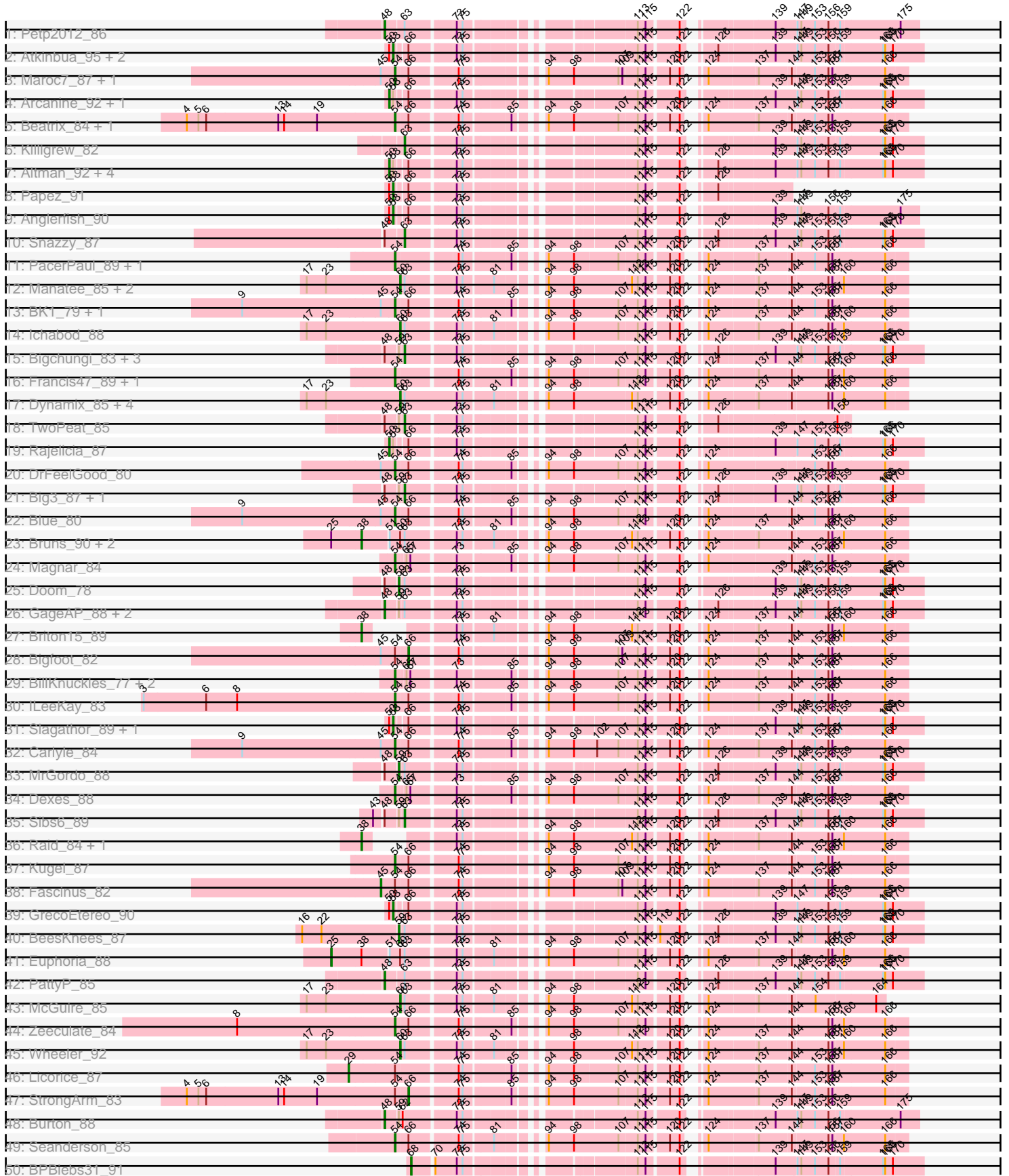
