogate_390
• Track 13 : PhrostyMug_39
• Track 14 : Ringer_39
• Track 15 : CactusRose_36
• Track 16 : Killigrew_37
• Track 17 : Peterson_42, ILeeKay_40
• Track 18 : Raid_39
• Track 19 : Zeeculate_38
• Track 20 : Sunshine924_40
• Track 21 : Marsha_38
• Track 22 : Thor_38, SarFire_38
• Track 23 : PattyP_40
• Track 24 : Briton15_40, PascalRango_39, Paraselene_37, ProMouse_36, Arlo_37, Atkinbua_40

- Track 25 : Traft412_40, Perseus_40
- Track 26 : Bexan_36, StrongArm_37
- Track 27 : Magnito_37, Turj99_37
- Track 28 : SkiPole_41, Gandalf20_39, STLscum_39
- Track 29 : Pita2_40, Sandaddy_38, Sorpresa_38, BaconJack_41, PSullivan_37
- Track 30 : Mryolo_36
- Track 31 : QTRlifeCrisis_39, Dexes_38, CartmannCramer_38
- Track 32 : Kykar_37
- Track 33 : Dussy_39, Abbyshoes_40, Kenmech_41
- Track 34 : Inyanga_36, Iqorha_36
- Track 35 : Ruotula_38
- Track 36 : Nerujay_39, Hope4ever_38
- Track 37 : Parliament_37
- Track 38 : Fushigi_37
- Track 39 : StewieG_36
- Track 40 : EnzoK_37, McSinger_39
- Track 41 : Makemake_39
- Track 42 : Paphu_37
- Track 43 : RidgeCB_38
- Track 44 : Alsfro_42
- Track 45 : Bruns_37
- Track 46 : Lopton_39
- Track 47 : KyMonks1A_41
- Track 48 : BPBiebs31_39
- Track 49 : Maroc7_38
- Track 50 : Ohno789_38
- Track 51 : MilleFeuille_35
- Track 52 : Bxb1_36
- Track 53 : Target_40
- Track 54 : Niza_41
- Track 55 : Pelly_38
- Track 56 : Big3_38, Ajay_39
- Track 57 : MrGordo_38
- Track 58 : Sagefire_40
- Track 59 : Jorgensen_38

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

The start number called the most often in the published annotations is 35, it was called in 70 of the 140 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- A6_35, Abrogate_390, Agaliana_36, Alsfro_42, Applejack_35, BK1_35, BaconJack_41, Bexan_36, BigPaolini_37, Bigfoot_36, Bircsak_38, Bones_38, Bruns_37, CactusRose_36, CartmannCramer_38, ChristmasHams_36, ConceptII_40, Crispicous1_37, Dexes_38, Doom_38, DrFeelGood_37, Espresso_38, Eyeball_38, Fenn_39, Francis47_38, Froghopper_38, Fushigi_37, Gompeii16_38, Graduation_40, Hope4ever_38, ILeeKay_40, Inyanga_36, Iqorha_36, Jorgensen_38, KBG_39, Killigrew_37, KyMonks1A_41, Kykar_37, Lamina13_38, Licorice_40, Lopton_39, LunarLander_39, Magnar_38, Maroc7_38, MilleFeuille_35, Mryolo_36, Naira_39,

Nerujay_39, Niza_41, Ohno789_38, PSullivan_37, PacerPaul_39, Papez_40, Paphu_37, Parliament_37, Pelly_38, Perseus_40, Peterson_42, Phlippers_36, PhrostyMug_39, Pita2_40, Puppet_38, QTRlifeCrisis_39, RidgeCB_38, Rubeus_38, Ruotula_38, Sagefire_40, Sandaddy_38, Smairt_39, Solon_38, Sorpresa_38, StewieG_36, StrongArm_37, Sumter_37, Tasp14_39, Teodoridan_36, Topgun_37, Traft412_40, Wheeler_39, Wilkins_37, Zeuska_39,

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

Genes that do not have the "Most Annotated" start:
• AFIS_38, Abbyshoes_40, Adahisdi_39, Ajay_39, Aldrich_40, Anglerfish_40, Arcanine_38, Arlo_37, Atkinbua_40, BPBiebs31_39, BarrowTuph_37, Beatrix_38, Big3_38, Blesser_38, BluSpix_35, Blue_38, Briton15_40, Buttons_38, Bxb1_36, CatBus_40, DirtDevil_40, Dussy_39, Dynamix_39, EnzoK_37, GMonster_37, Gachnar_40, Gandalf20_39, GrecoEtereo_40, GroundGoblin_40, Gwendoluna_41, HarryOW_38, Hermia_41, Ichabod_39, IgnatiusPatJac_37, JuliaChild_40, Kenmech_41, KikiBouba_40, Lesedi_37, MPlant7149_38, Magnito_37, Makemake_39, Manatee_39, Marco3_38, Marge_39, Marsha_38, McGuire_39, McSinger_39, Michley_38, Mkhuseli_39, MrGordo_38, NEHalo_38, Norz_40, Noxious_40, Oogway_37, Paraselene_37, PascalRango_39, PattyP_40, Pinto_40, ProMouse_36, Raid_39, Rajelicia_38, Rhynn_38, Ringer_39, Rufus_40, STLscum_39, SarFire_38, SkiPole_41, Slagathor_39, Smeagol_40, Squee_39, Sunshine924_40, Switzer_39, Swole_40, Target_40, TheloniousMonk_40, Thor_38, Tote_35, Tripl3t_39, Turj99_37, Violet_37, Zeeculate_38,

Summary by start number:

Start 15:
• Found in 56 of 162 (34.6%) of genes in pham
• Manual Annotations of this start: 5 of 140
• Called 8.9% of time when present
• Phage (with cluster) where this start called: BluSpix_35 (A1), Gandalf20_39 (A1), IgnatiusPatJac_37 (A1), STLscum_39 (A1), SkiPole_41 (A1),

Start 33:
• Found in 9 of 162 (5.6%) of genes in pham
• Manual Annotations of this start: 8 of 140
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Abbyshoes_40 (A1), BarrowTuph_37 (A1), Blue_38 (A1), Dussy_39 (A1), Kenmech_41 (A1), Marco3_38 (A1), Marsha_38 (A1), Raid_39 (A1), Ringer_39 (A1),

Start 34:
• Found in 67 of 162 (41.4%) of genes in pham
• Manual Annotations of this start: 57 of 140
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AFIS_38 (A1), Adahisdi_39 (A1), Ajay_39 (A1), Aldrich_40 (A1), Anglerfish_40 (A1), Arcanine_38 (A1), Arlo_37 (A1), Atkinbua_40 (A1), BPBiebs31_39 (A1), Beatrix_38 (A1), Big3_38 (A1), Blesser_38 (A1), Briton15_40 (A1), Buttons_38 (A1), Bxb1_36 (A1), CatBus_40 (A1), DirtDevil_40 (A1), Dynamix_39 (A1), EnzoK_37 (A1), GMonster_37 (A1), Gachnar_40 (A1), GrecoEtereo_40 (A1), GroundGoblin_40 (A1), Gwendoluna_41 (A1),

HarryOW_38 (A1), Hermia_41 (A1), Ichabod_39 (A1), JuliaChild_40 (A1), KikiBouba_40 (A1), Lesedi_37 (A1), MPlant7149_38 (A1), Magnito_37 (A1), Makemake_39 (A1), Manatee_39 (A1), Marge_39 (A1), McGuire_39 (A1), McSinger_39 (A1), Michley_38 (A1), Mkhuseli_39 (A1), MrGordo_38 (A1), NEHalo_38 (A1), Norz_40 (A1), Noxious_40 (A1), Oogway_37 (A1), Paraselene_37 (A1), PascalRango_39 (A1), PattyP_40 (A1), Pinto_40 (A1), ProMouse_36 (A1), Rajelicia_38 (A1), Rhynn_38 (A1), Rufus_40 (A1), SarFire_38 (A1), Slagathor_39 (A1), Smeagol_40 (A1), Squee_39 (A1), Sunshine924_40 (A1), Switzer_39 (A1), Swole_40 (A1), Target_40 (A1), TheloniousMonk_40 (A1), Thor_38 (A1), Tote_35 (A1), Tripl3t_39 (A1), Turj99_37 (A1), Violet_37 (A1), Zeeculate_38 (A1),

