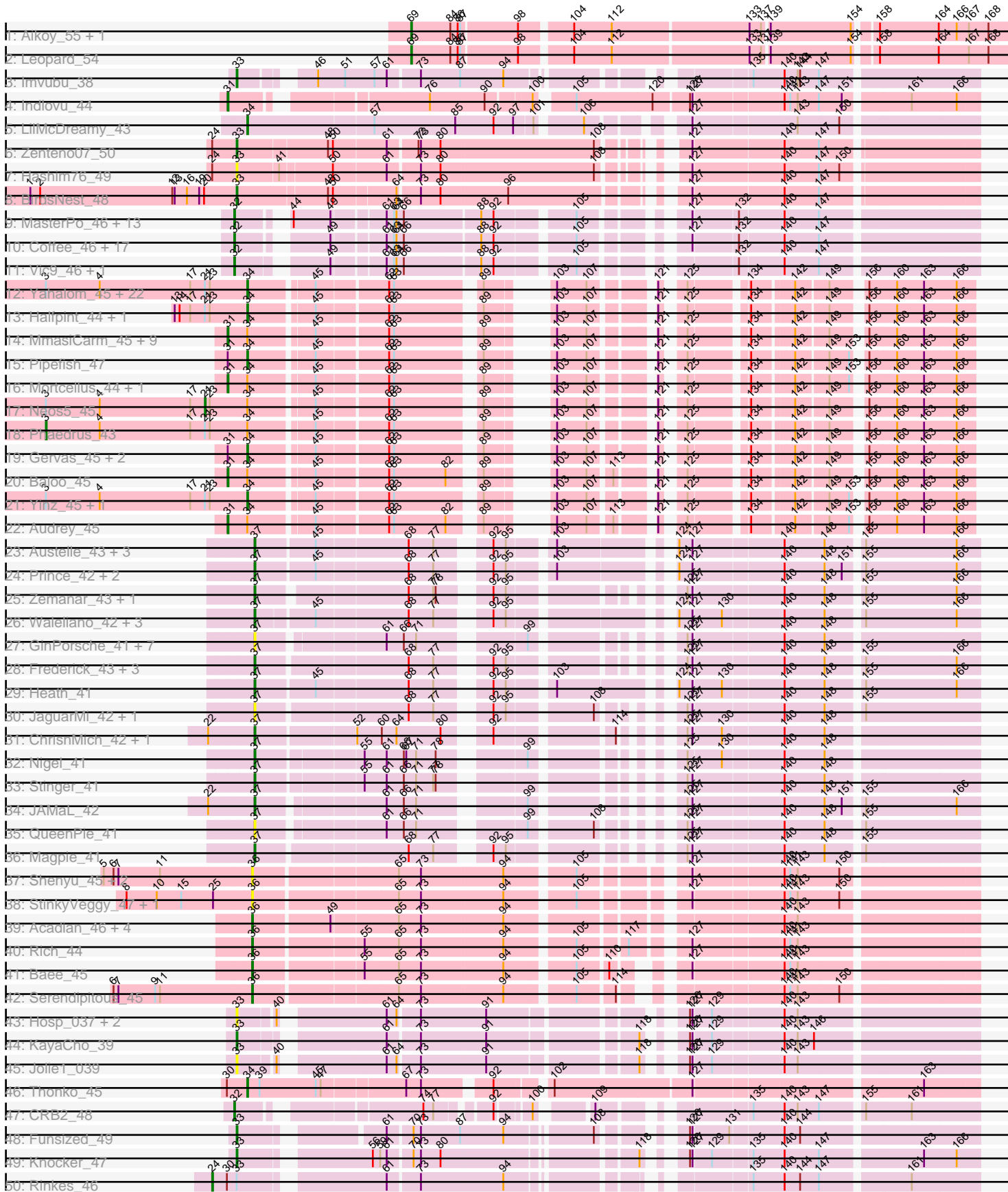
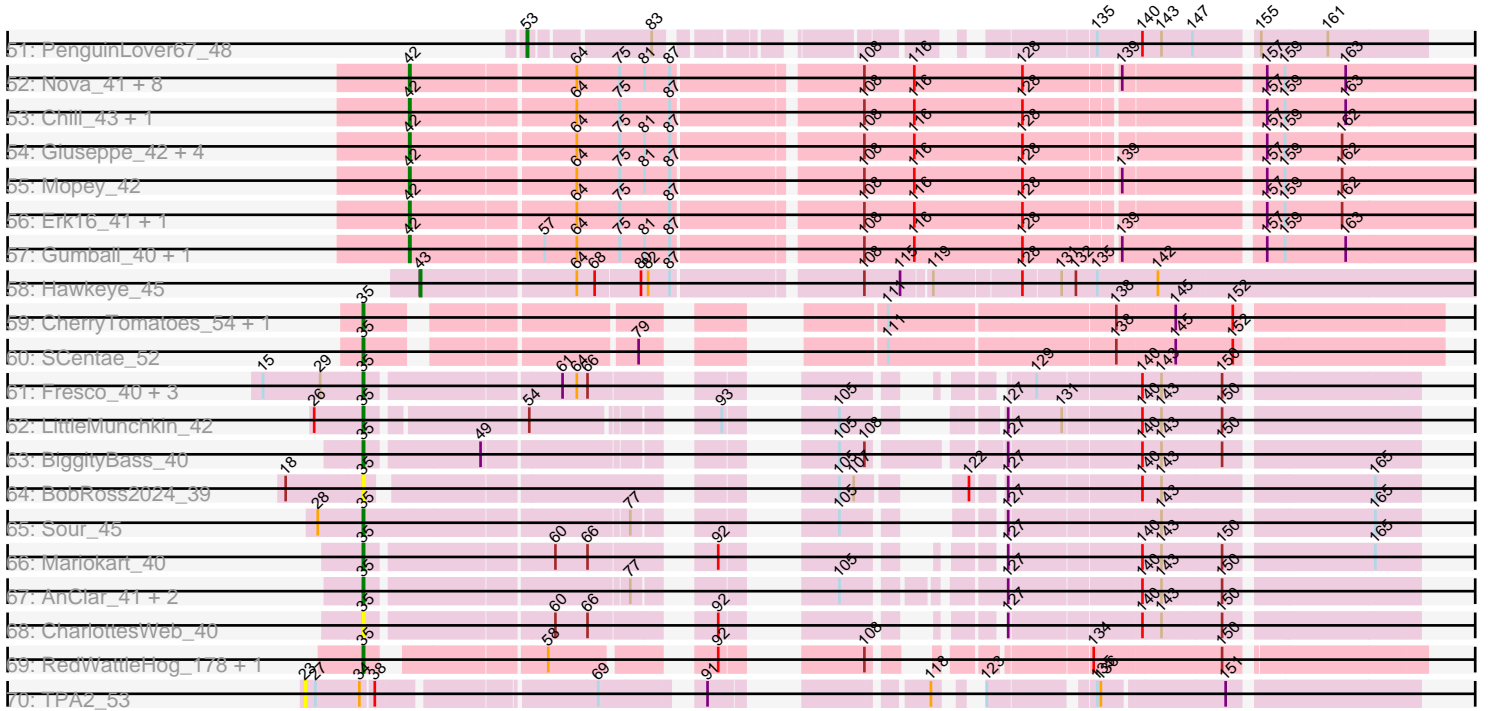


Pham 193757



Pham 193757



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 193757 Report

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

Pham number 193757 has 190 members, 32 are drafts.

Phages represented in each track:

- Track 1 : Aikoy_55, Onyinye_55
- Track 2 : Leopard_54
- Track 3 : Imvubu_38
- Track 4 : Indlovu_44
- Track 5 : LilMcDreamy_43
- Track 6 : Zenteno07_50
- Track 7 : Hashim76_49
- Track 8 : BirdsNest_48
- Track 9 : MasterPo_46, Calamitous_46, Lars_46, Allegro_46, Faze9_45, Kaleb_46, TA17A_46, Kheth_46, Blocker23_46, Holeinone_46, Phantasmagoria_46, Rhinoforte_46, Godines_46, Arbitrator_45
- Track 10 : Coffee_46, Lephleur_46, ItsyBitsy1_46, FrenchFry_46, Bananafish_46, Hedgerow_46, LizLemon_46, West99_46, Tres_46, Brownie5_46, Sabella_45, Ares_46, Tinciduntolum_47, Boyle_46, Eaglehorse_46, Rosebush_45, Opia_46, Glass_46
- Track 11 : Vic9_46, Laurie_45
- Track 12 : Yahalom_45, Nozo_45, Chandler_45, Briakila_46, Gadget_46, Daisy_45, Deenasa_45, GlenHope_46, OrangeOswald_45, Athena_46, Jackstina_42, HarveySr_45, Philly_44, RomaT_45, Phlyer_45, Compostia_46, Corofin_45, Akoma_45, ChaChing_45, Heathcliff_45, SynergyX_45, Tydolla_45, RagingRooster_45
- Track 13 : Halfpint_44, Kamiyu_45
- Track 14 : MmasiCarm_45, Phayeta_46, Abinghost_45, Devonte_45, Casbah_44, Rita1961_45, Obutu_45, LestyG_45, Ben11_44, SlippinJimmy_45
- Track 15 : Pipefish_47
- Track 16 : Mortcellus_44, Bernardo_46
- Track 17 : Neos5_45
- Track 18 : Phaedruss_43
- Track 19 : Gervas_45, Marley1013_45, Morty007_45
- Track 20 : Baloo_45
- Track 21 : YinZ_45, Kronus_44
- Track 22 : Audrey_45
- Track 23 : Austelle_43, Mudslide_42, Fortunato_43, RawrgerThat_43
- Track 24 : Prince_42, VioletZ_44, Apex_43
- Track 25 : Zemanar_43, Lolalove_43
- Track 26 : Waleliano_42, BrownCNA_44, Hangman_42, Hydro_42

- Track 27 : GinPorsche_41, Ahwei_41, Poster_41, Hally898_41, Lambano_41, Antihero_41, Nanao_41, Epah_41
- Track 28 : Frederick_43, Mithril_42, Fanaw_41, BobbyK_43
- Track 29 : Heath_41
- Track 30 : JaguarMi_42, Xincheng_41
- Track 31 : ChrisnMich_42, Cooper_43
- Track 32 : Nigel_41
- Track 33 : Stinger_41
- Track 34 : JAMaL_42
- Track 35 : QueenPie_41
- Track 36 : Magpie_41
- Track 37 : Shenyu_45, DigitDog_45, Nangang_45
- Track 38 : StinkyVeggy_47, KarasumaRum_47
- Track 39 : Acadian_46, EastView9101_44, Suigeneris_46, Donny_46, SirJeffery_46
- Track 40 : Rich_44
- Track 41 : Bae_45
- Track 42 : Serendipitous_45
- Track 43 : Hosp_037, 40BC_039, 39HC_039
- Track 44 : KayaCho_39
- Track 45 : Jolie1_039
- Track 46 : Thonko_45
- Track 47 : CRB2_48
- Track 48 : Funsized_49
- Track 49 : Knocker_47
- Track 50 : Rinkes_46
- Track 51 : PenguinLover67_48
- Track 52 : Nova_41, Butterscotch_41, PBI1_41, Prager_42, Adjutor_42, KandZ_42, BigMama_40, Penelope2018_42, Thoth_42
- Track 53 : Chill_43, WaldoWhy_43
- Track 54 : Giuseppe_42, Troll4_42, Helpful_43, Visconti_42, Delton_42
- Track 55 : Mopey_42
- Track 56 : Erk16_41, PLOT_42
- Track 57 : Gumball_40, SirHarley_41
- Track 58 : Hawkeye_45
- Track 59 : CherryTomatoes_54, Pupper_52
- Track 60 : SCentae_52
- Track 61 : Fresco_40, Axumite_40, Shatter_40, Ligma_40
- Track 62 : LittleMunchkin_42
- Track 63 : BiggityBass_40
- Track 64 : BobRoss2024_39
- Track 65 : Sour_45
- Track 66 : Mariokart_40
- Track 67 : AnClar_41, Sisko_40, Yago84_40
- Track 68 : CharlottesWeb_40
- Track 69 : RedWattleHog_178, Stormageddon_179
- Track 70 : TPA2_53

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

The start number called the most often in the published annotations is 34, it was called in 33 of the 158 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Akoma_45, Athena_46, Briakila_46, ChaChing_45, Chandler_45, Compostia_46, Corofin_45, Daisy_45, Deenasa_45, Gadget_46, Gervas_45, GlenHope_46, Halfpint_44, HarveySr_45, Heathcliff_45, Jackstina_42, Kamiyu_45, Kronus_44, LilMcDreamy_43, Marley1013_45, Morty007_45, Nozo_45, OrangeOswald_45, Philly_44, Phlyer_45, Pipefish_47, RagingRooster_45, RomaT_45, SynergyX_45, Thonko_45, Tydolla_45, Yahalom_45, Yinz_45,