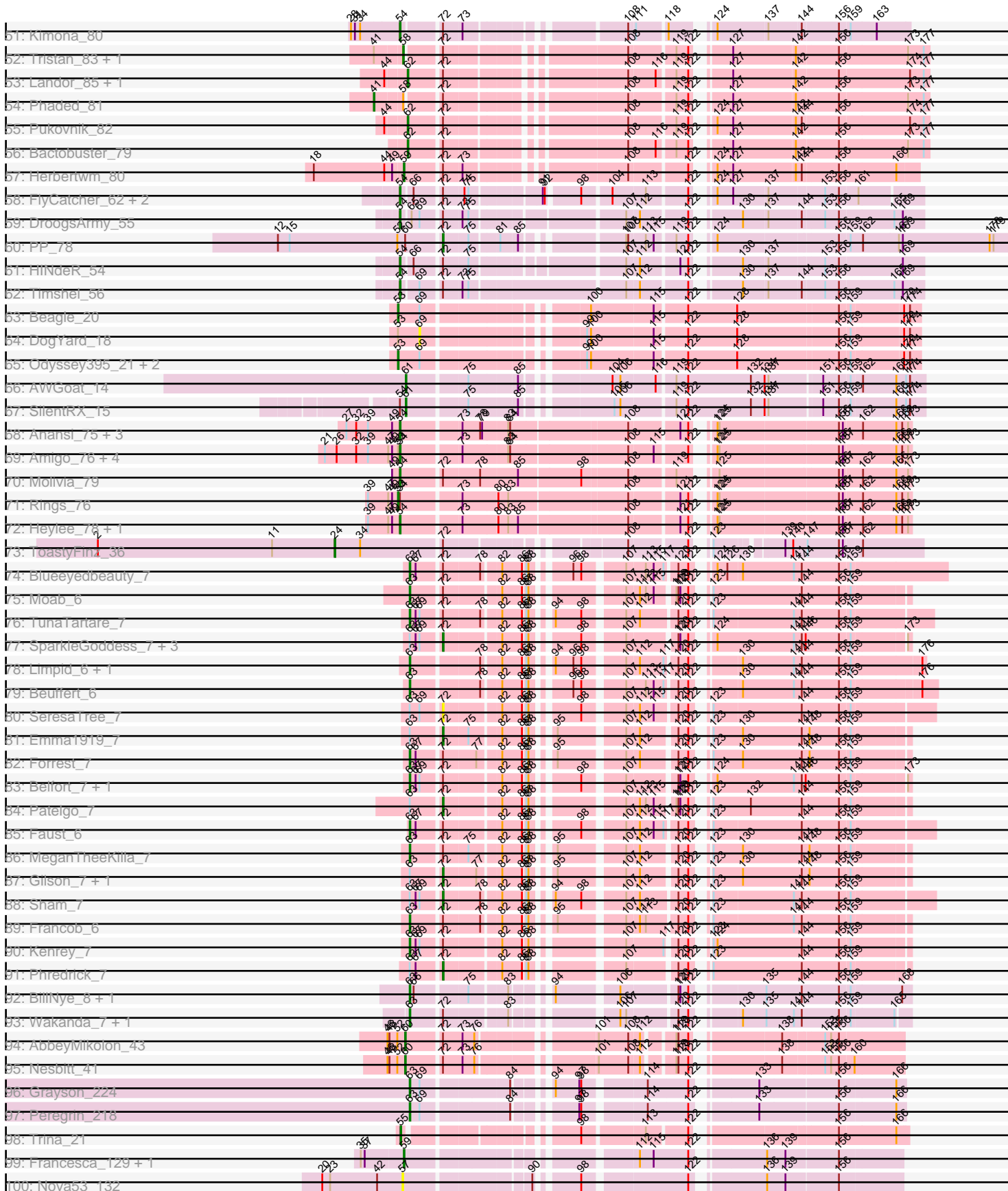