Start 35:
• Found in 81 of 162 (50.0%) of genes in pham
• Manual Annotations of this start: 70 of 140
• Called 100.0% of time when present
• Phage (with cluster) where this start called: A6_35 (A1), Abrogate_390 (A1), Agaliana_36 (A1), Alsfro_42 (A1), Applejack_35 (A1), BK1_35 (A1), BaconJack_41 (A1), Bexan_36 (A1), BigPaolini_37 (A1), Bigfoot_36 (A1), Bircsak_38 (A1), Bones_38 (A1), Bruns_37 (A1), CactusRose_36 (A1), CartmannCramer_38 (A1), ChristmasHams_36 (A1), ConceptII_40 (A1), Crispicous1_37 (A1), Dexes_38 (A1), Doom_38 (A1), DrFeelGood_37 (A1), Espresso_38 (A1), Eyeball_38 (A1), Fenn_39 (A1), Francis47_38 (A1), Froghopper_38 (A1), Fushigi_37 (A1), Gompeii16_38 (A1), Graduation_40 (A1), Hope4ever_38 (A1), ILeeKay_40 (A1), Inyanga_36 (A1), Iqorha_36 (A1), Jorgensen_38 (A1), KBG_39 (A1), Killigrew_37 (A1), KyMonks1A_41 (A1), Kykar_37 (A1), Lamina13_38 (A1), Licorice_40 (A1), Lopton_39 (A1), LunarLander_39 (A1), Magnar_38 (A1), Maroc7_38 (A1), MilleFeuille_35 (A1), Mryolo_36 (A1), Naira_39 (A1), Nerujay_39 (A1), Niza_41 (A1), Ohno789_38 (A1), PSullivan_37 (A1), PacerPaul_39 (A1), Papez_40 (A1), Paphu_37 (A1), Parliament_37 (A1), Pelly_38 (A1), Perseus_40 (A1), Peterson_42 (A1), Phlippers_36 (A1), PhrostyMug_39 (A1), Pita2_40 (A1), Puppet_38 (A1), QTRlifeCrisis_39 (A1), RidgeCB_38 (A1), Rubeus_38 (A1), Ruotula_38 (A1), Sagefire_40 (A1), Sandaddy_38 (A1), Smairt_39 (A1), Solon_38 (A1), Sorpresa_38 (A1), StewieG_36 (A1), StrongArm_37 (A1), Sumter_37 (A1), Tasp14_39 (A1), Teodoridan_36 (A1), Topgun_37 (A1), Traft412_40 (A1), Wheeler_39 (A1), Wilkins_37 (A1), Zeuska_39 (A1),

Summary by clusters:

There is one cluster represented in this pham: A1

Info for manual annotations of cluster A1:
•Start number 15 was manually annotated 5 times for cluster A1.
•Start number 33 was manually annotated 8 times for cluster A1.
•Start number 34 was manually annotated 57 times for cluster A1.
•Start number 35 was manually annotated 70 times for cluster A1.

Gene Information:

Gene: A6_35 Start: 30422, Stop: 30150, Start Num: 35
Candidate Starts for A6_35:

(13, 30536), (18, 30512), (22, 30500), (24, 30497), (Start: 35 @30422 has 70 MA's), (40, 30380), (43, 30353), (50, 30308), (51, 30299), (54, 30260), (61, 30173),

Gene: AFIS_38 Start: 31598, Stop: 31326, Start Num: 34
Candidate Starts for AFIS_38:
(9, 31733), (Start: 15 @31700 has 5 MA's), (Start: 34 @31598 has 57 MA's), (40, 31556), (43, 31529), (50, 31484), (51, 31475), (54, 31436), (61, 31349),

Gene: Abbyshoes_40 Start: 31568, Stop: 31185, Start Num: 33
Candidate Starts for Abbyshoes_40:
(29, 31604), (Start: 33 @31568 has 8 MA's), (38, 31502), (47, 31400), (56, 31301), (61, 31208),

Gene: Abrogate_390 Start: 32285, Stop: 31953, Start Num: 35
Candidate Starts for Abrogate_390:
(Start: 35 @32285 has 70 MA's), (40, 32243), (43, 32216), (45, 32168), (56, 32075),

Gene: Adahisdi_39 Start: 31648, Stop: 31376, Start Num: 34
Candidate Starts for Adahisdi_39:
(9, 31783), (Start: 15 @31750 has 5 MA's), (Start: 34 @31648 has 57 MA's), (40, 31606), (43, 31579), (50, 31534), (51, 31525), (54, 31486),

Gene: Agaliana_36 Start: 28180, Stop: 27908, Start Num: 35
Candidate Starts for Agaliana_36:
(13, 28294), (18, 28270), (22, 28258), (24, 28255), (Start: 35 @28180 has 70 MA's), (40, 28138), (43, 28111), (50, 28066), (51, 28057), (54, 28018), (61, 27931),

Gene: Ajay_39 Start: 31439, Stop: 31167, Start Num: 34
Candidate Starts for Ajay_39:
(9, 31574), (Start: 15 @31541 has 5 MA's), (Start: 34 @31439 has 57 MA's), (43, 31370), (50, 31325), (51, 31316), (54, 31277),

Gene: Aldrich_40 Start: 32611, Stop: 32339, Start Num: 34
Candidate Starts for Aldrich_40:
(9, 32746), (Start: 15 @32713 has 5 MA's), (Start: 34 @32611 has 57 MA's), (40, 32569), (43, 32542), (50, 32497), (51, 32488), (54, 32449), (61, 32362),

Gene: Alsfro_42 Start: 31790, Stop: 31518, Start Num: 35
Candidate Starts for Alsfro_42:
(8, 31982), (20, 31916), (28, 31868), (Start: 35 @31790 has 70 MA's), (40, 31748), (43, 31721), (50, 31676), (51, 31667), (54, 31628), (61, 31541),

Gene: Anglerfish_40 Start: 31701, Stop: 31429, Start Num: 34
Candidate Starts for Anglerfish_40:
(9, 31836), (Start: 15 @31803 has 5 MA's), (Start: 34 @31701 has 57 MA's), (40, 31659), (43, 31632), (50, 31587), (51, 31578), (54, 31539), (61, 31452),

Gene: Applejack_35 Start: 28515, Stop: 28180, Start Num: 35
Candidate Starts for Applejack_35:
(Start: 35 @28515 has 70 MA's), (40, 28470), (43, 28443), (45, 28395), (56, 28302),

Gene: Arcanine_38 Start: 30821, Stop: 30549, Start Num: 34
Candidate Starts for Arcanine_38:

(9, 30956), (Start: 15 @30923 has 5 MA's), (Start: 34 @30821 has 57 MA's), (40, 30779), (43, 30752), (50, 30707), (51, 30698), (54, 30659),

Gene: Arlo_37 Start: 31329, Stop: 31018, Start Num: 34
Candidate Starts for Arlo_37:
(10, 31464), (14, 31431), (Start: 34 @31329 has 57 MA's), (40, 31287), (43, 31260), (49, 31206), (54, 31143), (56, 31134), (61, 31041),

Gene: Atkinbua_40 Start: 31777, Stop: 31466, Start Num: 34
Candidate Starts for Atkinbua_40:
(10, 31912), (14, 31879), (Start: 34 @31777 has 57 MA's), (40, 31735), (43, 31708), (49, 31654), (54, 31591), (56, 31582), (61, 31489),