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

- Abinghost_45, Audrey_45, Baloo_45, Ben11_44, Bernardo_46, Casbah_44, Devonte_45, LestyG_45, MmasiCarm_45, Mortcellus_44, Neos5_45, Obutu_45, Phaedrus_43, Phayeta_46, Rita1961_45, SlippinJimmy_45, TPA2_53,

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

- 39HC_039, 40BC_039, Acadian_46, Adjutor_42, Ahwei_41, Aikoy_55, Allegro_46, AnClar_41, Antihero_41, Apex_43, Arbiter_45, Ares_46, Austelle_43, Axumite_40, Bae_45, Bananafish_46, BigMama_40, BiggityBass_40, BirdsNest_48, Blocker23_46, BobRoss2024_39, BobbyK_43, Boyle_46, BrownCNA_44, Brownie5_46, Butterscotch_41, CRB2_48, Calamitous_46, CharlottesWeb_40, CherryTomatoes_54, Chill_43, ChrisnMich_42, Coffee_46, Cooper_43, Delton_42, DigitDog_45, Donny_46, Eaglehorse_46, EastView9101_44, Epah_41, Erk16_41, Fanaw_41, Faze9_45, Fortunato_43, Frederick_43, FrenchFry_46, Fresco_40, Funsized_49, GinPorsche_41, Giuseppe_42, Glass_46, Godines_46, Gumball_40, Hally898_41, Hangman_42, Hashim76_49, Hawkeye_45, Heath_41, Hedgerow_46, Helpful_43, Holeinone_46, Hosp_037, Hydro_42, Imvubu_38, Indlovu_44, ItsyBitsy1_46, JAMaL_42, JaguarMi_42, Jolie1_039, Kaleb_46, KandZ_42, KarasumaRum_47, KayaCho_39, Kheth_46, Knocker_47, Lambano_41, Lars_46, Laurie_45, Leopard_54, Lephleur_46, Ligma_40, LittleMunchkin_42, LizLemon_46, Lolalove_43, Magpie_41, Mariokart_40, MasterPo_46, Mithril_42, Mopey_42, Mudslide_42, Nanao_41, Nangang_45, Nigel_41, Nova_41, Onyinye_55, Opia_46, PBI1_41, PLOT_42, Penelope2018_42, PenguinLover67_48, Phantasmagoria_46, Poster_41, Prager_42, Prince_42, Pupper_52, QueenPie_41, RawrgerThat_43, RedWattleHog_178, Rhinoforte_46, Rich_44, Rinkes_46, Rosebush_45, SCentae_52, Sabella_45, Serendipitous_45, Shatter_40, Shenyu_45, SirHarley_41, SirJeffery_46, Sisko_40, Sour_45, Stinger_41, StinkyVeggy_47, Stormageddon_179, Suigeneris_46, TA17A_46, Thoth_42, Tinciduntolum_47, Tres_46, Troll4_42, Vic9_46, VioletZ_44, Visconti_42, WaldoWhy_43, Waleliano_42, West99_46, Xincheng_41, Yago84_40, Zemanar_43, Zenteno07_50,

Summary by start number:

Start 3:

- Found in 27 of 190 (14.2%) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 3.7% of time when present
- Phage (with cluster) where this start called: Phaedrus_43 (B3),

Start 21:

- Found in 29 of 190 (15.3%) of genes in pham
- Manual Annotations of this start: 1 of 158

- Called 3.4% of time when present
- Phage (with cluster) where this start called: Neos5_45 (B3),

Start 23:

- Found in 30 of 190 (15.8%) of genes in pham
- No Manual Annotations of this start.
- Called 3.3% of time when present
- Phage (with cluster) where this start called: TPA2_53 (singleton),

Start 24:

- Found in 3 of 190 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Rinkes_46 (B9),

Start 31:

- Found in 19 of 190 (10.0%) of genes in pham
- Manual Annotations of this start: 13 of 158
- Called 78.9% of time when present
- Phage (with cluster) where this start called: Abinghost_45 (B3), Audrey_45 (B3), Baloo_45 (B3), Ben11_44 (B3), Bernardo_46 (B3), Casbah_44 (B3), Devonte_45 (B3), Indlovu_44 (B11), LestyG_45 (B3), MmasiCarm_45 (B3), Mortcellus_44 (B3), Obutu_45 (B3), Phayeta_46 (B3), Rita1961_45 (B3), SlippinJimmy_45 (B3),

Start 32:

- Found in 35 of 190 (18.4%) of genes in pham
- Manual Annotations of this start: 32 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Allegro_46 (B2), Arbitrator_45 (B2), Ares_46 (B2), Bananafish_46 (B2), Blocker23_46 (B2), Boyle_46 (B2), Brownie5_46 (B2), CRB2_48 (B9), Calamitous_46 (B2), Coffee_46 (B2), Eaglehorse_46 (B2), Faze9_45 (B2), FrenchFry_46 (B2), Glass_46 (B2), Godines_46 (B2), Hedgerow_46 (B2), Holeinone_46 (B2), ItsyBitsy1_46 (B2), Kaleb_46 (B2), Kheth_46 (B2), Lars_46 (B2), Laurie_45 (B2), Lephleur_46 (B2), LizLemon_46 (B2), MasterPo_46 (B2), Opia_46 (B2), Phantasmagoria_46 (B2), Rhinoforte_46 (B2), Rosebush_45 (B2), Sabella_45 (B2), TA17A_46 (B2), Tinciduntolum_47 (B2), Tres_46 (B2), Vic9_46 (B2), West99_46 (B2),

Start 33:

- Found in 12 of 190 (6.3%) of genes in pham
- Manual Annotations of this start: 6 of 158
- Called 91.7% of time when present
- Phage (with cluster) where this start called: 39HC_039 (B6), 40BC_039 (B6), BirdsNest_48 (B13), Funsized_49 (B9), Hashim76_49 (B13), Hosp_037 (B6), Imvubu_38 (B10), Jolie1_039 (B6), KayaCho_39 (B6), Knocker_47 (B9), Zenteno07_50 (B13),

Start 34:

- Found in 50 of 190 (26.3%) of genes in pham
- Manual Annotations of this start: 33 of 158
- Called 66.0% of time when present
- Phage (with cluster) where this start called: Akoma_45 (B3), Athena_46 (B3), Briakila_46 (B3), ChaChing_45 (B3), Chandler_45 (B3), Compostia_46 (B3),

Corofin_45 (B3), Daisy_45 (B3), Deenasa_45 (B3), Gadget_46 (B3), Gervas_45 (B3), GlenHope_46 (B3), Halfpint_44 (B3), HarveySr_45 (B3), Heathcliff_45 (B3), Jackstina_42 (B3), Kamiyu_45 (B3), Kronus_44 (B3), LilMcDreamy_43 (B12), Marley1013_45 (B3), Morty007_45 (B3), Nozo_45 (B3), OrangeOswald_45 (B3), Philly_44 (B3), Phlyer_45 (B3), Pipefish_47 (B3), RagingRooster_45 (B3), RomaT_45 (B3), SynergyX_45 (B3), Thonko_45 (B8), Tydolla_45 (B3), Yahalom_45 (B3), Yinz_45 (B3),

Start 35:

- Found in 18 of 190 (9.5%) of genes in pham
- Manual Annotations of this start: 16 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnClar_41 (DR), Axumite_40 (DR), BiggityBass_40 (DR), BobRoss2024_39 (DR), CharlottesWeb_40 (DR), CherryTomatoes_54 (DO), Fresco_40 (DR), Ligma_40 (DR), LittleMunchkin_42 (DR), Mariokart_40 (DR), Pupper_52 (DO), RedWattleHog_178 (DX), SCentae_52 (DO), Shatter_40 (DR), Sisko_40 (DR), Sour_45 (DR), Stormageddon_179 (DX), Yago84_40 (DR),

Start 36:

- Found in 13 of 190 (6.8%) of genes in pham
- Manual Annotations of this start: 7 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acadian_46 (B5), Bae_45 (B5), DigitDog_45 (B5), Donny_46 (B5), EastView9101_44 (B5), KarasumaRum_47 (B5), Nangang_45 (B5), Rich_44 (B5), Serendipitous_45 (B5), Shenyu_45 (B5), SirJeffery_46 (B5), StinkyVeggy_47 (B5), Suigeneris_46 (B5),

Start 37:

- Found in 35 of 190 (18.4%) of genes in pham
- Manual Annotations of this start: 23 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ahwei_41 (B4), Antihero_41 (B4), Apex_43 (B4), Austelle_43 (B4), BobbyK_43 (B4), BrownCNA_44 (B4), ChrisnMich_42 (B4), Cooper_43 (B4), Epah_41 (B4), Fanaw_41 (B4), Fortunato_43 (B4), Frederick_43 (B4), GinPorsche_41 (B4), Hally898_41 (B4), Hangman_42 (B4), Heath_41 (B4), Hydro_42 (B4), JAMaL_42 (B4), JaguarMi_42 (B4), Lambano_41 (B4), Lolalove_43 (B4), Magpie_41 (B4), Mithril_42 (B4), Mudslide_42 (B4), Nanao_41 (B4), Nigel_41 (B4), Poster_41 (B4), Prince_42 (B4), QueenPie_41 (B4), RawrgerThat_43 (B4), Stinger_41 (B4), VioletZ_44 (B4), Waleliano_42 (B4), Xincheng_41 (B4), Zemanar_43 (B4),

Start 42:

- Found in 21 of 190 (11.1%) of genes in pham
- Manual Annotations of this start: 20 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adjutor_42 (D1), BigMama_40 (D1), Butterscotch_41 (D1), Chill_43 (D1), Delton_42 (D1), Erk16_41 (D1), Giuseppe_42 (D1), Gumball_40 (D1), Helpful_43 (D1), KandZ_42 (D1), Mopey_42 (D1), Nova_41 (D1), PBI1_41 (D1), PLOT_42 (D1), Penelope2018_42 (D1), Prager_42 (D1), SirHarley_41 (D1), Thoth_42 (D1), Troll4_42 (D1), Visconti_42 (D1), WaldoWhy_43 (D1),

Start 43:

- Found in 1 of 190 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hawkeye_45 (D2),

Start 53:

- Found in 1 of 190 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 158
- Called 100.0% of time when present
- Phage (with cluster) where this start called: PenguinLover67_48 (B9),

Start 69:

- Found in 4 of 190 (2.1%) of genes in pham
- Manual Annotations of this start: 3 of 158
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Aikoy_55 (AE), Leopard_54 (AE), Onyinye_55 (AE),

Summary by clusters:

There are 18 clusters represented in this pham: DO, singleton, AE, DX, B10, D2, B11, B4, B5, B6, B12, B13, B2, B3, DR, B9, B8, D1,

Info for manual annotations of cluster AE:

- Start number 69 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster B10:

- Start number 33 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B11:

- Start number 31 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:

- Start number 34 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B13:

- Start number 33 was manually annotated 2 times for cluster B13.

Info for manual annotations of cluster B2:

- Start number 32 was manually annotated 31 times for cluster B2.

Info for manual annotations of cluster B3:

- Start number 3 was manually annotated 1 time for cluster B3.
- Start number 21 was manually annotated 1 time for cluster B3.
- Start number 31 was manually annotated 12 times for cluster B3.
- Start number 34 was manually annotated 31 times for cluster B3.

Info for manual annotations of cluster B4:

- Start number 37 was manually annotated 23 times for cluster B4.

Info for manual annotations of cluster B5:

- Start number 36 was manually annotated 7 times for cluster B5.

Info for manual annotations of cluster B6:

- Start number 33 was manually annotated 1 time for cluster B6.

Info for manual annotations of cluster B8:

- Start number 34 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:

- Start number 24 was manually annotated 1 time for cluster B9.
- Start number 32 was manually annotated 1 time for cluster B9.
- Start number 33 was manually annotated 2 times for cluster B9.
- Start number 53 was manually annotated 1 time for cluster B9.

Info for manual annotations of cluster D1:

- Start number 42 was manually annotated 20 times for cluster D1.

Info for manual annotations of cluster D2:

- Start number 43 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DO:

- Start number 35 was manually annotated 3 times for cluster DO.

Info for manual annotations of cluster DR:

- Start number 35 was manually annotated 11 times for cluster DR.

Info for manual annotations of cluster DX:

- Start number 35 was manually annotated 2 times for cluster DX.