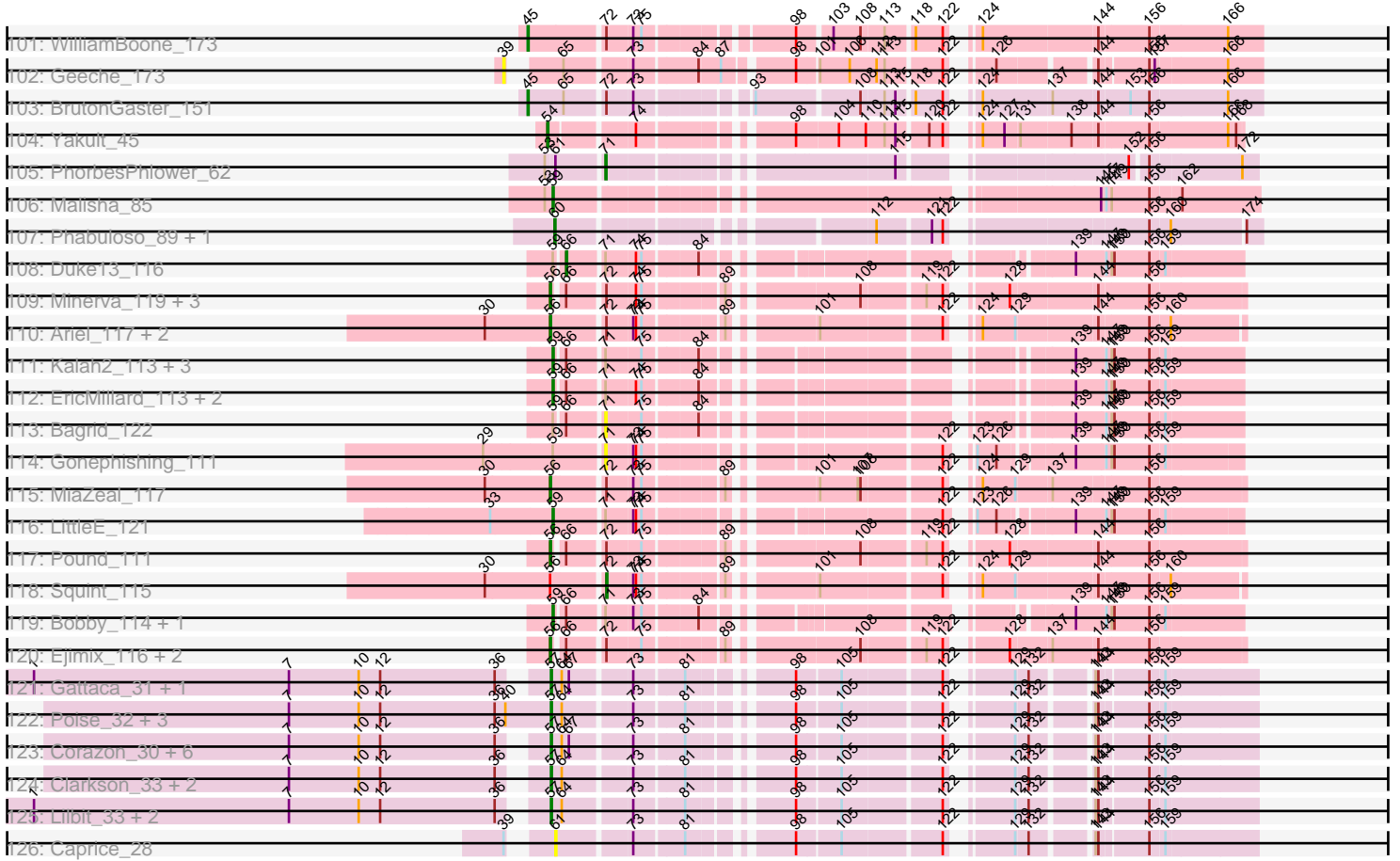
Pham 215845



Pham 215845



Pham 215845



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 215845 Report

This analysis was run 02/22/25 on database version 588.

Pham number 215845 has 207 members, 23 are drafts.

Phages represented in each track:

- Track 1 : Petp2012_86
- Track 2 : Atkinbua_95, Gwendoluna_89, Tripl3t_89
- Track 3 : Maroc7_87, CactusRose_91
- Track 4 : Arcanine_92, Hope4ever_84
- Track 5 : Beatrix_84, Bexan_82
- Track 6 : Killigrew_82
- Track 7 : Altman_92, Ruotula_92, ConceptII_94, Pinto_85, Kanely_91
- Track 8 : Papez_91
- Track 9 : Anglerfish_90
- Track 10 : Snazzy_87
- Track 11 : PacerPaul_89, BigPaolini_83
- Track 12 : Manatee_85, Lockley_87, DD5_84
- Track 13 : BK1_79, A6_79
- Track 14 : Ichabod_88
- Track 15 : Bigchungi_83, Cueyllyss_72, Sanya_79, ShortQueendom_79
- Track 16 : Francis47_89, Agaliana_82
- Track 17 : Dynamix_85, U2_78, KSSJEB_84, Seabiscuit_87, Switzer_84
- Track 18 : TwoPeat_85
- Track 19 : Rajelicia_87
- Track 20 : DrFeelGood_80
- Track 21 : Big3_87, Mkhuseli_82
- Track 22 : Blue_80
- Track 23 : Bruns_90, EnzoK_87, Lesedi_82
- Track 24 : Magnar_84
- Track 25 : Doom_78
- Track 26 : GageAP_88, Museum_87, Graduation_89
- Track 27 : Briton15_89
- Track 28 : Bigfoot_82
- Track 29 : BillKnuckles_77, Naira_89, Fenn_90
- Track 30 : lLeeKay_83
- Track 31 : Slagathor_89, McSinger_82
- Track 32 : Carlyle_84
- Track 33 : MrGordo_88
- Track 34 : Dexes_88
- Track 35 : Sibs6_89
- Track 36 : Raid_84, Zephyr_86
- Track 37 : Kugel_87