Gene: BK1_35 Start: 30422, Stop: 30150, Start Num: 35
Candidate Starts for BK1_35:
(13, 30536), (18, 30512), (22, 30500), (24, 30497), (Start: 35 @30422 has 70 MA's), (40, 30380), (43, 30353), (50, 30308), (51, 30299), (54, 30260), (61, 30173),

Gene: BPBiebs31_39 Start: 31743, Stop: 31468, Start Num: 34
Candidate Starts for BPBiebs31_39:
(4, 31971), (26, 31830), (Start: 34 @31743 has 57 MA's), (40, 31698), (43, 31671), (50, 31626), (51, 31617), (54, 31578), (61, 31491),

Gene: BaconJack_41 Start: 31798, Stop: 31526, Start Num: 35
Candidate Starts for BaconJack_41:
(25, 31882), (Start: 35 @31798 has 70 MA's), (40, 31756), (43, 31729), (50, 31684), (51, 31675), (54, 31636), (61, 31549),

Gene: BarrowTuph_37 Start: 31319, Stop: 31008, Start Num: 33
Candidate Starts for BarrowTuph_37:
(29, 31355), (Start: 33 @31319 has 8 MA's), (40, 31277), (43, 31250), (48, 31196), (54, 31133), (56, 31124), (61, 31031),

Gene: Beatrix_38 Start: 32774, Stop: 32502, Start Num: 34
Candidate Starts for Beatrix_38:
(9, 32909), (Start: 15 @32876 has 5 MA's), (Start: 34 @32774 has 57 MA's), (40, 32732), (43, 32705), (50, 32660), (51, 32651), (54, 32612),

Gene: Bexan_36 Start: 32268, Stop: 31996, Start Num: 35
Candidate Starts for Bexan_36:
(14, 32394), (Start: 35 @32268 has 70 MA's), (40, 32226), (43, 32199), (50, 32154), (51, 32145), (54, 32106),

Gene: Big3_38 Start: 31940, Stop: 31668, Start Num: 34
Candidate Starts for Big3_38:
(9, 32075), (Start: 15 @32042 has 5 MA's), (Start: 34 @31940 has 57 MA's), (43, 31871), (50, 31826), (51, 31817), (54, 31778),

Gene: BigPaolini_37 Start: 29684, Stop: 29412, Start Num: 35
Candidate Starts for BigPaolini_37:
(13, 29798), (18, 29774), (22, 29762), (24, 29759), (Start: 35 @29684 has 70 MA's), (40, 29642), (43, 29615), (50, 29570), (51, 29561), (54, 29522), (61, 29435),

Gene: Bigfoot_36 Start: 30710, Stop: 30438, Start Num: 35
Candidate Starts for Bigfoot_36:
(13, 30824), (18, 30800), (22, 30788), (24, 30785), (Start: 35 @30710 has 70 MA's), (40, 30668), (43, 30641), (50, 30596), (51, 30587), (54, 30548),

Gene: Bircsak_38 Start: 31775, Stop: 31503, Start Num: 35
Candidate Starts for Bircsak_38:
(13, 31889), (18, 31865), (22, 31853), (24, 31850), (Start: 35 @31775 has 70 MA's), (40, 31733), (43, 31706), (50, 31661), (51, 31652), (54, 31613),

Gene: Blesser_38 Start: 31835, Stop: 31563, Start Num: 34
Candidate Starts for Blesser_38:
(9, 31970), (Start: 15 @31937 has 5 MA's), (Start: 34 @31835 has 57 MA's), (40, 31793), (43, 31766), (50, 31721), (51, 31712), (54, 31673), (61, 31586),

Gene: BluSpix_35 Start: 27351, Stop: 26965, Start Num: 15
Candidate Starts for BluSpix_35:
(Start: 15 @27351 has 5 MA's), (27, 27318), (30, 27282), (32, 27273), (36, 27225), (40, 27195), (43, 27168), (50, 27123), (51, 27114), (54, 27075),

Gene: Blue_38 Start: 31834, Stop: 31469, Start Num: 33
Candidate Starts for Blue_38:
(6, 32014), (12, 31948), (17, 31924), (21, 31912), (23, 31909), (Start: 33 @31834 has 8 MA's), (40, 31789), (43, 31762), (49, 31657), (54, 31594), (56, 31585), (61, 31492),

Gene: Bones_38 Start: 31179, Stop: 30907, Start Num: 35
Candidate Starts for Bones_38:
(13, 31293), (18, 31269), (22, 31257), (24, 31254), (Start: 35 @31179 has 70 MA's), (40, 31137), (43, 31110), (50, 31065), (51, 31056), (54, 31017),

Gene: Briton15_40 Start: 31612, Stop: 31301, Start Num: 34
Candidate Starts for Briton15_40:
(10, 31747), (14, 31714), (Start: 34 @31612 has 57 MA's), (40, 31570), (43, 31543), (49, 31489), (54, 31426), (56, 31417), (61, 31324),

Gene: Bruns_37 Start: 31253, Stop: 30981, Start Num: 35
Candidate Starts for Bruns_37:
(24, 31340), (Start: 35 @31253 has 70 MA's), (40, 31211), (43, 31184), (50, 31139), (51, 31130), (54, 31091), (61, 31004),

Gene: Buttons_38 Start: 30324, Stop: 30052, Start Num: 34
Candidate Starts for Buttons_38:
(9, 30459), (Start: 15 @30426 has 5 MA's), (Start: 34 @30324 has 57 MA's), (40, 30282), (43, 30255), (50, 30210), (51, 30201), (54, 30162),

Gene: Bxb1_36 Start: 31386, Stop: 31114, Start Num: 34
Candidate Starts for Bxb1_36:
(9, 31521), (Start: 15 @31488 has 5 MA's), (Start: 34 @31386 has 57 MA's), (40, 31344), (43, 31317), (50, 31272), (51, 31263), (54, 31224), (60, 31149), (61, 31137),

Gene: CactusRose_36 Start: 30823, Stop: 30551, Start Num: 35
Candidate Starts for CactusRose_36:

(Start: 35 @30823 has 70 MA's), (40, 30781), (43, 30754), (50, 30709), (51, 30700), (54, 30661), (61, 30574),

Gene: CartmannCramer_38 Start: 33534, Stop: 33202, Start Num: 35
Candidate Starts for CartmannCramer_38:
(Start: 35 @33534 has 70 MA's), (40, 33492), (43, 33465), (45, 33417), (56, 33324), (61, 33225),

Gene: CatBus_40 Start: 32803, Stop: 32531, Start Num: 34
Candidate Starts for CatBus_40:
(9, 32938), (Start: 15 @32905 has 5 MA's), (Start: 34 @32803 has 57 MA's), (40, 32761), (43, 32734), (50, 32689), (51, 32680), (54, 32641), (61, 32554),

Gene: ChristmasHams_36 Start: 28576, Stop: 28304, Start Num: 35
Candidate Starts for ChristmasHams_36:
(13, 28690), (18, 28666), (22, 28654), (24, 28651), (Start: 35 @28576 has 70 MA's), (40, 28534), (43, 28507), (50, 28462), (51, 28453), (54, 28414), (61, 28327),

Gene: ConceptII_40 Start: 32357, Stop: 32085, Start Num: 35
Candidate Starts for ConceptII_40:
(21, 32447), (Start: 35 @32357 has 70 MA's), (40, 32315), (43, 32288), (50, 32243), (51, 32234), (54, 32195), (61, 32108),

Gene: Crispicous1_37 Start: 30836, Stop: 30564, Start Num: 35
Candidate Starts for Crispicous1_37:
(7, 31016), (13, 30950), (18, 30926), (22, 30914), (24, 30911), (Start: 35 @30836 has 70 MA's), (40, 30794), (43, 30767), (50, 30722), (51, 30713), (54, 30674), (61, 30587),

Gene: Dexes_38 Start: 31800, Stop: 31477, Start Num: 35
Candidate Starts for Dexes_38:
(Start: 35 @31800 has 70 MA's), (40, 31758), (43, 31731), (45, 31683), (56, 31590), (61, 31491),