Gene Information:

Gene: 39HC_039 Start: 38257, Stop: 37487, Start Num: 33

Candidate Starts for 39HC_039:

(Start: 33 @38257 has 6 MA's), (40, 38218), (61, 38110), (64, 38098), (73, 38074), (91, 37996), (126, 37810), (127, 37807), (129, 37786), (140, 37705), (143, 37690),

Gene: 40BC_039 Start: 38257, Stop: 37487, Start Num: 33

Candidate Starts for 40BC_039:

(Start: 33 @38257 has 6 MA's), (40, 38218), (61, 38110), (64, 38098), (73, 38074), (91, 37996), (126, 37810), (127, 37807), (129, 37786), (140, 37705), (143, 37690),

Gene: Abinghost_45 Start: 40228, Stop: 39506, Start Num: 31

Candidate Starts for Abinghost_45:

(Start: 31 @40228 has 13 MA's), (Start: 34 @40204 has 33 MA's), (45, 40132), (62, 40051), (63, 40045), (89, 39955), (103, 39916), (107, 39880), (121, 39823), (125, 39805), (134, 39745), (142, 39700), (149, 39664), (156, 39631), (160, 39598), (163, 39565), (166, 39526),

Gene: Acadian_46 Start: 40902, Stop: 40117, Start Num: 36

Candidate Starts for Acadian_46:

(Start: 36 @40902 has 7 MA's), (49, 40815), (65, 40740), (73, 40713), (94, 40614), (140, 40335), (143, 40320),

Gene: Adjutor_42 Start: 35432, Stop: 34551, Start Num: 42

Candidate Starts for Adjutor_42:

(Start: 42 @35432 has 20 MA's), (64, 35300), (75, 35264), (81, 35243), (87, 35222), (108, 35078), (116, 35036), (128, 34946), (139, 34874), (157, 34766), (159, 34751), (163, 34700),

Gene: Ahwei_41 Start: 39395, Stop: 38667, Start Num: 37

Candidate Starts for Ahwei_41:

(Start: 37 @39395 has 23 MA's), (61, 39254), (66, 39233), (71, 39218), (99, 39113), (125, 38993), (127, 38987), (140, 38885), (148, 38840),

Gene: Aikoy_55 Start: 40551, Stop: 41255, Start Num: 69

Candidate Starts for Aikoy_55:

(Start: 69 @40551 has 3 MA's), (84, 40599), (86, 40608), (87, 40611), (98, 40677), (104, 40734), (112, 40779), (133, 40938), (137, 40950), (139, 40956), (154, 41052), (158, 41073), (164, 41145), (166, 41166), (167, 41181), (168, 41205),

Gene: Akoma_45 Start: 40208, Stop: 39510, Start Num: 34

Candidate Starts for Akoma_45:

(Start: 3 @40454 has 1 MA's), (4, 40388), (17, 40277), (Start: 21 @40259 has 1 MA's), (23, 40253), (Start: 34 @40208 has 33 MA's), (45, 40136), (62, 40055), (63, 40049), (89, 39959), (103, 39920), (107, 39884), (121, 39827), (125, 39809), (134, 39749), (142, 39704), (149, 39668), (156, 39635), (160, 39602), (163, 39569), (166, 39530),

Gene: Allegro_46 Start: 40703, Stop: 39927, Start Num: 32

Candidate Starts for Allegro_46:

(Start: 32 @40703 has 32 MA's), (44, 40649), (49, 40604), (61, 40547), (63, 40538), (64, 40535), (66, 40526), (88, 40439), (92, 40424), (105, 40340), (127, 40247), (132, 40196), (140, 40145), (147, 40106),

Gene: AnClar_41 Start: 36812, Stop: 36102, Start Num: 35

Candidate Starts for AnClar_41:

(Start: 35 @36812 has 16 MA's), (77, 36614), (105, 36521), (127, 36416), (140, 36314), (143, 36299), (150, 36251),

Gene: Antihero_41 Start: 39395, Stop: 38667, Start Num: 37

Candidate Starts for Antihero_41:

(Start: 37 @39395 has 23 MA's), (61, 39254), (66, 39233), (71, 39218), (99, 39113), (125, 38993), (127, 38987), (140, 38885), (148, 38840),

Gene: Apex_43 Start: 40637, Stop: 39879, Start Num: 37

Candidate Starts for Apex_43:

(Start: 37 @40637 has 23 MA's), (45, 40568), (68, 40460), (77, 40430), (92, 40382), (95, 40370), (103, 40325), (124, 40214), (127, 40199), (140, 40097), (148, 40052), (151, 40031), (155, 40013), (166, 39905),

Gene: Arbiter_45 Start: 40777, Stop: 40013, Start Num: 32

Candidate Starts for Arbiter_45:

(Start: 32 @40777 has 32 MA's), (44, 40735), (49, 40690), (61, 40633), (63, 40624), (64, 40621), (66, 40612), (88, 40525), (92, 40510), (105, 40426), (127, 40333), (132, 40282), (140, 40231), (147, 40192),

Gene: Ares_46 Start: 40761, Stop: 39997, Start Num: 32

Candidate Starts for Ares_46:

(Start: 32 @40761 has 32 MA's), (49, 40674), (61, 40617), (63, 40608), (64, 40605), (66, 40596), (88, 40509), (92, 40494), (105, 40410), (127, 40317), (132, 40266), (140, 40215), (147, 40176),

Gene: Athena_46 Start: 40955, Stop: 40257, Start Num: 34

Candidate Starts for Athena_46:

(Start: 3 @41201 has 1 MA's), (4, 41135), (17, 41024), (Start: 21 @41006 has 1 MA's), (23, 41000), (Start: 34 @40955 has 33 MA's), (45, 40883), (62, 40802), (63, 40796), (89, 40706), (103, 40667), (107, 40631), (121, 40574), (125, 40556), (134, 40496), (142, 40451), (149, 40415), (156, 40382), (160, 40349), (163, 40316), (166, 40277),

Gene: Audrey_45 Start: 40228, Stop: 39506, Start Num: 31

Candidate Starts for Audrey_45:

(Start: 31 @40228 has 13 MA's), (Start: 34 @40204 has 33 MA's), (45, 40132), (62, 40051), (63, 40045), (82, 39982), (89, 39955), (103, 39916), (107, 39880), (113, 39856), (121, 39823), (125, 39805), (134, 39745), (142, 39700), (149, 39664), (153, 39640), (156, 39631), (160, 39598), (163, 39565), (166, 39526),

Gene: Austelle_43 Start: 41087, Stop: 40329, Start Num: 37

Candidate Starts for Austelle_43:

(Start: 37 @41087 has 23 MA's), (45, 41018), (68, 40910), (77, 40880), (92, 40832), (95, 40820), (103, 40775), (124, 40664), (127, 40649), (140, 40547), (148, 40502), (155, 40463), (166, 40355),

Gene: Axumite_40 Start: 34038, Stop: 33349, Start Num: 35

Candidate Starts for Axumite_40:

(15, 34119), (29, 34071), (Start: 35 @34038 has 16 MA's), (61, 33888), (64, 33876), (66, 33867), (129, 33642), (140, 33561), (143, 33546), (150, 33498),

Gene: Bae_45 Start: 40787, Stop: 40020, Start Num: 36

Candidate Starts for Bae_45:

(Start: 36 @40787 has 7 MA's), (55, 40664), (65, 40625), (73, 40598), (94, 40499), (105, 40424), (110, 40391), (127, 40340), (140, 40238), (141, 40232), (143, 40223),

Gene: Baloo_45 Start: 40231, Stop: 39509, Start Num: 31

Candidate Starts for Baloo_45:

(Start: 31 @40231 has 13 MA's), (Start: 34 @40207 has 33 MA's), (45, 40135), (62, 40054), (63, 40048), (82, 39985), (89, 39958), (103, 39919), (107, 39883), (113, 39859), (121, 39826), (125, 39808), (134, 39748), (142, 39703), (149, 39667), (156, 39634), (160, 39601), (163, 39568), (166, 39529),

Gene: Bananafish_46 Start: 40697, Stop: 39933, Start Num: 32

Candidate Starts for Bananafish_46:

(Start: 32 @40697 has 32 MA's), (49, 40610), (61, 40553), (63, 40544), (64, 40541), (66, 40532), (88, 40445), (92, 40430), (105, 40346), (127, 40253), (132, 40202), (140, 40151), (147, 40112),

Gene: Ben11_44 Start: 40050, Stop: 39328, Start Num: 31

Candidate Starts for Ben11_44:

(Start: 31 @40050 has 13 MA's), (Start: 34 @40026 has 33 MA's), (45, 39954), (62, 39873), (63, 39867), (89, 39777), (103, 39738), (107, 39702), (121, 39645), (125, 39627), (134, 39567), (142, 39522), (149, 39486), (156, 39453), (160, 39420), (163, 39387), (166, 39348),

Gene: Bernardo_46 Start: 40776, Stop: 40054, Start Num: 31

Candidate Starts for Bernardo_46:

(Start: 31 @40776 has 13 MA's), (Start: 34 @40752 has 33 MA's), (45, 40680), (62, 40599), (63, 40593), (89, 40503), (103, 40464), (107, 40428), (121, 40371), (125, 40353), (134, 40293), (142, 40248), (149, 40212), (153, 40188), (156, 40179), (160, 40146), (163, 40113), (166, 40074),

Gene: BigMama_40 Start: 35508, Stop: 34627, Start Num: 42

Candidate Starts for BigMama_40:

(Start: 42 @35508 has 20 MA's), (64, 35376), (75, 35340), (81, 35319), (87, 35298), (108, 35154), (116, 35112), (128, 35022), (139, 34950), (157, 34842), (159, 34827), (163, 34776),

Gene: BiggityBass_40 Start: 36280, Stop: 35564, Start Num: 35

Candidate Starts for BiggityBass_40:

(Start: 35 @36280 has 16 MA's), (49, 36193), (105, 35992), (108, 35971), (127, 35878), (140, 35776), (143, 35761), (150, 35713),

Gene: BirdsNest_48 Start: 39192, Stop: 38389, Start Num: 33

Candidate Starts for BirdsNest_48:

(1, 39444), (2, 39432), (12, 39270), (13, 39267), (16, 39252), (19, 39237), (20, 39231), (Start: 33 @39192 has 6 MA's), (48, 39087), (50, 39081), (64, 39009), (73, 38985), (80, 38961), (96, 38880), (127, 38709), (140, 38604), (147, 38565),

Gene: Blocker23_46 Start: 40815, Stop: 40051, Start Num: 32

Candidate Starts for Blocker23_46:

(Start: 32 @40815 has 32 MA's), (44, 40773), (49, 40728), (61, 40671), (63, 40662), (64, 40659), (66, 40650), (88, 40563), (92, 40548), (105, 40464), (127, 40371), (132, 40320), (140, 40269), (147, 40230),

Gene: BobRoss2024_39 Start: 34120, Stop: 33434, Start Num: 35

Candidate Starts for BobRoss2024_39:

(18, 34183), (Start: 35 @34120 has 16 MA's), (105, 33823), (107, 33811), (122, 33766), (127, 33748), (140, 33646), (143, 33631), (165, 33469),

Gene: BobbyK_43 Start: 40432, Stop: 39698, Start Num: 37

Candidate Starts for BobbyK_43:

(Start: 37 @40432 has 23 MA's), (68, 40258), (77, 40228), (92, 40180), (95, 40168), (125, 40024), (127, 40018), (140, 39916), (148, 39871), (155, 39832), (166, 39724),

Gene: Boyle_46 Start: 40816, Stop: 40052, Start Num: 32

Candidate Starts for Boyle_46:

(Start: 32 @40816 has 32 MA's), (49, 40729), (61, 40672), (63, 40663), (64, 40660), (66, 40651), (88, 40564), (92, 40549), (105, 40465), (127, 40372), (132, 40321), (140, 40270), (147, 40231),

Gene: Briakila_46 Start: 40974, Stop: 40276, Start Num: 34

Candidate Starts for Briakila_46:

(Start: 3 @41220 has 1 MA's), (4, 41154), (17, 41043), (Start: 21 @41025 has 1 MA's), (23, 41019), (Start: 34 @40974 has 33 MA's), (45, 40902), (62, 40821), (63, 40815), (89, 40725), (103, 40686), (107, 40650), (121, 40593), (125, 40575), (134, 40515), (142, 40470), (149, 40434), (156, 40401), (160, 40368), (163, 40335), (166, 40296),

Gene: BrownCNA_44 Start: 40717, Stop: 39959, Start Num: 37

Candidate Starts for BrownCNA_44:

(Start: 37 @40717 has 23 MA's), (45, 40648), (68, 40540), (77, 40510), (92, 40462), (95, 40450), (124, 40294), (127, 40279), (130, 40246), (140, 40177), (148, 40132), (155, 40093), (166, 39985),

Gene: Brownie5_46 Start: 40828, Stop: 40058, Start Num: 32

Candidate Starts for Brownie5_46:

(Start: 32 @40828 has 32 MA's), (49, 40735), (61, 40678), (63, 40669), (64, 40666), (66, 40657), (88, 40570), (92, 40555), (105, 40471), (127, 40378), (132, 40327), (140, 40276), (147, 40237),

Gene: Butterscotch_41 Start: 35492, Stop: 34611, Start Num: 42

Candidate Starts for Butterscotch_41:

(Start: 42 @35492 has 20 MA's), (64, 35360), (75, 35324), (81, 35303), (87, 35282), (108, 35138), (116, 35096), (128, 35006), (139, 34934), (157, 34826), (159, 34811), (163, 34760),

Gene: CRB2_48 Start: 42937, Stop: 42212, Start Num: 32

Candidate Starts for CRB2_48:

(Start: 32 @42937 has 32 MA's), (74, 42748), (77, 42736), (92, 42685), (100, 42652), (109, 42601), (135, 42466), (140, 42430), (143, 42415), (147, 42391), (155, 42346), (161, 42292),

Gene: Calamitous_46 Start: 40702, Stop: 39938, Start Num: 32

Candidate Starts for Calamitous_46:

(Start: 32 @40702 has 32 MA's), (44, 40660), (49, 40615), (61, 40558), (63, 40549), (64, 40546), (66, 40537), (88, 40450), (92, 40435), (105, 40351), (127, 40258), (132, 40207), (140, 40156), (147, 40117),

Gene: Casbah_44 Start: 40080, Stop: 39358, Start Num: 31

Candidate Starts for Casbah_44:

(Start: 31 @40080 has 13 MA's), (Start: 34 @40056 has 33 MA's), (45, 39984), (62, 39903), (63, 39897), (89, 39807), (103, 39768), (107, 39732), (121, 39675), (125, 39657), (134, 39597), (142, 39552), (149, 39516), (156, 39483), (160, 39450), (163, 39417), (166, 39378),

Gene: ChaChing_45 Start: 40219, Stop: 39521, Start Num: 34

Candidate Starts for ChaChing_45:

(Start: 3 @40465 has 1 MA's), (4, 40399), (17, 40288), (Start: 21 @40270 has 1 MA's), (23, 40264), (Start: 34 @40219 has 33 MA's), (45, 40147), (62, 40066), (63, 40060), (89, 39970), (103, 39931), (107, 39895), (121, 39838), (125, 39820), (134, 39760), (142, 39715), (149, 39679), (156, 39646), (160, 39613), (163, 39580), (166, 39541),

Gene: Chandler_45 Start: 40987, Stop: 40289, Start Num: 34

Candidate Starts for Chandler_45:

(Start: 3 @41233 has 1 MA's), (4, 41167), (17, 41056), (Start: 21 @41038 has 1 MA's), (23, 41032), (Start: 34 @40987 has 33 MA's), (45, 40915), (62, 40834), (63, 40828), (89, 40738), (103, 40699), (107, 40663), (121, 40606), (125, 40588), (134, 40528), (142, 40483), (149, 40447), (156, 40414), (160, 40381), (163, 40348), (166, 40309),

Gene: CharlottesWeb_40 Start: 33924, Stop: 33235, Start Num: 35

Candidate Starts for CharlottesWeb_40:

(Start: 35 @33924 has 16 MA's), (60, 33780), (66, 33753), (92, 33675), (127, 33549), (140, 33447), (143, 33432), (150, 33384),

Gene: CherryTomatoes_54 Start: 17569, Stop: 18327, Start Num: 35

Candidate Starts for CherryTomatoes_54:

(Start: 35 @17569 has 16 MA's), (111, 17890), (138, 18070), (145, 18118), (152, 18166),

Gene: Chill_43 Start: 35498, Stop: 34617, Start Num: 42

Candidate Starts for Chill_43:

(Start: 42 @35498 has 20 MA's), (64, 35366), (75, 35330), (87, 35288), (108, 35144), (116, 35102), (128, 35012), (157, 34832), (159, 34817), (163, 34766),

Gene: ChrisnMich_42 Start: 39396, Stop: 38659, Start Num: 37

Candidate Starts for ChrisnMich_42:

(22, 39450), (Start: 37 @39396 has 23 MA's), (52, 39282), (60, 39252), (64, 39234), (80, 39180), (92, 39141), (114, 39021), (125, 38985), (127, 38979), (130, 38946), (140, 38877), (148, 38832),

Gene: Coffee_46 Start: 40805, Stop: 40041, Start Num: 32

Candidate Starts for Coffee_46:

(Start: 32 @40805 has 32 MA's), (49, 40718), (61, 40661), (63, 40652), (64, 40649), (66, 40640), (88, 40553), (92, 40538), (105, 40454), (127, 40361), (132, 40310), (140, 40259), (147, 40220),

Gene: Compostia_46 Start: 40635, Stop: 39937, Start Num: 34

Candidate Starts for Compostia_46:

(Start: 3 @40881 has 1 MA's), (4, 40815), (17, 40704), (Start: 21 @40686 has 1 MA's), (23, 40680), (Start: 34 @40635 has 33 MA's), (45, 40563), (62, 40482), (63, 40476), (89, 40386), (103, 40347), (107, 40311), (121, 40254), (125, 40236), (134, 40176), (142, 40131), (149, 40095), (156, 40062), (160, 40029), (163, 39996), (166, 39957),

Gene: Cooper_43 Start: 39615, Stop: 38878, Start Num: 37

Candidate Starts for Cooper_43:

(22, 39669), (Start: 37 @39615 has 23 MA's), (52, 39501), (60, 39471), (64, 39453), (80, 39399), (92, 39360), (114, 39240), (125, 39204), (127, 39198), (130, 39165), (140, 39096), (148, 39051),

Gene: Corofin_45 Start: 40230, Stop: 39532, Start Num: 34

Candidate Starts for Corofin_45:

(Start: 3 @40476 has 1 MA's), (4, 40410), (17, 40299), (Start: 21 @40281 has 1 MA's), (23, 40275), (Start: 34 @40230 has 33 MA's), (45, 40158), (62, 40077), (63, 40071), (89, 39981), (103, 39942), (107, 39906), (121, 39849), (125, 39831), (134, 39771), (142, 39726), (149, 39690), (156, 39657), (160, 39624), (163, 39591), (166, 39552),

Gene: Daisy_45 Start: 40231, Stop: 39533, Start Num: 34

Candidate Starts for Daisy_45:

(Start: 3 @40477 has 1 MA's), (4, 40411), (17, 40300), (Start: 21 @40282 has 1 MA's), (23, 40276), (Start: 34 @40231 has 33 MA's), (45, 40159), (62, 40078), (63, 40072), (89, 39982), (103, 39943), (107, 39907), (121, 39850), (125, 39832), (134, 39772), (142, 39727), (149, 39691), (156, 39658), (160, 39625), (163, 39592), (166, 39553),

Gene: Deenasa_45 Start: 40966, Stop: 40268, Start Num: 34

Candidate Starts for Deenasa_45:

(Start: 3 @41212 has 1 MA's), (4, 41146), (17, 41035), (Start: 21 @41017 has 1 MA's), (23, 41011), (Start: 34 @40966 has 33 MA's), (45, 40894), (62, 40813), (63, 40807), (89, 40717), (103, 40678), (107, 40642), (121, 40585), (125, 40567), (134, 40507), (142, 40462), (149, 40426), (156, 40393), (160, 40360), (163, 40327), (166, 40288),

Gene: Delton_42 Start: 35504, Stop: 34623, Start Num: 42

Candidate Starts for Delton_42:

(Start: 42 @35504 has 20 MA's), (64, 35372), (75, 35336), (81, 35315), (87, 35294), (108, 35150), (116, 35108), (128, 35018), (157, 34838), (159, 34823), (162, 34775),

Gene: Devonte_45 Start: 40219, Stop: 39497, Start Num: 31

Candidate Starts for Devonte_45:

(Start: 31 @40219 has 13 MA's), (Start: 34 @40195 has 33 MA's), (45, 40123), (62, 40042), (63, 40036), (89, 39946), (103, 39907), (107, 39871), (121, 39814), (125, 39796), (134, 39736), (142, 39691), (149, 39655), (156, 39622), (160, 39589), (163, 39556), (166, 39517),

Gene: DigitDog_45 Start: 40602, Stop: 39817, Start Num: 36

Candidate Starts for DigitDog_45:

(5, 40782), (6, 40770), (7, 40764), (11, 40713), (Start: 36 @40602 has 7 MA's), (65, 40440), (73, 40413), (94, 40314), (105, 40239), (127, 40137), (140, 40035), (141, 40029), (143, 40020), (150, 39972),

Gene: Donny_46 Start: 40907, Stop: 40122, Start Num: 36

Candidate Starts for Donny_46:

(Start: 36 @40907 has 7 MA's), (49, 40820), (65, 40745), (73, 40718), (94, 40619), (140, 40340), (143, 40325),

Gene: Eaglehorse_46 Start: 40729, Stop: 39965, Start Num: 32

Candidate Starts for Eaglehorse_46:

(Start: 32 @40729 has 32 MA's), (49, 40642), (61, 40585), (63, 40576), (64, 40573), (66, 40564), (88, 40477), (92, 40462), (105, 40378), (127, 40285), (132, 40234), (140, 40183), (147, 40144),

Gene: EastView9101_44 Start: 40557, Stop: 39772, Start Num: 36

Candidate Starts for EastView9101_44:

(Start: 36 @40557 has 7 MA's), (49, 40470), (65, 40395), (73, 40368), (94, 40269), (140, 39990), (143, 39975),

Gene: Epah_41 Start: 39395, Stop: 38667, Start Num: 37

Candidate Starts for Epah_41:

(Start: 37 @39395 has 23 MA's), (61, 39254), (66, 39233), (71, 39218), (99, 39113), (125, 38993), (127, 38987), (140, 38885), (148, 38840),

Gene: Erk16_41 Start: 35489, Stop: 34620, Start Num: 42

Candidate Starts for Erk16_41:

(Start: 42 @35489 has 20 MA's), (64, 35357), (75, 35321), (87, 35279), (108, 35135), (116, 35093), (128, 35003), (157, 34823), (159, 34808), (162, 34760),

Gene: Fanaw_41 Start: 40092, Stop: 39364, Start Num: 37

Candidate Starts for Fanaw_41:

(Start: 37 @40092 has 23 MA's), (68, 39924), (77, 39894), (92, 39846), (95, 39834), (125, 39690), (127, 39684), (140, 39582), (148, 39537), (155, 39498), (166, 39390),

Gene: Faze9_45 Start: 40825, Stop: 40061, Start Num: 32

Candidate Starts for Faze9_45:

(Start: 32 @40825 has 32 MA's), (44, 40783), (49, 40738), (61, 40681), (63, 40672), (64, 40669), (66, 40660), (88, 40573), (92, 40558), (105, 40474), (127, 40381), (132, 40330), (140, 40279), (147, 40240),

Gene: Fortunato_43 Start: 40450, Stop: 39692, Start Num: 37

Candidate Starts for Fortunato_43:

(Start: 37 @40450 has 23 MA's), (45, 40381), (68, 40273), (77, 40243), (92, 40195), (95, 40183), (103, 40138), (124, 40027), (127, 40012), (140, 39910), (148, 39865), (155, 39826), (166, 39718),

Gene: Frederick_43 Start: 40432, Stop: 39698, Start Num: 37

Candidate Starts for Frederick_43:

(Start: 37 @40432 has 23 MA's), (68, 40258), (77, 40228), (92, 40180), (95, 40168), (125, 40024), (127, 40018), (140, 39916), (148, 39871), (155, 39832), (166, 39724),

Gene: FrenchFry_46 Start: 40819, Stop: 40055, Start Num: 32

Candidate Starts for FrenchFry_46:

(Start: 32 @40819 has 32 MA's), (49, 40732), (61, 40675), (63, 40666), (64, 40663), (66, 40654), (88, 40567), (92, 40552), (105, 40468), (127, 40375), (132, 40324), (140, 40273), (147, 40234),

Gene: Fresco_40 Start: 34038, Stop: 33349, Start Num: 35

Candidate Starts for Fresco_40:

(15, 34119), (29, 34071), (Start: 35 @34038 has 16 MA's), (61, 33888), (64, 33876), (66, 33867), (129, 33642), (140, 33561), (143, 33546), (150, 33498),

Gene: Funsized_49 Start: 43198, Stop: 42434, Start Num: 33

Candidate Starts for Funsized_49:

(Start: 33 @43198 has 6 MA's), (61, 43051), (70, 43024), (73, 43015), (87, 42967), (94, 42916), (108, 42823), (126, 42757), (127, 42754), (131, 42712), (140, 42652), (144, 42634),

Gene: Gadget_46 Start: 40218, Stop: 39520, Start Num: 34

Candidate Starts for Gadget_46:

(Start: 3 @40464 has 1 MA's), (4, 40398), (17, 40287), (Start: 21 @40269 has 1 MA's), (23, 40263), (Start: 34 @40218 has 33 MA's), (45, 40146), (62, 40065), (63, 40059), (89, 39969), (103, 39930), (107, 39894), (121, 39837), (125, 39819), (134, 39759), (142, 39714), (149, 39678), (156, 39645), (160, 39612), (163, 39579), (166, 39540),

Gene: Gervas_45 Start: 40185, Stop: 39487, Start Num: 34

Candidate Starts for Gervas_45:

(Start: 31 @40209 has 13 MA's), (Start: 34 @40185 has 33 MA's), (45, 40113), (62, 40032), (63, 40026), (89, 39936), (103, 39897), (107, 39861), (121, 39804), (125, 39786), (134, 39726), (142, 39681), (149, 39645), (156, 39612), (160, 39579), (163, 39546), (166, 39507),

Gene: GinPorsche_41 Start: 39395, Stop: 38667, Start Num: 37

Candidate Starts for GinPorsche_41:

(Start: 37 @39395 has 23 MA's), (61, 39254), (66, 39233), (71, 39218), (99, 39113), (125, 38993), (127, 38987), (140, 38885), (148, 38840),

Gene: Giuseppe_42 Start: 35481, Stop: 34612, Start Num: 42

Candidate Starts for Giuseppe_42:

(Start: 42 @35481 has 20 MA's), (64, 35349), (75, 35313), (81, 35292), (87, 35271), (108, 35127), (116, 35085), (128, 34995), (157, 34815), (159, 34800), (162, 34752),

Gene: Glass_46 Start: 40819, Stop: 40055, Start Num: 32

Candidate Starts for Glass_46:

(Start: 32 @40819 has 32 MA's), (49, 40732), (61, 40675), (63, 40666), (64, 40663), (66, 40654), (88, 40567), (92, 40552), (105, 40468), (127, 40375), (132, 40324), (140, 40273), (147, 40234),

Gene: GlenHope_46 Start: 40198, Stop: 39500, Start Num: 34

Candidate Starts for GlenHope_46:

(Start: 3 @40444 has 1 MA's), (4, 40378), (17, 40267), (Start: 21 @40249 has 1 MA's), (23, 40243), (Start: 34 @40198 has 33 MA's), (45, 40126), (62, 40045), (63, 40039), (89, 39949), (103, 39910), (107, 39874), (121, 39817), (125, 39799), (134, 39739), (142, 39694), (149, 39658), (156, 39625), (160, 39592), (163, 39559), (166, 39520),

Gene: Godines_46 Start: 40761, Stop: 39997, Start Num: 32

Candidate Starts for Godines_46:

(Start: 32 @40761 has 32 MA's), (44, 40719), (49, 40674), (61, 40617), (63, 40608), (64, 40605), (66, 40596), (88, 40509), (92, 40494), (105, 40410), (127, 40317), (132, 40266), (140, 40215), (147, 40176),

Gene: Gumball_40 Start: 35445, Stop: 34561, Start Num: 42

Candidate Starts for Gumball_40:

(Start: 42 @35445 has 20 MA's), (57, 35340), (64, 35313), (75, 35277), (81, 35256), (87, 35235), (108, 35091), (116, 35049), (128, 34959), (139, 34887), (157, 34776), (159, 34761), (163, 34710),

Gene: Halfpint_44 Start: 40024, Stop: 39326, Start Num: 34

Candidate Starts for Halfpint_44:

(13, 40111), (14, 40105), (17, 40093), (Start: 21 @40075 has 1 MA's), (23, 40069), (Start: 34 @40024 has 33 MA's), (45, 39952), (62, 39871), (63, 39865), (89, 39775), (103, 39736), (107, 39700), (121, 39643), (125, 39625), (134, 39565), (142, 39520), (149, 39484), (156, 39451), (160, 39418), (163, 39385), (166, 39346),

Gene: Hally898_41 Start: 39407, Stop: 38679, Start Num: 37

Candidate Starts for Hally898_41:

(Start: 37 @39407 has 23 MA's), (61, 39266), (66, 39245), (71, 39230), (99, 39125), (125, 39005), (127, 38999), (140, 38897), (148, 38852),

Gene: Hangman_42 Start: 40448, Stop: 39690, Start Num: 37

Candidate Starts for Hangman_42:

(Start: 37 @40448 has 23 MA's), (45, 40379), (68, 40271), (77, 40241), (92, 40193), (95, 40181), (124, 40025), (127, 40010), (130, 39977), (140, 39908), (148, 39863), (155, 39824), (166, 39716),

Gene: HarveySr_45 Start: 40191, Stop: 39493, Start Num: 34

Candidate Starts for HarveySr_45:

(Start: 3 @40437 has 1 MA's), (4, 40371), (17, 40260), (Start: 21 @40242 has 1 MA's), (23, 40236), (Start: 34 @40191 has 33 MA's), (45, 40119), (62, 40038), (63, 40032), (89, 39942), (103, 39903), (107, 39867), (121, 39810), (125, 39792), (134, 39732), (142, 39687), (149, 39651), (156, 39618), (160, 39585), (163, 39552), (166, 39513),

Gene: Hashim76_49 Start: 39661, Stop: 38867, Start Num: 33

Candidate Starts for Hashim76_49:

(Start: 24 @39691 has 1 MA's), (Start: 33 @39661 has 6 MA's), (41, 39613), (50, 39553), (61, 39490), (73, 39454), (80, 39430), (108, 39244), (127, 39187), (140, 39082), (147, 39043), (150, 39019),

Gene: Hawkeye_45 Start: 35438, Stop: 34584, Start Num: 43

Candidate Starts for Hawkeye_45:

(Start: 43 @35438 has 1 MA's), (64, 35315), (68, 35300), (80, 35264), (82, 35258), (87, 35240), (108, 35096), (115, 35066), (119, 35045), (128, 34976), (131, 34946), (132, 34934), (135, 34916), (142, 34865),

Gene: Heath_41 Start: 40055, Stop: 39297, Start Num: 37

Candidate Starts for Heath_41:

(Start: 37 @40055 has 23 MA's), (45, 39986), (68, 39878), (77, 39848), (92, 39800), (95, 39788), (103, 39743), (124, 39632), (127, 39617), (130, 39584), (140, 39515), (148, 39470), (155, 39431), (166, 39323),

Gene: Heathcliff_45 Start: 40169, Stop: 39471, Start Num: 34

Candidate Starts for Heathcliff_45:

(Start: 3 @40415 has 1 MA's), (4, 40349), (17, 40238), (Start: 21 @40220 has 1 MA's), (23, 40214), (Start: 34 @40169 has 33 MA's), (45, 40097), (62, 40016), (63, 40010), (89, 39920), (103, 39881), (107, 39845), (121, 39788), (125, 39770), (134, 39710), (142, 39665), (149, 39629), (156, 39596), (160, 39563), (163, 39530), (166, 39491),

Gene: Hedgerow_46 Start: 40801, Stop: 40037, Start Num: 32

Candidate Starts for Hedgerow_46:

(Start: 32 @40801 has 32 MA's), (49, 40714), (61, 40657), (63, 40648), (64, 40645), (66, 40636), (88, 40549), (92, 40534), (105, 40450), (127, 40357), (132, 40306), (140, 40255), (147, 40216),

Gene: Helpful_43 Start: 35480, Stop: 34611, Start Num: 42

Candidate Starts for Helpful_43:

(Start: 42 @35480 has 20 MA's), (64, 35348), (75, 35312), (81, 35291), (87, 35270), (108, 35126), (116, 35084), (128, 34994), (157, 34814), (159, 34799), (162, 34751),

Gene: Holeinone_46 Start: 40681, Stop: 39917, Start Num: 32

Candidate Starts for Holeinone_46:

(Start: 32 @40681 has 32 MA's), (44, 40639), (49, 40594), (61, 40537), (63, 40528), (64, 40525), (66, 40516), (88, 40429), (92, 40414), (105, 40330), (127, 40237), (132, 40186), (140, 40135), (147, 40096),

Gene: Hosp_037 Start: 36449, Stop: 35679, Start Num: 33

Candidate Starts for Hosp_037:

(Start: 33 @36449 has 6 MA's), (40, 36410), (61, 36302), (64, 36290), (73, 36266), (91, 36188), (126, 36002), (127, 35999), (129, 35978), (140, 35897), (143, 35882),

Gene: Hydro_42 Start: 40465, Stop: 39707, Start Num: 37

Candidate Starts for Hydro_42:

(Start: 37 @40465 has 23 MA's), (45, 40396), (68, 40288), (77, 40258), (92, 40210), (95, 40198), (124, 40042), (127, 40027), (130, 39994), (140, 39925), (148, 39880), (155, 39841), (166, 39733),

Gene: Imvubu_38 Start: 37209, Stop: 36445, Start Num: 33

Candidate Starts for Imvubu_38:

(Start: 33 @37209 has 6 MA's), (46, 37146), (51, 37113), (57, 37077), (61, 37062), (73, 37026), (87, 36978), (94, 36927), (135, 36699), (140, 36663), (143, 36648), (144, 36645), (147, 36624),

Gene: Indlovu_44 Start: 39795, Stop: 38992, Start Num: 31

Candidate Starts for Indlovu_44:

(Start: 31 @39795 has 13 MA's), (76, 39591), (90, 39525), (100, 39477), (105, 39441), (120, 39354), (126, 39315), (127, 39312), (140, 39210), (141, 39204), (143, 39195), (147, 39171), (151, 39144), (161, 39072), (166, 39018),

Gene: ItsyBitsy1_46 Start: 40683, Stop: 39919, Start Num: 32

Candidate Starts for ItsyBitsy1_46:

(Start: 32 @40683 has 32 MA's), (49, 40596), (61, 40539), (63, 40530), (64, 40527), (66, 40518), (88, 40431), (92, 40416), (105, 40332), (127, 40239), (132, 40188), (140, 40137), (147, 40098),

Gene: JAMaL_42 Start: 40606, Stop: 39878, Start Num: 37

Candidate Starts for JAMaL_42:

(22, 40660), (Start: 37 @40606 has 23 MA's), (61, 40465), (66, 40444), (71, 40429), (99, 40324), (125, 40204), (127, 40198), (140, 40096), (148, 40051), (151, 40030), (155, 40012), (166, 39904),

Gene: Jackstina_42 Start: 40128, Stop: 39430, Start Num: 34

Candidate Starts for Jackstina_42:

(Start: 3 @40374 has 1 MA's), (4, 40308), (17, 40197), (Start: 21 @40179 has 1 MA's), (23, 40173), (Start: 34 @40128 has 33 MA's), (45, 40056), (62, 39975), (63, 39969), (89, 39879), (103, 39840), (107, 39804), (121, 39747), (125, 39729), (134, 39669), (142, 39624), (149, 39588), (156, 39555), (160, 39522), (163, 39489), (166, 39450),

Gene: JaguarMi_42 Start: 39908, Stop: 39174, Start Num: 37

Candidate Starts for JaguarMi_42:

(Start: 37 @39908 has 23 MA's), (68, 39734), (77, 39704), (92, 39656), (95, 39644), (108, 39554), (125, 39500), (127, 39494), (140, 39392), (148, 39347), (155, 39308),

Gene: Jolie1_039 Start: 38233, Stop: 37463, Start Num: 33

Candidate Starts for Jolie1_039:

(Start: 33 @38233 has 6 MA's), (40, 38194), (61, 38086), (64, 38074), (73, 38050), (91, 37972), (118, 37813), (126, 37786), (127, 37783), (129, 37762), (140, 37681), (143, 37666),

Gene: Kaleb_46 Start: 40816, Stop: 40052, Start Num: 32

Candidate Starts for Kaleb_46:

(Start: 32 @40816 has 32 MA's), (44, 40774), (49, 40729), (61, 40672), (63, 40663), (64, 40660), (66, 40651), (88, 40564), (92, 40549), (105, 40465), (127, 40372), (132, 40321), (140, 40270), (147, 40231),

Gene: Kamiyu_45 Start: 40177, Stop: 39479, Start Num: 34

Candidate Starts for Kamiyu_45:

(13, 40264), (14, 40258), (17, 40246), (Start: 21 @40228 has 1 MA's), (23, 40222), (Start: 34 @40177 has 33 MA's), (45, 40105), (62, 40024), (63, 40018), (89, 39928), (103, 39889), (107, 39853), (121, 39796), (125, 39778), (134, 39718), (142, 39673), (149, 39637), (156, 39604), (160, 39571), (163, 39538), (166, 39499),

Gene: KandZ_42 Start: 35592, Stop: 34711, Start Num: 42

Candidate Starts for KandZ_42:

(Start: 42 @35592 has 20 MA's), (64, 35460), (75, 35424), (81, 35403), (87, 35382), (108, 35238), (116, 35196), (128, 35106), (139, 35034), (157, 34926), (159, 34911), (163, 34860),

Gene: KarasumaRum_47 Start: 41044, Stop: 40259, Start Num: 36

Candidate Starts for KarasumaRum_47:

(8, 41194), (10, 41158), (15, 41128), (25, 41089), (Start: 36 @41044 has 7 MA's), (65, 40882), (73, 40855), (94, 40756), (105, 40681), (127, 40579), (140, 40477), (141, 40471), (143, 40462), (150, 40414),

Gene: KayaCho_39 Start: 38235, Stop: 37462, Start Num: 33

Candidate Starts for KayaCho_39:

(Start: 33 @38235 has 6 MA's), (61, 38085), (73, 38049), (91, 37971), (118, 37812), (126, 37785), (127, 37782), (129, 37761), (140, 37680), (143, 37665), (146, 37647),

Gene: Kheth_46 Start: 40734, Stop: 39940, Start Num: 32

Candidate Starts for Kheth_46:

(Start: 32 @40734 has 32 MA's), (44, 40662), (49, 40617), (61, 40560), (63, 40551), (64, 40548), (66, 40539), (88, 40452), (92, 40437), (105, 40353), (127, 40260), (132, 40209), (140, 40158), (147, 40119),

Gene: Knocker_47 Start: 42121, Stop: 41354, Start Num: 33

Candidate Starts for Knocker_47:

(Start: 33 @42121 has 6 MA's), (56, 41983), (59, 41974), (61, 41968), (70, 41941), (73, 41932), (80, 41908), (118, 41704), (126, 41677), (127, 41674), (129, 41653), (135, 41608), (140, 41572), (147, 41533), (163, 41419), (166, 41380),

Gene: Kronus_44 Start: 40787, Stop: 40089, Start Num: 34

Candidate Starts for Kronus_44:

(Start: 3 @41033 has 1 MA's), (4, 40967), (17, 40856), (Start: 21 @40838 has 1 MA's), (23, 40832), (Start: 34 @40787 has 33 MA's), (45, 40715), (62, 40634), (63, 40628), (89, 40538), (103, 40499), (107, 40463), (121, 40406), (125, 40388), (134, 40328), (142, 40283), (149, 40247), (153, 40223), (156, 40214), (160, 40181), (163, 40148), (166, 40109),

Gene: Lambano_41 Start: 39407, Stop: 38679, Start Num: 37

Candidate Starts for Lambano_41:

(Start: 37 @39407 has 23 MA's), (61, 39266), (66, 39245), (71, 39230), (99, 39125), (125, 39005), (127, 38999), (140, 38897), (148, 38852),

Gene: Lars_46 Start: 40806, Stop: 40042, Start Num: 32

Candidate Starts for Lars_46:

(Start: 32 @40806 has 32 MA's), (44, 40764), (49, 40719), (61, 40662), (63, 40653), (64, 40650), (66, 40641), (88, 40554), (92, 40539), (105, 40455), (127, 40362), (132, 40311), (140, 40260), (147, 40221),

Gene: Laurie_45 Start: 40205, Stop: 39441, Start Num: 32

Candidate Starts for Laurie_45:

(Start: 32 @40205 has 32 MA's), (49, 40118), (61, 40061), (63, 40052), (64, 40049), (66, 40040), (88, 39953), (92, 39938), (105, 39854), (132, 39710), (140, 39659), (147, 39620),

Gene: Leopard_54 Start: 40836, Stop: 41540, Start Num: 69

Candidate Starts for Leopard_54:

(Start: 69 @40836 has 3 MA's), (84, 40884), (86, 40893), (87, 40896), (98, 40962), (104, 41019), (112, 41064), (133, 41223), (137, 41235), (139, 41241), (154, 41337), (158, 41358), (164, 41430), (167, 41466), (168, 41490),

Gene: Lephleur_46 Start: 40699, Stop: 39935, Start Num: 32

Candidate Starts for Lephleur_46:

(Start: 32 @40699 has 32 MA's), (49, 40612), (61, 40555), (63, 40546), (64, 40543), (66, 40534), (88, 40447), (92, 40432), (105, 40348), (127, 40255), (132, 40204), (140, 40153), (147, 40114),

Gene: LestyG_45 Start: 40232, Stop: 39510, Start Num: 31

Candidate Starts for LestyG_45:

(Start: 31 @40232 has 13 MA's), (Start: 34 @40208 has 33 MA's), (45, 40136), (62, 40055), (63, 40049), (89, 39959), (103, 39920), (107, 39884), (121, 39827), (125, 39809), (134, 39749), (142, 39704), (149, 39668), (156, 39635), (160, 39602), (163, 39569), (166, 39530),

Gene: Ligma_40 Start: 34038, Stop: 33349, Start Num: 35

Candidate Starts for Ligma_40:

(15, 34119), (29, 34071), (Start: 35 @34038 has 16 MA's), (61, 33888), (64, 33876), (66, 33867), (129, 33642), (140, 33561), (143, 33546), (150, 33498),

Gene: LilMcDreamy_43 Start: 40014, Stop: 39223, Start Num: 34

Candidate Starts for LilMcDreamy_43:

(Start: 34 @40014 has 33 MA's), (57, 39864), (85, 39765), (92, 39720), (97, 39696), (101, 39675), (106, 39627), (127, 39543), (143, 39426), (150, 39378),

Gene: LittleMunchkin_42 Start: 37302, Stop: 36634, Start Num: 35

Candidate Starts for LittleMunchkin_42:

(26, 37341), (Start: 35 @37302 has 16 MA's), (54, 37188), (93, 37071), (105, 37023), (127, 36948), (131, 36906), (140, 36846), (143, 36831), (150, 36783),

Gene: LizLemon_46 Start: 40815, Stop: 40051, Start Num: 32

Candidate Starts for LizLemon_46:

(Start: 32 @40815 has 32 MA's), (49, 40728), (61, 40671), (63, 40662), (64, 40659), (66, 40650), (88, 40563), (92, 40548), (105, 40464), (127, 40371), (132, 40320), (140, 40269), (147, 40230),

Gene: Lolalove_43 Start: 40432, Stop: 39704, Start Num: 37

Candidate Starts for Lolalove_43:

(Start: 37 @40432 has 23 MA's), (68, 40264), (77, 40234), (78, 40231), (92, 40186), (95, 40174), (125, 40030), (127, 40024), (140, 39922), (148, 39877), (155, 39838), (166, 39730),

Gene: Magpie_41 Start: 40274, Stop: 39540, Start Num: 37

Candidate Starts for Magpie_41:

(Start: 37 @40274 has 23 MA's), (68, 40100), (77, 40070), (92, 40022), (95, 40010), (125, 39866), (127, 39860), (140, 39758), (148, 39713), (155, 39674),

Gene: Mariokart_40 Start: 33941, Stop: 33252, Start Num: 35

Candidate Starts for Mariokart_40:

(Start: 35 @33941 has 16 MA's), (60, 33797), (66, 33770), (92, 33692), (127, 33566), (140, 33464), (143, 33449), (150, 33401), (165, 33287),

Gene: Marley1013_45 Start: 40986, Stop: 40288, Start Num: 34

Candidate Starts for Marley1013_45:

(Start: 31 @41010 has 13 MA's), (Start: 34 @40986 has 33 MA's), (45, 40914), (62, 40833), (63, 40827), (89, 40737), (103, 40698), (107, 40662), (121, 40605), (125, 40587), (134, 40527), (142, 40482), (149, 40446), (156, 40413), (160, 40380), (163, 40347), (166, 40308),

Gene: MasterPo_46 Start: 40702, Stop: 39938, Start Num: 32

Candidate Starts for MasterPo_46:

(Start: 32 @40702 has 32 MA's), (44, 40660), (49, 40615), (61, 40558), (63, 40549), (64, 40546), (66, 40537), (88, 40450), (92, 40435), (105, 40351), (127, 40258), (132, 40207), (140, 40156), (147, 40117),

Gene: Mithril_42 Start: 40442, Stop: 39708, Start Num: 37

Candidate Starts for Mithril_42:

(Start: 37 @40442 has 23 MA's), (68, 40268), (77, 40238), (92, 40190), (95, 40178), (125, 40034), (127, 40028), (140, 39926), (148, 39881), (155, 39842), (166, 39734),

Gene: MmasiCarm_45 Start: 40214, Stop: 39492, Start Num: 31

Candidate Starts for MmasiCarm_45:

(Start: 31 @40214 has 13 MA's), (Start: 34 @40190 has 33 MA's), (45, 40118), (62, 40037), (63, 40031), (89, 39941), (103, 39902), (107, 39866), (121, 39809), (125, 39791), (134, 39731), (142, 39686), (149, 39650), (156, 39617), (160, 39584), (163, 39551), (166, 39512),

Gene: Mopey_42 Start: 35492, Stop: 34611, Start Num: 42

Candidate Starts for Mopey_42:

(Start: 42 @35492 has 20 MA's), (64, 35360), (75, 35324), (81, 35303), (87, 35282), (108, 35138), (116, 35096), (128, 35006), (139, 34934), (157, 34826), (159, 34811), (162, 34763),

Gene: Mortcellus_44 Start: 40866, Stop: 40144, Start Num: 31

Candidate Starts for Mortcellus_44:

(Start: 31 @40866 has 13 MA's), (Start: 34 @40842 has 33 MA's), (45, 40770), (62, 40689), (63, 40683), (89, 40593), (103, 40554), (107, 40518), (121, 40461), (125, 40443), (134, 40383), (142, 40338), (149, 40302), (153, 40278), (156, 40269), (160, 40236), (163, 40203), (166, 40164),

Gene: Morty007_45 Start: 40986, Stop: 40288, Start Num: 34

Candidate Starts for Morty007_45:

(Start: 31 @41010 has 13 MA's), (Start: 34 @40986 has 33 MA's), (45, 40914), (62, 40833), (63, 40827), (89, 40737), (103, 40698), (107, 40662), (121, 40605), (125, 40587), (134, 40527), (142, 40482), (149, 40446), (156, 40413), (160, 40380), (163, 40347), (166, 40308),

Gene: Mudslide_42 Start: 40698, Stop: 39940, Start Num: 37

Candidate Starts for Mudslide_42:

(Start: 37 @40698 has 23 MA's), (45, 40629), (68, 40521), (77, 40491), (92, 40443), (95, 40431), (103, 40386), (124, 40275), (127, 40260), (140, 40158), (148, 40113), (155, 40074), (166, 39966),

Gene: Nanao_41 Start: 39394, Stop: 38666, Start Num: 37

Candidate Starts for Nanao_41:

(Start: 37 @39394 has 23 MA's), (61, 39253), (66, 39232), (71, 39217), (99, 39112), (125, 38992), (127, 38986), (140, 38884), (148, 38839),

Gene: Nangang_45 Start: 40967, Stop: 40182, Start Num: 36

Candidate Starts for Nangang_45:

(5, 41147), (6, 41135), (7, 41129), (11, 41078), (Start: 36 @40967 has 7 MA's), (65, 40805), (73, 40778), (94, 40679), (105, 40604), (127, 40502), (140, 40400), (141, 40394), (143, 40385), (150, 40337),

Gene: Neos5_45 Start: 41052, Stop: 40303, Start Num: 21

Candidate Starts for Neos5_45:

(Start: 3 @41247 has 1 MA's), (4, 41181), (17, 41070), (Start: 21 @41052 has 1 MA's), (23, 41046), (Start: 34 @41001 has 33 MA's), (45, 40929), (62, 40848), (63, 40842), (89, 40752), (103, 40713), (107, 40677), (121, 40620), (125, 40602), (134, 40542), (142, 40497), (149, 40461), (156, 40428), (160, 40395), (163, 40362), (166, 40323),

Gene: Nigel_41 Start: 39313, Stop: 38579, Start Num: 37

Candidate Starts for Nigel_41:

(Start: 37 @39313 has 23 MA's), (55, 39193), (61, 39166), (66, 39145), (67, 39142), (71, 39130), (78, 39106), (99, 39025), (125, 38905), (130, 38866), (140, 38797), (148, 38752),

Gene: Nova_41 Start: 35918, Stop: 35037, Start Num: 42

Candidate Starts for Nova_41:

(Start: 42 @35918 has 20 MA's), (64, 35786), (75, 35750), (81, 35729), (87, 35708), (108, 35564), (116, 35522), (128, 35432), (139, 35360), (157, 35252), (159, 35237), (163, 35186),

Gene: Nozo_45 Start: 40966, Stop: 40268, Start Num: 34

Candidate Starts for Nozo_45:

(Start: 3 @41212 has 1 MA's), (4, 41146), (17, 41035), (Start: 21 @41017 has 1 MA's), (23, 41011), (Start: 34 @40966 has 33 MA's), (45, 40894), (62, 40813), (63, 40807), (89, 40717), (103, 40678), (107, 40642), (121, 40585), (125, 40567), (134, 40507), (142, 40462), (149, 40426), (156, 40393),

(160, 40360), (163, 40327), (166, 40288),

Gene: Obutu_45 Start: 40214, Stop: 39492, Start Num: 31

Candidate Starts for Obutu_45:

(Start: 31 @40214 has 13 MA's), (Start: 34 @40190 has 33 MA's), (45, 40118), (62, 40037), (63, 40031), (89, 39941), (103, 39902), (107, 39866), (121, 39809), (125, 39791), (134, 39731), (142, 39686), (149, 39650), (156, 39617), (160, 39584), (163, 39551), (166, 39512),

Gene: Onyinye_55 Start: 40718, Stop: 41422, Start Num: 69

Candidate Starts for Onyinye_55:

(Start: 69 @40718 has 3 MA's), (84, 40766), (86, 40775), (87, 40778), (98, 40844), (104, 40901), (112, 40946), (133, 41105), (137, 41117), (139, 41123), (154, 41219), (158, 41240), (164, 41312), (166, 41333), (167, 41348), (168, 41372),

Gene: Opia_46 Start: 40688, Stop: 39924, Start Num: 32

Candidate Starts for Opia_46:

(Start: 32 @40688 has 32 MA's), (49, 40601), (61, 40544), (63, 40535), (64, 40532), (66, 40523), (88, 40436), (92, 40421), (105, 40337), (127, 40244), (132, 40193), (140, 40142), (147, 40103),

Gene: OrangeOswald_45 Start: 40207, Stop: 39509, Start Num: 34

Candidate Starts for OrangeOswald_45:

(Start: 3 @40453 has 1 MA's), (4, 40387), (17, 40276), (Start: 21 @40258 has 1 MA's), (23, 40252), (Start: 34 @40207 has 33 MA's), (45, 40135), (62, 40054), (63, 40048), (89, 39958), (103, 39919), (107, 39883), (121, 39826), (125, 39808), (134, 39748), (142, 39703), (149, 39667), (156, 39634), (160, 39601), (163, 39568), (166, 39529),

Gene: PBI1_41 Start: 35423, Stop: 34542, Start Num: 42

Candidate Starts for PBI1_41:

(Start: 42 @35423 has 20 MA's), (64, 35291), (75, 35255), (81, 35234), (87, 35213), (108, 35069), (116, 35027), (128, 34937), (139, 34865), (157, 34757), (159, 34742), (163, 34691),

Gene: PLOT_42 Start: 35483, Stop: 34614, Start Num: 42

Candidate Starts for PLOT_42:

(Start: 42 @35483 has 20 MA's), (64, 35351), (75, 35315), (87, 35273), (108, 35129), (116, 35087), (128, 34997), (157, 34817), (159, 34802), (162, 34754),

Gene: Penelope2018_42 Start: 35492, Stop: 34611, Start Num: 42

Candidate Starts for Penelope2018_42:

(Start: 42 @35492 has 20 MA's), (64, 35360), (75, 35324), (81, 35303), (87, 35282), (108, 35138), (116, 35096), (128, 35006), (139, 34934), (157, 34826), (159, 34811), (163, 34760),

Gene: PenguinLover67_48 Start: 42106, Stop: 41504, Start Num: 53

Candidate Starts for PenguinLover67_48:

(Start: 53 @42106 has 1 MA's), (83, 42019), (135, 41758), (140, 41722), (143, 41707), (147, 41683), (155, 41638), (161, 41584),

Gene: Phaedrus_43 Start: 40373, Stop: 39429, Start Num: 3

Candidate Starts for Phaedrus_43:

(Start: 3 @40373 has 1 MA's), (4, 40307), (17, 40196), (Start: 21 @40178 has 1 MA's), (23, 40172), (Start: 34 @40127 has 33 MA's), (45, 40055), (62, 39974), (63, 39968), (89, 39878), (103, 39839), (107, 39803), (121, 39746), (125, 39728), (134, 39668), (142, 39623), (149, 39587), (156, 39554), (160, 39521), (163, 39488), (166, 39449),

Gene: Phantasmagoria_46 Start: 40700, Stop: 39936, Start Num: 32

Candidate Starts for Phantasmagoria_46:

(Start: 32 @40700 has 32 MA's), (44, 40658), (49, 40613), (61, 40556), (63, 40547), (64, 40544), (66, 40535), (88, 40448), (92, 40433), (105, 40349), (127, 40256), (132, 40205), (140, 40154), (147, 40115),

Gene: Phayeta_46 Start: 40096, Stop: 39374, Start Num: 31

Candidate Starts for Phayeta_46:

(Start: 31 @40096 has 13 MA's), (Start: 34 @40072 has 33 MA's), (45, 40000), (62, 39919), (63, 39913), (89, 39823), (103, 39784), (107, 39748), (121, 39691), (125, 39673), (134, 39613), (142, 39568), (149, 39532), (156, 39499), (160, 39466), (163, 39433), (166, 39394),

Gene: Philly_44 Start: 40058, Stop: 39360, Start Num: 34

Candidate Starts for Philly_44:

(Start: 3 @40304 has 1 MA's), (4, 40238), (17, 40127), (Start: 21 @40109 has 1 MA's), (23, 40103), (Start: 34 @40058 has 33 MA's), (45, 39986), (62, 39905), (63, 39899), (89, 39809), (103, 39770), (107, 39734), (121, 39677), (125, 39659), (134, 39599), (142, 39554), (149, 39518), (156, 39485), (160, 39452), (163, 39419), (166, 39380),

Gene: Phlyer_45 Start: 40946, Stop: 40248, Start Num: 34

Candidate Starts for Phlyer_45:

(Start: 3 @41192 has 1 MA's), (4, 41126), (17, 41015), (Start: 21 @40997 has 1 MA's), (23, 40991), (Start: 34 @40946 has 33 MA's), (45, 40874), (62, 40793), (63, 40787), (89, 40697), (103, 40658), (107, 40622), (121, 40565), (125, 40547), (134, 40487), (142, 40442), (149, 40406), (156, 40373), (160, 40340), (163, 40307), (166, 40268),

Gene: Pipefish_47 Start: 41599, Stop: 40901, Start Num: 34

Candidate Starts for Pipefish_47:

(Start: 31 @41623 has 13 MA's), (Start: 34 @41599 has 33 MA's), (45, 41527), (62, 41446), (63, 41440), (89, 41350), (103, 41311), (107, 41275), (121, 41218), (125, 41200), (134, 41140), (142, 41095), (149, 41059), (153, 41035), (156, 41026), (160, 40993), (163, 40960), (166, 40921),

Gene: Poster_41 Start: 39395, Stop: 38667, Start Num: 37

Candidate Starts for Poster_41:

(Start: 37 @39395 has 23 MA's), (61, 39254), (66, 39233), (71, 39218), (99, 39113), (125, 38993), (127, 38987), (140, 38885), (148, 38840),

Gene: Prager_42 Start: 35504, Stop: 34623, Start Num: 42

Candidate Starts for Prager_42:

(Start: 42 @35504 has 20 MA's), (64, 35372), (75, 35336), (81, 35315), (87, 35294), (108, 35150), (116, 35108), (128, 35018), (139, 34946), (157, 34838), (159, 34823), (163, 34772),

Gene: Prince_42 Start: 40608, Stop: 39850, Start Num: 37

Candidate Starts for Prince_42:

(Start: 37 @40608 has 23 MA's), (45, 40539), (68, 40431), (77, 40401), (92, 40353), (95, 40341), (103, 40296), (124, 40185), (127, 40170), (140, 40068), (148, 40023), (151, 40002), (155, 39984), (166, 39876),

Gene: Pupper_52 Start: 17408, Stop: 18166, Start Num: 35

Candidate Starts for Pupper_52:

(Start: 35 @17408 has 16 MA's), (111, 17729), (138, 17909), (145, 17957), (152, 18005),

Gene: QueenPie_41 Start: 40519, Stop: 39791, Start Num: 37

Candidate Starts for QueenPie_41:

(Start: 37 @40519 has 23 MA's), (61, 40378), (66, 40357), (71, 40342), (99, 40237), (108, 40171), (125, 40117), (127, 40111), (140, 40009), (148, 39964), (155, 39925),

Gene: RagingRooster_45 Start: 40208, Stop: 39510, Start Num: 34

Candidate Starts for RagingRooster_45:

(Start: 3 @40454 has 1 MA's), (4, 40388), (17, 40277), (Start: 21 @40259 has 1 MA's), (23, 40253), (Start: 34 @40208 has 33 MA's), (45, 40136), (62, 40055), (63, 40049), (89, 39959), (103, 39920), (107, 39884), (121, 39827), (125, 39809), (134, 39749), (142, 39704), (149, 39668), (156, 39635), (160, 39602), (163, 39569), (166, 39530),

Gene: RawrgerThat_43 Start: 40453, Stop: 39695, Start Num: 37

Candidate Starts for RawrgerThat_43:

(Start: 37 @40453 has 23 MA's), (45, 40384), (68, 40276), (77, 40246), (92, 40198), (95, 40186), (103, 40141), (124, 40030), (127, 40015), (140, 39913), (148, 39868), (155, 39829), (166, 39721),

Gene: RedWattleHog_178 Start: 112519, Stop: 113199, Start Num: 35

Candidate Starts for RedWattleHog_178:

(Start: 35 @112519 has 16 MA's), (58, 112642), (92, 112747), (108, 112819), (134, 112945), (150, 113047),

Gene: Rhinoforte_46 Start: 40821, Stop: 40045, Start Num: 32

Candidate Starts for Rhinoforte_46:

(Start: 32 @40821 has 32 MA's), (44, 40767), (49, 40722), (61, 40665), (63, 40656), (64, 40653), (66, 40644), (88, 40557), (92, 40542), (105, 40458), (127, 40365), (132, 40314), (140, 40263), (147, 40224),

Gene: Rich_44 Start: 40775, Stop: 39990, Start Num: 36

Candidate Starts for Rich_44:

(Start: 36 @40775 has 7 MA's), (55, 40652), (65, 40613), (73, 40586), (94, 40487), (105, 40412), (117, 40361), (127, 40310), (140, 40208), (141, 40202), (143, 40193),

Gene: Rinkes_46 Start: 41695, Stop: 40898, Start Num: 24

Candidate Starts for Rinkes_46:

(Start: 24 @41695 has 1 MA's), (30, 41677), (Start: 33 @41665 has 6 MA's), (61, 41509), (73, 41473), (94, 41374), (135, 41152), (140, 41116), (144, 41098), (147, 41077), (161, 40978),

Gene: Rita1961_45 Start: 40215, Stop: 39493, Start Num: 31

Candidate Starts for Rita1961_45:

(Start: 31 @40215 has 13 MA's), (Start: 34 @40191 has 33 MA's), (45, 40119), (62, 40038), (63, 40032), (89, 39942), (103, 39903), (107, 39867), (121, 39810), (125, 39792), (134, 39732), (142, 39687), (149, 39651), (156, 39618), (160, 39585), (163, 39552), (166, 39513),

Gene: RomaT_45 Start: 40981, Stop: 40283, Start Num: 34

Candidate Starts for RomaT_45:

(Start: 3 @41227 has 1 MA's), (4, 41161), (17, 41050), (Start: 21 @41032 has 1 MA's), (23, 41026), (Start: 34 @40981 has 33 MA's), (45, 40909), (62, 40828), (63, 40822), (89, 40732), (103, 40693), (107, 40657), (121, 40600), (125, 40582), (134, 40522), (142, 40477), (149, 40441), (156, 40408), (160, 40375), (163, 40342), (166, 40303),

Gene: Rosebush_45 Start: 40816, Stop: 40052, Start Num: 32

Candidate Starts for Rosebush_45:

(Start: 32 @40816 has 32 MA's), (49, 40729), (61, 40672), (63, 40663), (64, 40660), (66, 40651), (88, 40564), (92, 40549), (105, 40465), (127, 40372), (132, 40321), (140, 40270), (147, 40231),

Gene: SCentae_52 Start: 17425, Stop: 18183, Start Num: 35

Candidate Starts for SCentae_52:

(Start: 35 @17425 has 16 MA's), (79, 17620), (111, 17746), (138, 17926), (145, 17974), (152, 18022),

Gene: Sabella_45 Start: 40693, Stop: 39929, Start Num: 32

Candidate Starts for Sabella_45:

(Start: 32 @40693 has 32 MA's), (49, 40606), (61, 40549), (63, 40540), (64, 40537), (66, 40528), (88, 40441), (92, 40426), (105, 40342), (127, 40249), (132, 40198), (140, 40147), (147, 40108),