- Track 38 : Fascinus_82
- Track 39 : GrecoEtereo_90
- Track 40 : BeesKnees_87
- Track 41 : Euphoria_88
- Track 42 : PattyP_85
- Track 43 : McGuire_85
- Track 44 : Zeeculate_84
- Track 45 : Wheeler_92
- Track 46 : Licorice_87
- Track 47 : StrongArm_83
- Track 48 : Burton_88
- Track 49 : Seanderson_85
- Track 50 : BPBiebs31_91
- Track 51 : Kimona_80
- Track 52 : Tristan_83, Jaan_86
- Track 53 : Landor_85, IronMan_84
- Track 54 : Phaded_81
- Track 55 : Pukovnik_82
- Track 56 : Bactobuster_79
- Track 57 : Herbertwm_80
- Track 58 : FlyCatcher_62, Toro_60, Sheen_59
- Track 59 : DroogsArmy_55
- Track 60 : PP_78
- Track 61 : HINdeR_54
- Track 62 : Timshel_56
- Track 63 : Beagle_20
- Track 64 : DogYard_18
- Track 65 : Odyssey395_21, Pureglobe5_21, Kubulix_19
- Track 66 : AWGoat_14
- Track 67 : SilentRX_15
- Track 68 : Anansi_75, Thunderclap_75, SorJuana_75, Gorgeous_75
- Track 69 : Amigo_76, Yeezus_75, Boersma_78, Ichor_75, Jaek_75
- Track 70 : Molivia_79
- Track 71 : Rings_76
- Track 72 : Heylee_78, Amavida_77
- Track 73 : ToastyFinz_36
- Track 74 : Blueeyedbeauty_7
- Track 75 : Moab_6
- Track 76 : TunaTartare_7
- Track 77 : SparkleGoddess_7, Westy_7, Stigma_7, Comrade_7
- Track 78 : Limpid_6, Annadreamy_6
- Track 79 : Beuffert_6
- Track 80 : SeresaTree_7
- Track 81 : Emma1919_7
- Track 82 : Forrest_7
- Track 83 : Belfort_7, Karp_7
- Track 84 : Patelgo_7
- Track 85 : Faust_6
- Track 86 : MeganTheeKilla_7
- Track 87 : Gilson_7, Jada_7
- Track 88 : Sham_7
- Track 89 : Francob_6
- Track 90 : Kenrey_7

- Track 91 : Phredrick_7
- Track 92 : BillNye_8, Circinus_9
- Track 93 : Wakanda_7, Muntaha_8
- Track 94 : AbbeyMikolon_43
- Track 95 : Nesbitt_41
- Track 96 : Grayson_224
- Track 97 : Peregrin_218
- Track 98 : Trina_21
- Track 99 : Francesca_129, Dorin_129
- Track 100 : Nova53_132
- Track 101 : WilliamBoone_173
- Track 102 : Geeche_173
- Track 103 : BrutonGaster_151
- Track 104 : Yakult_45
- Track 105 : PhorbesPhlower_62
- Track 106 : Malisha_85
- Track 107 : Phabuloso_89, Kamaru_76
- Track 108 : Duke13_116
- Track 109 : Minerva_119, Zelink_116, ThreeRngTarjay_117, Hughesyang_121
- Track 110 : Ariel_117, Courthouse_112, Superphikiman_114
- Track 111 : Kalah2_113, Klein_118, DmpstrDiver_122, Wanda_121
- Track 112 : EricMillard_113, BAKA_121, Optimus_112
- Track 113 : Bagrid_122
- Track 114 : Gonephishing_111
- Track 115 : MiaZeal_117
- Track 116 : LittleE_121
- Track 117 : Pound_111
- Track 118 : Squint_115
- Track 119 : Bobby_114, Marleymoo_105
- Track 120 : Ejimix_116, Redno2_115, Halley_124
- Track 121 : Gattaca_31, MosMoris_30
- Track 122 : Poise_32, GoongGoong_31, Raela_32, Blackbeetle_32
- Track 123 : Corazon_30, Tesla_31, Pringar_32, JoieB_33, RedRaider77_32, VasuNzinga_32, Beelzebub_36
- Track 124 : Clarkson_33, Huphlepuuff_34, LittleLaf_32
- Track 125 : Lilbit_33, Marvin_30, FeliMaine_34
- Track 126 : Caprice_28