Gene: DirtDevil_40 Start: 32611, Stop: 32339, Start Num: 34
Candidate Starts for DirtDevil_40:
(9, 32746), (Start: 15 @32713 has 5 MA's), (Start: 34 @32611 has 57 MA's), (40, 32569), (43, 32542), (50, 32497), (51, 32488), (54, 32449), (61, 32362),

Gene: Doom_38 Start: 31605, Stop: 31333, Start Num: 35
Candidate Starts for Doom_38:
(13, 31719), (18, 31695), (22, 31683), (24, 31680), (Start: 35 @31605 has 70 MA's), (40, 31563), (43, 31536), (50, 31491), (51, 31482), (54, 31443),

Gene: DrFeelGood_37 Start: 31699, Stop: 31427, Start Num: 35
Candidate Starts for DrFeelGood_37:
(Start: 35 @31699 has 70 MA's), (40, 31657), (43, 31630), (50, 31585), (51, 31576), (54, 31537), (61, 31450),

Gene: Dussy_39 Start: 31588, Stop: 31205, Start Num: 33
Candidate Starts for Dussy_39:
(29, 31624), (Start: 33 @31588 has 8 MA's), (38, 31522), (47, 31420), (56, 31321), (61, 31228),

Gene: Dynamix_39 Start: 31345, Stop: 31073, Start Num: 34
Candidate Starts for Dynamix_39:

(9, 31480), (Start: 15 @31447 has 5 MA's), (Start: 34 @31345 has 57 MA's), (40, 31303), (43, 31276), (50, 31231), (51, 31222), (54, 31183), (61, 31096),

Gene: EnzoK_37 Start: 29448, Stop: 29176, Start Num: 34
Candidate Starts for EnzoK_37:
(26, 29535), (Start: 34 @29448 has 57 MA's), (40, 29406), (43, 29379), (50, 29334), (51, 29325), (54, 29286), (61, 29199),

Gene: Espresso_38 Start: 31529, Stop: 31257, Start Num: 35
Candidate Starts for Espresso_38:
(13, 31643), (18, 31619), (22, 31607), (24, 31604), (Start: 35 @31529 has 70 MA's), (40, 31487), (43, 31460), (50, 31415), (51, 31406), (54, 31367),

Gene: Eyeball_38 Start: 31085, Stop: 30813, Start Num: 35
Candidate Starts for Eyeball_38:
(13, 31199), (18, 31175), (22, 31163), (24, 31160), (Start: 35 @31085 has 70 MA's), (40, 31043), (43, 31016), (50, 30971), (51, 30962), (54, 30923), (61, 30836),

Gene: Fenn_39 Start: 32892, Stop: 32620, Start Num: 35
Candidate Starts for Fenn_39:
(13, 33006), (16, 32985), (18, 32982), (22, 32970), (24, 32967), (Start: 35 @32892 has 70 MA's), (40, 32850), (43, 32823), (50, 32778), (51, 32769), (54, 32730), (61, 32643),

Gene: Francis47_38 Start: 31946, Stop: 31674, Start Num: 35
Candidate Starts for Francis47_38:
(13, 32060), (18, 32036), (22, 32024), (24, 32021), (Start: 35 @31946 has 70 MA's), (40, 31904), (43, 31877), (50, 31832), (51, 31823), (54, 31784), (61, 31697),

Gene: Froghopper_38 Start: 30873, Stop: 30601, Start Num: 35
Candidate Starts for Froghopper_38:
(13, 30987), (18, 30963), (22, 30951), (24, 30948), (Start: 35 @30873 has 70 MA's), (40, 30831), (43, 30804), (50, 30759), (51, 30750), (54, 30711), (61, 30624),

Gene: Fushigi_37 Start: 29564, Stop: 29232, Start Num: 35
Candidate Starts for Fushigi_37:
(10, 29699), (14, 29666), (Start: 35 @29564 has 70 MA's), (40, 29522), (43, 29495), (45, 29447), (56, 29354), (61, 29255),

Gene: GMonster_37 Start: 30681, Stop: 30409, Start Num: 34
Candidate Starts for GMonster_37:
(9, 30816), (Start: 15 @30783 has 5 MA's), (Start: 34 @30681 has 57 MA's), (40, 30639), (43, 30612), (50, 30567), (51, 30558), (54, 30519), (61, 30432),

Gene: Gachnar_40 Start: 31453, Stop: 31181, Start Num: 34
Candidate Starts for Gachnar_40:
(9, 31588), (Start: 15 @31555 has 5 MA's), (Start: 34 @31453 has 57 MA's), (40, 31411), (43, 31384), (50, 31339), (51, 31330), (54, 31291),

Gene: Gandalf20_39 Start: 32248, Stop: 31862, Start Num: 15
Candidate Starts for Gandalf20_39:
(Start: 15 @32248 has 5 MA's), (27, 32215), (30, 32179), (32, 32170), (36, 32122), (40, 32092), (43, 32065), (50, 32020), (51, 32011), (54, 31972), (61, 31885),

Gene: Gompeii16_38 Start: 31776, Stop: 31504, Start Num: 35
Candidate Starts for Gompeii16_38:
(13, 31890), (18, 31866), (22, 31854), (24, 31851), (Start: 35 @31776 has 70 MA's), (40, 31734), (43, 31707), (50, 31662), (51, 31653), (54, 31614),

Gene: Graduation_40 Start: 31999, Stop: 31727, Start Num: 35
Candidate Starts for Graduation_40:
(13, 32113), (18, 32089), (22, 32077), (24, 32074), (Start: 35 @31999 has 70 MA's), (40, 31957), (43, 31930), (50, 31885), (51, 31876), (54, 31837), (61, 31750),

Gene: GrecoEtereo_40 Start: 32075, Stop: 31803, Start Num: 34
Candidate Starts for GrecoEtereo_40:
(9, 32210), (Start: 15 @32177 has 5 MA's), (Start: 34 @32075 has 57 MA's), (40, 32033), (43, 32006), (50, 31961), (51, 31952), (54, 31913),

Gene: GroundGoblin_40 Start: 32753, Stop: 32481, Start Num: 34
Candidate Starts for GroundGoblin_40:
(9, 32888), (Start: 15 @32855 has 5 MA's), (Start: 34 @32753 has 57 MA's), (40, 32711), (43, 32684), (50, 32639), (51, 32630), (54, 32591), (61, 32504),

Gene: Gwendoluna_41 Start: 33532, Stop: 33128, Start Num: 34
Candidate Starts for Gwendoluna_41:
(9, 33667), (Start: 15 @33634 has 5 MA's), (Start: 34 @33532 has 57 MA's), (40, 33490), (43, 33463), (50, 33418), (51, 33409), (54, 33370), (61, 33277),

Gene: HarryOW_38 Start: 31247, Stop: 30975, Start Num: 34
Candidate Starts for HarryOW_38:
(9, 31382), (Start: 15 @31349 has 5 MA's), (Start: 34 @31247 has 57 MA's), (40, 31205), (43, 31178), (50, 31133), (51, 31124), (54, 31085),

Gene: Hermia_41 Start: 32803, Stop: 32531, Start Num: 34
Candidate Starts for Hermia_41:
(9, 32938), (Start: 15 @32905 has 5 MA's), (Start: 34 @32803 has 57 MA's), (40, 32761), (43, 32734), (50, 32689), (51, 32680), (54, 32641), (61, 32554),

Gene: Hope4ever_38 Start: 31682, Stop: 31410, Start Num: 35
Candidate Starts for Hope4ever_38:
(31, 31718), (Start: 35 @31682 has 70 MA's), (40, 31640), (43, 31613), (50, 31568), (51, 31559), (54, 31520), (61, 31433),

Gene: ILeeKay_40 Start: 31449, Stop: 31177, Start Num: 35
Candidate Starts for ILeeKay_40:
(7, 31629), (13, 31563), (18, 31539), (22, 31527), (24, 31524), (Start: 35 @31449 has 70 MA's), (40, 31407), (43, 31380), (50, 31335), (51, 31326), (54, 31287),