Gene: Serendipitous_45 Start: 40717, Stop: 39950, Start Num: 36

Candidate Starts for Serendipitous_45:

(6, 40885), (7, 40879), (9, 40834), (11, 40828), (Start: 36 @40717 has 7 MA's), (65, 40555), (73, 40528), (94, 40429), (105, 40354), (114, 40315), (140, 40168), (141, 40162), (143, 40153), (150, 40105),

Gene: Shatter_40 Start: 34038, Stop: 33349, Start Num: 35

Candidate Starts for Shatter_40:

(15, 34119), (29, 34071), (Start: 35 @34038 has 16 MA's), (61, 33888), (64, 33876), (66, 33867), (129, 33642), (140, 33561), (143, 33546), (150, 33498),

Gene: Shenyu_45 Start: 40967, Stop: 40182, Start Num: 36

Candidate Starts for Shenyu_45:

(5, 41147), (6, 41135), (7, 41129), (11, 41078), (Start: 36 @40967 has 7 MA's), (65, 40805), (73, 40778), (94, 40679), (105, 40604), (127, 40502), (140, 40400), (141, 40394), (143, 40385), (150, 40337),

Gene: SirHarley_41 Start: 35427, Stop: 34543, Start Num: 42

Candidate Starts for SirHarley_41:

(Start: 42 @35427 has 20 MA's), (57, 35322), (64, 35295), (75, 35259), (81, 35238), (87, 35217), (108, 35073), (116, 35031), (128, 34941), (139, 34869), (157, 34758), (159, 34743), (163, 34692),

Gene: SirJeffery_46 Start: 40904, Stop: 40119, Start Num: 36

Candidate Starts for SirJeffery_46:

(Start: 36 @40904 has 7 MA's), (49, 40817), (65, 40742), (73, 40715), (94, 40616), (140, 40337), (143, 40322),

Gene: Sisko_40 Start: 34816, Stop: 34106, Start Num: 35

Candidate Starts for Sisko_40:

(Start: 35 @34816 has 16 MA's), (77, 34618), (105, 34525), (127, 34420), (140, 34318), (143, 34303), (150, 34255),

Gene: SlippinJimmy_45 Start: 40997, Stop: 40275, Start Num: 31

Candidate Starts for SlippinJimmy_45:

(Start: 31 @40997 has 13 MA's), (Start: 34 @40973 has 33 MA's), (45, 40901), (62, 40820), (63, 40814), (89, 40724), (103, 40685), (107, 40649), (121, 40592), (125, 40574), (134, 40514), (142, 40469), (149, 40433), (156, 40400), (160, 40367), (163, 40334), (166, 40295),

Gene: Sour_45 Start: 38694, Stop: 38008, Start Num: 35

Candidate Starts for Sour_45:

(28, 38730), (Start: 35 @38694 has 16 MA's), (77, 38487), (105, 38394), (127, 38322), (143, 38205), (165, 38043),

Gene: Stinger_41 Start: 39003, Stop: 38269, Start Num: 37

Candidate Starts for Stinger_41:

(Start: 37 @39003 has 23 MA's), (55, 38883), (61, 38856), (66, 38835), (71, 38820), (77, 38799), (78, 38796), (125, 38595), (127, 38589), (140, 38487), (148, 38442),

Gene: StinkyVeggy_47 Start: 41044, Stop: 40259, Start Num: 36

Candidate Starts for StinkyVeggy_47:

(8, 41194), (10, 41158), (15, 41128), (25, 41089), (Start: 36 @41044 has 7 MA's), (65, 40882), (73, 40855), (94, 40756), (105, 40681), (127, 40579), (140, 40477), (141, 40471), (143, 40462), (150, 40414),

Gene: Stormageddon_179 Start: 113484, Stop: 114164, Start Num: 35

Candidate Starts for Stormageddon_179:

(Start: 35 @113484 has 16 MA's), (58, 113607), (92, 113712), (108, 113784), (134, 113910), (150, 114012),

Gene: Suigeneris_46 Start: 40907, Stop: 40122, Start Num: 36

Candidate Starts for Suigeneris_46:

(Start: 36 @40907 has 7 MA's), (49, 40820), (65, 40745), (73, 40718), (94, 40619), (140, 40340), (143, 40325),

Gene: SynergyX_45 Start: 40208, Stop: 39510, Start Num: 34

Candidate Starts for SynergyX_45:

(Start: 3 @40454 has 1 MA's), (4, 40388), (17, 40277), (Start: 21 @40259 has 1 MA's), (23, 40253), (Start: 34 @40208 has 33 MA's), (45, 40136), (62, 40055), (63, 40049), (89, 39959), (103, 39920), (107, 39884), (121, 39827), (125, 39809), (134, 39749), (142, 39704), (149, 39668), (156, 39635), (160, 39602), (163, 39569), (166, 39530),

Gene: TA17A_46 Start: 40683, Stop: 39919, Start Num: 32

Candidate Starts for TA17A_46:

(Start: 32 @40683 has 32 MA's), (44, 40641), (49, 40596), (61, 40539), (63, 40530), (64, 40527), (66, 40518), (88, 40431), (92, 40416), (105, 40332), (127, 40239), (132, 40188), (140, 40137), (147, 40098),

Gene: TPA2_53 Start: 40141, Stop: 39410, Start Num: 23

Candidate Starts for TPA2_53:

(23, 40141), (27, 40132), (Start: 34 @40096 has 33 MA's), (38, 40087), (Start: 69 @39925 has 3 MA's), (91, 39859), (118, 39742), (123, 39727), (135, 39652), (136, 39649), (151, 39556),

Gene: Thonko_45 Start: 38227, Stop: 37415, Start Num: 34

Candidate Starts for Thonko_45:

(30, 38251), (Start: 34 @38227 has 33 MA's), (39, 38212), (45, 38143), (47, 38137), (67, 38041), (73, 38023), (92, 37951), (102, 37897), (127, 37735), (163, 37480),

Gene: Thoth_42 Start: 35489, Stop: 34608, Start Num: 42

Candidate Starts for Thoth_42:

(Start: 42 @35489 has 20 MA's), (64, 35357), (75, 35321), (81, 35300), (87, 35279), (108, 35135), (116, 35093), (128, 35003), (139, 34931), (157, 34823), (159, 34808), (163, 34757),

Gene: Tinciduntolum_47 Start: 40827, Stop: 40057, Start Num: 32

Candidate Starts for Tinciduntolum_47:

(Start: 32 @40827 has 32 MA's), (49, 40734), (61, 40677), (63, 40668), (64, 40665), (66, 40656), (88, 40569), (92, 40554), (105, 40470), (127, 40377), (132, 40326), (140, 40275), (147, 40236),

Gene: Tres_46 Start: 40696, Stop: 39932, Start Num: 32

Candidate Starts for Tres_46:

(Start: 32 @40696 has 32 MA's), (49, 40609), (61, 40552), (63, 40543), (64, 40540), (66, 40531), (88, 40444), (92, 40429), (105, 40345), (127, 40252), (132, 40201), (140, 40150), (147, 40111),

Gene: Troll4_42 Start: 35493, Stop: 34612, Start Num: 42

Candidate Starts for Troll4_42:

(Start: 42 @35493 has 20 MA's), (64, 35361), (75, 35325), (81, 35304), (87, 35283), (108, 35139), (116, 35097), (128, 35007), (157, 34827), (159, 34812), (162, 34764),

Gene: Tydolla_45 Start: 40942, Stop: 40244, Start Num: 34

Candidate Starts for Tydolla_45:

(Start: 3 @41188 has 1 MA's), (4, 41122), (17, 41011), (Start: 21 @40993 has 1 MA's), (23, 40987), (Start: 34 @40942 has 33 MA's), (45, 40870), (62, 40789), (63, 40783), (89, 40693), (103, 40654), (107, 40618), (121, 40561), (125, 40543), (134, 40483), (142, 40438), (149, 40402), (156, 40369), (160, 40336), (163, 40303), (166, 40264),

Gene: Vic9_46 Start: 41205, Stop: 40438, Start Num: 32

Candidate Starts for Vic9_46:

(Start: 32 @41205 has 32 MA's), (49, 41115), (61, 41058), (63, 41049), (64, 41046), (66, 41037), (88, 40950), (92, 40935), (105, 40851), (132, 40707), (140, 40656), (147, 40617),

Gene: VioletZ_44 Start: 40524, Stop: 39766, Start Num: 37

Candidate Starts for VioletZ_44:

(Start: 37 @40524 has 23 MA's), (45, 40455), (68, 40347), (77, 40317), (92, 40269), (95, 40257), (103, 40212), (124, 40101), (127, 40086), (140, 39984), (148, 39939), (151, 39918), (155, 39900), (166, 39792),

Gene: Visconti_42 Start: 35502, Stop: 34621, Start Num: 42

Candidate Starts for Visconti_42:

(Start: 42 @35502 has 20 MA's), (64, 35370), (75, 35334), (81, 35313), (87, 35292), (108, 35148), (116, 35106), (128, 35016), (157, 34836), (159, 34821), (162, 34773),

Gene: WaldoWhy_43 Start: 35498, Stop: 34617, Start Num: 42

Candidate Starts for WaldoWhy_43:

(Start: 42 @35498 has 20 MA's), (64, 35366), (75, 35330), (87, 35288), (108, 35144), (116, 35102), (128, 35012), (157, 34832), (159, 34817), (163, 34766),

Gene: Waleliano_42 Start: 40448, Stop: 39693, Start Num: 37

Candidate Starts for Waleliano_42:

(Start: 37 @40448 has 23 MA's), (45, 40382), (68, 40274), (77, 40244), (92, 40196), (95, 40184), (124, 40028), (127, 40013), (130, 39980), (140, 39911), (148, 39866), (155, 39827), (166, 39719),

Gene: West99_46 Start: 40816, Stop: 40052, Start Num: 32

Candidate Starts for West99_46:

(Start: 32 @40816 has 32 MA's), (49, 40729), (61, 40672), (63, 40663), (64, 40660), (66, 40651), (88, 40564), (92, 40549), (105, 40465), (127, 40372), (132, 40321), (140, 40270), (147, 40231),

Gene: Xincheng_41 Start: 39884, Stop: 39150, Start Num: 37

Candidate Starts for Xincheng_41:

(Start: 37 @39884 has 23 MA's), (68, 39710), (77, 39680), (92, 39632), (95, 39620), (108, 39530), (125, 39476), (127, 39470), (140, 39368), (148, 39323), (155, 39284),

Gene: Yago84_40 Start: 34890, Stop: 34180, Start Num: 35

Candidate Starts for Yago84_40:

(Start: 35 @34890 has 16 MA's), (77, 34692), (105, 34599), (127, 34494), (140, 34392), (143, 34377), (150, 34329),

Gene: Yahalom_45 Start: 40218, Stop: 39520, Start Num: 34

Candidate Starts for Yahalom_45:

(Start: 3 @40464 has 1 MA's), (4, 40398), (17, 40287), (Start: 21 @40269 has 1 MA's), (23, 40263), (Start: 34 @40218 has 33 MA's), (45, 40146), (62, 40065), (63, 40059), (89, 39969), (103, 39930), (107, 39894), (121, 39837), (125, 39819), (134, 39759), (142, 39714), (149, 39678), (156, 39645), (160, 39612), (163, 39579), (166, 39540),

Gene: Yinz_45 Start: 40244, Stop: 39546, Start Num: 34

Candidate Starts for Yinz_45:

(Start: 3 @40490 has 1 MA's), (4, 40424), (17, 40313), (Start: 21 @40295 has 1 MA's), (23, 40289), (Start: 34 @40244 has 33 MA's), (45, 40172), (62, 40091), (63, 40085), (89, 39995), (103, 39956), (107, 39920), (121, 39863), (125, 39845), (134, 39785), (142, 39740), (149, 39704), (153, 39680), (156, 39671), (160, 39638), (163, 39605), (166, 39566),

Gene: Zemanar_43 Start: 40424, Stop: 39696, Start Num: 37

Candidate Starts for Zemanar_43:

(Start: 37 @40424 has 23 MA's), (68, 40256), (77, 40226), (78, 40223), (92, 40178), (95, 40166), (125, 40022), (127, 40016), (140, 39914), (148, 39869), (155, 39830), (166, 39722),

Gene: Zenteno07_50 Start: 39868, Stop: 39071, Start Num: 33

Candidate Starts for Zenteno07_50:

(Start: 24 @39898 has 1 MA's), (Start: 33 @39868 has 6 MA's), (48, 39763), (50, 39757), (61, 39694), (72, 39661), (73, 39658), (80, 39634), (108, 39448), (127, 39391), (140, 39286), (147, 39247),