Gene: Ichabod_39 Start: 31486, Stop: 31214, Start Num: 34
Candidate Starts for Ichabod_39:
(9, 31621), (Start: 15 @31588 has 5 MA's), (Start: 34 @31486 has 57 MA's), (40, 31444), (43, 31417), (50, 31372), (51, 31363), (54, 31324), (61, 31237),

Gene: IgnatiusPatJac_37 Start: 31296, Stop: 30910, Start Num: 15
Candidate Starts for IgnatiusPatJac_37:

(Start: 15 @31296 has 5 MA's), (27, 31263), (30, 31227), (32, 31218), (36, 31170), (40, 31140), (43, 31113), (50, 31068), (51, 31059), (54, 31020),

Gene: Inyanga_36 Start: 30633, Stop: 30358, Start Num: 35
Candidate Starts for Inyanga_36:
(3, 30894), (14, 30759), (Start: 35 @30633 has 70 MA's), (40, 30588), (43, 30561), (50, 30516), (51, 30507), (54, 30468),

Gene: Iqorha_36 Start: 30632, Stop: 30357, Start Num: 35
Candidate Starts for Iqorha_36:
(3, 30893), (14, 30758), (Start: 35 @30632 has 70 MA's), (40, 30587), (43, 30560), (50, 30515), (51, 30506), (54, 30467),

Gene: Jorgensen_38 Start: 31181, Stop: 30909, Start Num: 35
Candidate Starts for Jorgensen_38:
(Start: 35 @31181 has 70 MA's), (40, 31139), (43, 31112), (50, 31067), (51, 31058), (54, 31019),

Gene: JuliaChild_40 Start: 31921, Stop: 31649, Start Num: 34
Candidate Starts for JuliaChild_40:
(9, 32056), (Start: 15 @32023 has 5 MA's), (Start: 34 @31921 has 57 MA's), (40, 31879), (43, 31852), (50, 31807), (51, 31798), (54, 31759), (61, 31672),

Gene: KBG_39 Start: 32392, Stop: 32120, Start Num: 35
Candidate Starts for KBG_39:
(13, 32506), (18, 32482), (22, 32470), (24, 32467), (Start: 35 @32392 has 70 MA's), (40, 32350), (43, 32323), (50, 32278), (51, 32269), (54, 32230), (61, 32143),

Gene: Kenmech_41 Start: 32714, Stop: 32331, Start Num: 33
Candidate Starts for Kenmech_41:
(29, 32750), (Start: 33 @32714 has 8 MA's), (38, 32648), (47, 32546), (56, 32447), (61, 32354),

Gene: KikiBouba_40 Start: 32612, Stop: 32340, Start Num: 34
Candidate Starts for KikiBouba_40:
(9, 32747), (Start: 15 @32714 has 5 MA's), (Start: 34 @32612 has 57 MA's), (40, 32570), (43, 32543), (50, 32498), (51, 32489), (54, 32450), (61, 32363),

Gene: Killigrew_37 Start: 31321, Stop: 30923, Start Num: 35
Candidate Starts for Killigrew_37:
(Start: 35 @31321 has 70 MA's), (40, 31279), (43, 31252), (50, 31207), (51, 31198), (54, 31159), (61, 31066), (65, 30940),

Gene: KyMonks1A_41 Start: 31846, Stop: 31574, Start Num: 35
Candidate Starts for KyMonks1A_41:
(Start: 35 @31846 has 70 MA's), (37, 31810), (40, 31804), (43, 31777), (50, 31732), (51, 31723), (54, 31684), (61, 31597),

Gene: Kykar_37 Start: 30822, Stop: 30550, Start Num: 35
Candidate Starts for Kykar_37:
(7, 31002), (13, 30936), (18, 30912), (22, 30900), (24, 30897), (Start: 35 @30822 has 70 MA's), (40, 30780), (43, 30753), (51, 30699), (54, 30660),

Gene: Lamina13_38 Start: 30935, Stop: 30663, Start Num: 35
Candidate Starts for Lamina13_38:

(Start: 35 @30935 has 70 MA's), (40, 30893), (43, 30866), (50, 30821), (51, 30812), (54, 30773), (61, 30686),

Gene: Lesedi_37 Start: 31210, Stop: 30938, Start Num: 34
Candidate Starts for Lesedi_37:
(9, 31345), (Start: 15 @31312 has 5 MA's), (Start: 34 @31210 has 57 MA's), (40, 31168), (43, 31141), (50, 31096), (51, 31087), (54, 31048),

Gene: Licorice_40 Start: 32280, Stop: 32008, Start Num: 35
Candidate Starts for Licorice_40:
(13, 32394), (18, 32370), (22, 32358), (24, 32355), (Start: 35 @32280 has 70 MA's), (40, 32238), (43, 32211), (50, 32166), (51, 32157), (54, 32118), (61, 32031),

Gene: Lopton_39 Start: 32717, Stop: 32445, Start Num: 35
Candidate Starts for Lopton_39:
(Start: 35 @32717 has 70 MA's), (40, 32675), (43, 32648), (50, 32603), (51, 32594), (54, 32555), (55, 32549), (61, 32468),

Gene: LunarLander_39 Start: 31403, Stop: 31131, Start Num: 35
Candidate Starts for LunarLander_39:
(13, 31517), (18, 31493), (22, 31481), (24, 31478), (Start: 35 @31403 has 70 MA's), (40, 31361), (43, 31334), (50, 31289), (51, 31280), (54, 31241), (61, 31154),

Gene: MPlant7149_38 Start: 30995, Stop: 30723, Start Num: 34
Candidate Starts for MPlant7149_38:
(9, 31130), (Start: 15 @31097 has 5 MA's), (Start: 34 @30995 has 57 MA's), (40, 30953), (43, 30926), (50, 30881), (51, 30872), (54, 30833), (61, 30746),

Gene: Magnar_38 Start: 31184, Stop: 30912, Start Num: 35
Candidate Starts for Magnar_38:
(7, 31364), (13, 31298), (18, 31274), (22, 31262), (24, 31259), (Start: 35 @31184 has 70 MA's), (40, 31142), (43, 31115), (50, 31070), (51, 31061), (54, 31022), (61, 30935),

Gene: Magnito_37 Start: 30988, Stop: 30716, Start Num: 34
Candidate Starts for Magnito_37:
(9, 31135), (Start: 15 @31102 has 5 MA's), (Start: 34 @30988 has 57 MA's), (40, 30946), (43, 30919), (50, 30874), (51, 30865), (54, 30826), (61, 30739),

Gene: Makemake_39 Start: 32642, Stop: 32331, Start Num: 34
Candidate Starts for Makemake_39:
(10, 32777), (14, 32744), (Start: 34 @32642 has 57 MA's), (40, 32600), (43, 32573), (49, 32519), (53, 32486), (54, 32456), (56, 32447), (61, 32354),

Gene: Manatee_39 Start: 31021, Stop: 30749, Start Num: 34
Candidate Starts for Manatee_39:
(9, 31156), (Start: 15 @31123 has 5 MA's), (Start: 34 @31021 has 57 MA's), (40, 30979), (43, 30952), (50, 30907), (51, 30898), (54, 30859), (61, 30772),

Gene: Marco3_38 Start: 31609, Stop: 31298, Start Num: 33
Candidate Starts for Marco3_38:
(29, 31645), (Start: 33 @31609 has 8 MA's), (40, 31567), (43, 31540), (48, 31486), (54, 31423), (56, 31414), (61, 31321),

Gene: Marge_39 Start: 32073, Stop: 31798, Start Num: 34
Candidate Starts for Marge_39:
(9, 32208), (Start: 15 @32175 has 5 MA's), (Start: 34 @32073 has 57 MA's), (40, 32028), (43, 32001), (50, 31956), (51, 31947), (54, 31908), (61, 31821),

Gene: Maroc7_38 Start: 31169, Stop: 30897, Start Num: 35
Candidate Starts for Maroc7_38:
(7, 31349), (13, 31283), (18, 31259), (22, 31247), (24, 31244), (Start: 35 @31169 has 70 MA's), (40, 31127), (43, 31100), (50, 31055), (51, 31046),

Gene: Marsha_38 Start: 32325, Stop: 31924, Start Num: 33
Candidate Starts for Marsha_38:
(1, 32799), (2, 32658), (5, 32517), (10, 32451), (21, 32403), (Start: 33 @32325 has 8 MA's), (38, 32259), (41, 32244), (44, 32214), (49, 32112), (54, 32049), (56, 32040), (61, 31947),

Gene: McGuire_39 Start: 31317, Stop: 31045, Start Num: 34
Candidate Starts for McGuire_39:
(9, 31452), (Start: 15 @31419 has 5 MA's), (Start: 34 @31317 has 57 MA's), (40, 31275), (43, 31248), (50, 31203), (51, 31194), (54, 31155), (61, 31068),

Gene: McSinger_39 Start: 31876, Stop: 31604, Start Num: 34
Candidate Starts for McSinger_39:
(26, 31963), (Start: 34 @31876 has 57 MA's), (40, 31834), (43, 31807), (50, 31762), (51, 31753), (54, 31714), (61, 31627),

Gene: Michley_38 Start: 31162, Stop: 30890, Start Num: 34
Candidate Starts for Michley_38:
(9, 31297), (Start: 15 @31264 has 5 MA's), (Start: 34 @31162 has 57 MA's), (40, 31120), (43, 31093), (50, 31048), (51, 31039), (54, 31000),

Gene: MilleFeuille_35 Start: 31338, Stop: 31066, Start Num: 35
Candidate Starts for MilleFeuille_35:
(8, 31488), (20, 31422), (28, 31374), (Start: 35 @31338 has 70 MA's), (40, 31296), (43, 31269), (50, 31224), (51, 31215), (54, 31176),

Gene: Mkhuseli_39 Start: 31361, Stop: 31089, Start Num: 34
Candidate Starts for Mkhuseli_39:
(9, 31496), (Start: 15 @31463 has 5 MA's), (Start: 34 @31361 has 57 MA's), (40, 31319), (43, 31292), (50, 31247), (51, 31238), (54, 31199), (61, 31112),

Gene: MrGordo_38 Start: 31025, Stop: 30753, Start Num: 34
Candidate Starts for MrGordo_38:
(Start: 34 @31025 has 57 MA's), (43, 30956), (50, 30911), (51, 30902), (54, 30863),

Gene: Mryolo_36 Start: 31035, Stop: 30763, Start Num: 35
Candidate Starts for Mryolo_36:
(Start: 35 @31035 has 70 MA's), (40, 30993), (43, 30966), (50, 30921), (51, 30912), (54, 30873), (61, 30786),

Gene: NEHalo_38 Start: 31254, Stop: 30982, Start Num: 34
Candidate Starts for NEHalo_38:
(9, 31389), (Start: 15 @31356 has 5 MA's), (Start: 34 @31254 has 57 MA's), (40, 31212), (43, 31185), (50, 31140), (51, 31131), (54, 31092), (61, 31005),

Gene: Naira_39 Start: 32939, Stop: 32667, Start Num: 35
Candidate Starts for Naira_39:
(13, 33053), (16, 33032), (18, 33029), (22, 33017), (24, 33014), (Start: 35 @32939 has 70 MA's), (40, 32897), (43, 32870), (50, 32825), (51, 32816), (54, 32777), (61, 32690),

Gene: Nerujay_39 Start: 31923, Stop: 31651, Start Num: 35
Candidate Starts for Nerujay_39:
(31, 31959), (Start: 35 @31923 has 70 MA's), (40, 31881), (43, 31854), (50, 31809), (51, 31800), (54, 31761), (61, 31674),

Gene: Niza_41 Start: 32712, Stop: 32281, Start Num: 35
Candidate Starts for Niza_41:
(10, 32859), (14, 32826), (Start: 35 @32712 has 70 MA's), (40, 32673), (43, 32646), (45, 32598), (56, 32505), (58, 32439), (59, 32430), (62, 32391), (63, 32385), (64, 32304),

Gene: Norz_40 Start: 32172, Stop: 31900, Start Num: 34
Candidate Starts for Norz_40:
(9, 32307), (Start: 15 @32274 has 5 MA's), (Start: 34 @32172 has 57 MA's), (40, 32130), (43, 32103), (50, 32058), (51, 32049), (54, 32010), (61, 31923),

Gene: Noxious_40 Start: 32803, Stop: 32531, Start Num: 34
Candidate Starts for Noxious_40:
(9, 32938), (Start: 15 @32905 has 5 MA's), (Start: 34 @32803 has 57 MA's), (40, 32761), (43, 32734), (50, 32689), (51, 32680), (54, 32641), (61, 32554),

Gene: Ohno789_38 Start: 31317, Stop: 31045, Start Num: 35
Candidate Starts for Ohno789_38:
(Start: 35 @31317 has 70 MA's), (40, 31275), (43, 31248), (50, 31203), (51, 31194), (54, 31155),

Gene: Oogway_37 Start: 30855, Stop: 30583, Start Num: 34
Candidate Starts for Oogway_37:
(9, 30990), (Start: 15 @30957 has 5 MA's), (Start: 34 @30855 has 57 MA's), (40, 30813), (43, 30786), (50, 30741), (51, 30732), (54, 30693),

Gene: PSullivan_37 Start: 30492, Stop: 30220, Start Num: 35
Candidate Starts for PSullivan_37:
(25, 30576), (Start: 35 @30492 has 70 MA's), (40, 30450), (43, 30423), (50, 30378), (51, 30369), (54, 30330), (61, 30243),

Gene: PacerPaul_39 Start: 31313, Stop: 31041, Start Num: 35
Candidate Starts for PacerPaul_39:
(13, 31427), (18, 31403), (22, 31391), (24, 31388), (Start: 35 @31313 has 70 MA's), (40, 31271), (43, 31244), (50, 31199), (51, 31190), (54, 31151), (61, 31064),

Gene: Papez_40 Start: 33003, Stop: 32731, Start Num: 35
Candidate Starts for Papez_40:
(13, 33117), (18, 33093), (22, 33081), (24, 33078), (Start: 35 @33003 has 70 MA's), (40, 32961), (43, 32934), (50, 32889), (51, 32880), (54, 32841),

Gene: Paphu_37 Start: 31244, Stop: 30972, Start Num: 35
Candidate Starts for Paphu_37:

(14, 31370), (Start: 35 @31244 has 70 MA's), (40, 31202), (43, 31175), (50, 31130), (51, 31121), (54, 31082),

Gene: Paraselene_37 Start: 31722, Stop: 31354, Start Num: 34
Candidate Starts for Paraselene_37:
(10, 31857), (14, 31824), (Start: 34 @31722 has 57 MA's), (40, 31677), (43, 31650), (49, 31542), (54, 31479), (56, 31470), (61, 31377),

Gene: Parliament_37 Start: 31469, Stop: 31134, Start Num: 35
Candidate Starts for Parliament_37:
(Start: 35 @31469 has 70 MA's), (40, 31427), (43, 31400), (45, 31352), (56, 31259), (57, 31247), (61, 31157),

Gene: PascalRango_39 Start: 31395, Stop: 31084, Start Num: 34
Candidate Starts for PascalRango_39:
(10, 31530), (14, 31497), (Start: 34 @31395 has 57 MA's), (40, 31353), (43, 31326), (49, 31272), (54, 31209), (56, 31200), (61, 31107),

Gene: PattyP_40 Start: 31585, Stop: 31313, Start Num: 34
Candidate Starts for PattyP_40:
(9, 31720), (Start: 15 @31687 has 5 MA's), (Start: 34 @31585 has 57 MA's), (43, 31516), (50, 31471), (51, 31462), (54, 31423), (61, 31336),

Gene: Pelly_38 Start: 31718, Stop: 31284, Start Num: 35
Candidate Starts for Pelly_38:
(Start: 35 @31718 has 70 MA's), (40, 31676), (43, 31649), (45, 31601), (56, 31508), (58, 31442), (59, 31433), (62, 31394), (63, 31388), (64, 31307),

Gene: Perseus_40 Start: 32401, Stop: 32072, Start Num: 35
Candidate Starts for Perseus_40:
(10, 32536), (14, 32503), (Start: 35 @32401 has 70 MA's), (40, 32362), (43, 32335), (45, 32287), (56, 32194),

Gene: Peterson_42 Start: 33587, Stop: 33315, Start Num: 35
Candidate Starts for Peterson_42:
(7, 33767), (13, 33701), (18, 33677), (22, 33665), (24, 33662), (Start: 35 @33587 has 70 MA's), (40, 33545), (43, 33518), (50, 33473), (51, 33464), (54, 33425),

Gene: Phlippers_36 Start: 31867, Stop: 31595, Start Num: 35
Candidate Starts for Phlippers_36:
(13, 31981), (18, 31957), (22, 31945), (24, 31942), (Start: 35 @31867 has 70 MA's), (40, 31825), (43, 31798), (50, 31753), (51, 31744), (54, 31705), (61, 31618),

Gene: PhrostyMug_39 Start: 31697, Stop: 31371, Start Num: 35
Candidate Starts for PhrostyMug_39:
(10, 31832), (14, 31799), (Start: 35 @31697 has 70 MA's), (40, 31655), (43, 31628), (45, 31580), (52, 31535), (56, 31487), (57, 31475), (61, 31385),

Gene: Pinto_40 Start: 31529, Stop: 31257, Start Num: 34
Candidate Starts for Pinto_40:
(9, 31664), (Start: 15 @31631 has 5 MA's), (Start: 34 @31529 has 57 MA's), (40, 31487), (43, 31460), (50, 31415), (51, 31406), (54, 31367), (61, 31280),

Gene: Pita2_40 Start: 31989, Stop: 31717, Start Num: 35
Candidate Starts for Pita2_40:
(25, 32073), (Start: 35 @31989 has 70 MA's), (40, 31947), (43, 31920), (50, 31875), (51, 31866), (54, 31827), (61, 31740),

Gene: ProMouse_36 Start: 31549, Stop: 31166, Start Num: 34
Candidate Starts for ProMouse_36:
(10, 31684), (14, 31651), (Start: 34 @31549 has 57 MA's), (40, 31507), (43, 31480), (49, 31354), (54, 31291), (56, 31282), (61, 31189),

Gene: Puppet_38 Start: 31352, Stop: 31080, Start Num: 35
Candidate Starts for Puppet_38:
(13, 31466), (18, 31442), (22, 31430), (24, 31427), (Start: 35 @31352 has 70 MA's), (40, 31310), (43, 31283), (50, 31238), (51, 31229), (54, 31190), (61, 31103),

Gene: QTRlifeCrisis_39 Start: 32125, Stop: 31793, Start Num: 35
Candidate Starts for QTRlifeCrisis_39:
(Start: 35 @32125 has 70 MA's), (40, 32083), (43, 32056), (45, 32008), (56, 31915), (61, 31816),

Gene: Raid_39 Start: 31585, Stop: 31214, Start Num: 33
Candidate Starts for Raid_39:
(Start: 33 @31585 has 8 MA's), (40, 31543), (43, 31516), (46, 31459), (54, 31339),

Gene: Rajelicia_38 Start: 31483, Stop: 31211, Start Num: 34
Candidate Starts for Rajelicia_38:
(9, 31618), (Start: 15 @31585 has 5 MA's), (Start: 34 @31483 has 57 MA's), (40, 31441), (43, 31414), (50, 31369), (51, 31360), (54, 31321),

Gene: Rhynn_38 Start: 31498, Stop: 31226, Start Num: 34
Candidate Starts for Rhynn_38:
(9, 31633), (Start: 15 @31600 has 5 MA's), (Start: 34 @31498 has 57 MA's), (40, 31456), (43, 31429), (50, 31384), (51, 31375), (54, 31336), (61, 31249),

Gene: RidgeCB_38 Start: 31144, Stop: 30812, Start Num: 35
Candidate Starts for RidgeCB_38:
(11, 31258), (14, 31234), (19, 31222), (Start: 35 @31144 has 70 MA's), (40, 31102), (43, 31075), (45, 31027), (56, 30934), (61, 30835),

Gene: Ringer_39 Start: 31985, Stop: 31623, Start Num: 33
Candidate Starts for Ringer_39:
(Start: 33 @31985 has 8 MA's), (40, 31943), (43, 31916), (54, 31748), (56, 31739), (61, 31646),

Gene: Rubeus_38 Start: 29616, Stop: 29344, Start Num: 35
Candidate Starts for Rubeus_38:
(Start: 35 @29616 has 70 MA's), (40, 29574), (43, 29547), (50, 29502), (51, 29493), (54, 29454), (61, 29367),

Gene: Rufus_40 Start: 31854, Stop: 31582, Start Num: 34
Candidate Starts for Rufus_40:
(9, 31989), (Start: 15 @31956 has 5 MA's), (Start: 34 @31854 has 57 MA's), (40, 31812), (43, 31785), (50, 31740), (51, 31731), (54, 31692), (61, 31605),

Gene: Ruotula_38 Start: 32043, Stop: 31771, Start Num: 35

Candidate Starts for Ruotula_38:
(31, 32079), (Start: 35 @32043 has 70 MA's), (40, 32001), (43, 31974), (50, 31929), (51, 31920), (54, 31881), (61, 31794),

Gene: STLscum_39 Start: 32385, Stop: 31999, Start Num: 15
Candidate Starts for STLscum_39:
(Start: 15 @32385 has 5 MA's), (27, 32352), (30, 32316), (32, 32307), (36, 32259), (40, 32229), (43, 32202), (50, 32157), (51, 32148), (54, 32109), (61, 32022),

Gene: Sagefire_40 Start: 32355, Stop: 32020, Start Num: 35
Candidate Starts for Sagefire_40:
(Start: 35 @32355 has 70 MA's), (40, 32313), (43, 32286), (45, 32238), (52, 32193), (56, 32145), (61, 32043),

Gene: Sandaddy_38 Start: 31382, Stop: 31110, Start Num: 35
Candidate Starts for Sandaddy_38:
(25, 31466), (Start: 35 @31382 has 70 MA's), (40, 31340), (43, 31313), (50, 31268), (51, 31259), (54, 31220), (61, 31133),

Gene: SarFire_38 Start: 31557, Stop: 31285, Start Num: 34
Candidate Starts for SarFire_38:
(Start: 34 @31557 has 57 MA's), (40, 31515), (43, 31488), (50, 31443), (51, 31434), (54, 31395), (61, 31308),

Gene: SkiPole_41 Start: 31904, Stop: 31518, Start Num: 15
Candidate Starts for SkiPole_41:
(Start: 15 @31904 has 5 MA's), (27, 31871), (30, 31835), (32, 31826), (36, 31778), (40, 31748), (43, 31721), (50, 31676), (51, 31667), (54, 31628), (61, 31541),

Gene: Slagathor_39 Start: 31408, Stop: 31136, Start Num: 34
Candidate Starts for Slagathor_39:
(9, 31543), (Start: 15 @31510 has 5 MA's), (Start: 34 @31408 has 57 MA's), (40, 31366), (43, 31339), (50, 31294), (51, 31285), (54, 31246),

Gene: Smairt_39 Start: 31500, Stop: 31228, Start Num: 35
Candidate Starts for Smairt_39:
(13, 31614), (18, 31590), (22, 31578), (24, 31575), (Start: 35 @31500 has 70 MA's), (40, 31458), (43, 31431), (50, 31386), (51, 31377), (54, 31338), (61, 31251),

Gene: Smeagol_40 Start: 32730, Stop: 32458, Start Num: 34
Candidate Starts for Smeagol_40:
(9, 32865), (Start: 15 @32832 has 5 MA's), (Start: 34 @32730 has 57 MA's), (40, 32688), (43, 32661), (50, 32616), (51, 32607), (54, 32568), (61, 32481),

Gene: Solon_38 Start: 31615, Stop: 31343, Start Num: 35
Candidate Starts for Solon_38:
(Start: 35 @31615 has 70 MA's), (40, 31573), (43, 31546), (50, 31501), (51, 31492), (54, 31453), (61, 31366),

Gene: Sorpresa_38 Start: 31384, Stop: 31112, Start Num: 35
Candidate Starts for Sorpresa_38:
(25, 31468), (Start: 35 @31384 has 70 MA's), (40, 31342), (43, 31315), (50, 31270), (51, 31261), (54, 31222), (61, 31135),

Gene: Squee_39 Start: 32135, Stop: 31863, Start Num: 34
Candidate Starts for Squee_39:
(9, 32270), (Start: 15 @32237 has 5 MA's), (Start: 34 @32135 has 57 MA's), (40, 32093), (43, 32066), (50, 32021), (51, 32012), (54, 31973), (61, 31886),

Gene: StewieG_36 Start: 29129, Stop: 28797, Start Num: 35
Candidate Starts for StewieG_36:
(29, 29165), (Start: 35 @29129 has 70 MA's), (40, 29087), (43, 29060), (45, 29012), (56, 28919),

Gene: StrongArm_37 Start: 32396, Stop: 32124, Start Num: 35
Candidate Starts for StrongArm_37:
(14, 32522), (Start: 35 @32396 has 70 MA's), (40, 32354), (43, 32327), (50, 32282), (51, 32273), (54, 32234),

Gene: Sumter_37 Start: 31344, Stop: 31072, Start Num: 35
Candidate Starts for Sumter_37:
(Start: 35 @31344 has 70 MA's), (40, 31302), (43, 31275), (50, 31230), (51, 31221), (54, 31182), (61, 31095),

Gene: Sunshine924_40 Start: 31419, Stop: 31006, Start Num: 34
Candidate Starts for Sunshine924_40:
(10, 31554), (14, 31521), (Start: 34 @31419 has 57 MA's), (41, 31329), (42, 31326), (49, 31194), (54, 31131), (56, 31122), (61, 31029),

Gene: Switzer_39 Start: 31424, Stop: 31152, Start Num: 34
Candidate Starts for Switzer_39:
(9, 31559), (Start: 15 @31526 has 5 MA's), (Start: 34 @31424 has 57 MA's), (40, 31382), (43, 31355), (50, 31310), (51, 31301), (54, 31262), (61, 31175),

Gene: Swole_40 Start: 31396, Stop: 31124, Start Num: 34
Candidate Starts for Swole_40:
(9, 31531), (Start: 15 @31498 has 5 MA's), (Start: 34 @31396 has 57 MA's), (40, 31354), (43, 31327), (50, 31282), (51, 31273), (54, 31234), (61, 31147),

Gene: Target_40 Start: 30793, Stop: 30395, Start Num: 34
Candidate Starts for Target_40:
(10, 30928), (14, 30895), (Start: 34 @30793 has 57 MA's), (37, 30742), (39, 30721), (54, 30520), (56, 30511),

Gene: Tasp14_39 Start: 31559, Stop: 31287, Start Num: 35
Candidate Starts for Tasp14_39:
(Start: 35 @31559 has 70 MA's), (40, 31517), (43, 31490), (50, 31445), (51, 31436), (54, 31397), (61, 31310),

Gene: Teodoridan_36 Start: 30785, Stop: 30513, Start Num: 35
Candidate Starts for Teodoridan_36:
(21, 30875), (Start: 35 @30785 has 70 MA's), (40, 30743), (43, 30716), (50, 30671), (51, 30662), (54, 30623), (61, 30536),

Gene: TheloniousMonk_40 Start: 32966, Stop: 32694, Start Num: 34
Candidate Starts for TheloniousMonk_40:

(9, 33101), (Start: 15 @33068 has 5 MA's), (Start: 34 @32966 has 57 MA's), (40, 32924), (43, 32897), (50, 32852), (51, 32843), (54, 32804),

Gene: Thor_38 Start: 30915, Stop: 30643, Start Num: 34
Candidate Starts for Thor_38:
(Start: 34 @30915 has 57 MA's), (40, 30873), (43, 30846), (50, 30801), (51, 30792), (54, 30753), (61, 30666),

Gene: Topgun_37 Start: 30806, Stop: 30534, Start Num: 35
Candidate Starts for Topgun_37:
(13, 30920), (18, 30896), (22, 30884), (24, 30881), (Start: 35 @30806 has 70 MA's), (40, 30764), (43, 30737), (50, 30692), (51, 30683), (54, 30644), (61, 30557),

Gene: Tote_35 Start: 28663, Stop: 28391, Start Num: 34
Candidate Starts for Tote_35:
(9, 28798), (Start: 15 @28765 has 5 MA's), (Start: 34 @28663 has 57 MA's), (40, 28621), (43, 28594), (50, 28549), (51, 28540), (54, 28501), (61, 28414),

Gene: Traft412_40 Start: 32486, Stop: 32154, Start Num: 35
Candidate Starts for Traft412_40:
(10, 32621), (14, 32588), (Start: 35 @32486 has 70 MA's), (40, 32444), (43, 32417), (45, 32369), (56, 32276),

Gene: Tripl3t_39 Start: 32414, Stop: 32145, Start Num: 34
Candidate Starts for Tripl3t_39:
(9, 32549), (Start: 15 @32516 has 5 MA's), (Start: 34 @32414 has 57 MA's), (40, 32369), (43, 32342), (50, 32297), (51, 32288), (54, 32249), (61, 32162),

Gene: Turj99_37 Start: 31258, Stop: 30986, Start Num: 34
Candidate Starts for Turj99_37:
(9, 31405), (Start: 15 @31372 has 5 MA's), (Start: 34 @31258 has 57 MA's), (40, 31216), (43, 31189), (50, 31144), (51, 31135), (54, 31096), (61, 31009),

Gene: Violet_37 Start: 31832, Stop: 31560, Start Num: 34
Candidate Starts for Violet_37:
(9, 31967), (Start: 15 @31934 has 5 MA's), (Start: 34 @31832 has 57 MA's), (40, 31790), (43, 31763), (50, 31718), (51, 31709), (54, 31670), (61, 31583),

Gene: Wheeler_39 Start: 31744, Stop: 31472, Start Num: 35
Candidate Starts for Wheeler_39:
(7, 31924), (13, 31858), (18, 31834), (22, 31822), (24, 31819), (Start: 35 @31744 has 70 MA's), (40, 31702), (43, 31675), (50, 31630), (51, 31621), (54, 31582), (61, 31495),

Gene: Wilkins_37 Start: 30739, Stop: 30467, Start Num: 35
Candidate Starts for Wilkins_37:
(13, 30853), (18, 30829), (22, 30817), (24, 30814), (Start: 35 @30739 has 70 MA's), (40, 30697), (43, 30670), (50, 30625), (51, 30616), (54, 30577), (61, 30490),

Gene: Zeeculate_38 Start: 32108, Stop: 31794, Start Num: 34
Candidate Starts for Zeeculate_38:
(14, 32210), (Start: 34 @32108 has 57 MA's), (40, 32063), (43, 32036), (49, 31982), (54, 31919), (56, 31910), (61, 31817),

Gene: Zeuska_39 Start: 32058, Stop: 31723, Start Num: 35
Candidate Starts for Zeuska_39:
(Start: 35 @32058 has 70 MA's), (40, 32013), (43, 31986), (45, 31938), (56, 31845),