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

The start number called the most often in the published annotations is 54, it was called in 39 of the 184 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• A6_79, Agaliana_82, Amavida_77, Amigo_76, Anansi_75, BK1_79, Beatrix_84, Bexan_82, BigPaolini_83, BillKnuckles_77, Blue_80, Boersma_78, CactusRose_91, Carlyle_84, Dexes_88, DrFeelGood_80, DroogsArmy_55, Fenn_90, FlyCatcher_62, Francis47_89, Gorgeous_75, HINdeR_54, Heylee_78, ILeeKay_83, Ichor_75, Jaek_75, Kimona_80, Kugel_87, Magnar_84, Maroc7_87, Molivia_79, Naira_89, PacerPaul_89, Seanderson_85, Sheen_59, SorJuana_75, Thunderclap_75,

Timshel_56, Toro_60, Yakult_45, Yeezus_75, Zeeculate_84,

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

- Bigfoot_82, Fascinus_82, Licorice_87, Rings_76, SilentRX_15, StrongArm_83,

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

- AWGoat_14, AbbeyMikolon_43, Altman_92, Anglerfish_90, Annadreamy_6, Arcanine_92, Ariel_117, Atkinbua_95, BAKA_121, BPBiebs31_91, Bactobuster_79, Bagrid_122, Beagle_20, Beelzebub_36, BeesKnees_87, Belfort_7, Beuffert_6, Big3_87, Bigchungi_83, BillNye_8, Blackbeetle_32, Blueeyedbeauty_7, Bobby_114, Briton15_89, Bruns_90, BrutonGaster_151, Burton_88, Caprice_28, Circinus_9, Clarkson_33, Comrade_7, ConceptII_94, Corazon_30, Courthouse_112, Cueyllyss_72, DD5_84, DmpstrDiver_122, DogYard_18, Doom_78, Dorin_129, Duke13_116, Dynamix_85, Ejimix_116, Emma1919_7, EnzoK_87, EricMillard_113, Euphoria_88, Faust_6, FeliMaine_34, Forrest_7, Francesca_129, Francob_6, GageAP_88, Gattaca_31, Geeche_173, Gilson_7, Gonephishing_111, GoongGoong_31, Graduation_89, Grayson_224, GrecoEtereo_90, Gwendoluna_89, Halley_124, Herbertwm_80, Hope4ever_84, Hughesyang_121, Huphlepuuff_34, Ichabod_88, IronMan_84, Jaan_86, Jada_7, JoieB_33, KSSJEB_84, Kalah2_113, Kamaru_76, Kanely_91, Karp_7, Kenrey_7, Killigrew_82, Klein_118, Kubulix_19, Landor_85, Lesedi_82, Lilbit_33, Limpid_6, LittleE_121, LittleLaf_32, Lockley_87, Malisha_85, Manatee_85, Marleymoo_105, Marvin_30, McGuire_85, McSinger_82, MeganTheeKilla_7, MiaZeal_117, Minerva_119, Mkhuseleli_82, Moab_6, MosMoris_30, MrGordo_88, Muntaha_8, Museum_87, Nesbitt_41, Nova53_132, Odyssey395_21, Optimus_112, PP_78, Papez_91, Patelgo_7, PattyP_85, Peregrin_218, Petp2012_86, Phabuloso_89, Phaded_81, PhorbesPhlower_62, Phredrick_7, Pinto_85, Poise_32, Pound_111, Pringar_32, Pukovnik_82, Pureglobe5_21, Raela_32, Raid_84, Rajelicia_87, RedRaider77_32, Redno2_115, Ruotula_92, Sanya_79, Seabiscuit_87, SeresaTree_7, Sham_7, ShortQueendom_79, Sibs6_89, Slagathor_89, Snazzy_87, SparkleGoddess_7, Squint_115, Stigma_7, Superphikiman_114, Switzer_84, Tesla_31, ThreeRngTarjay_117, ToastyFinz_36, Trina_21, Tripl3t_89, Tristan_83, TunaTartare_7, TwoPeat_85, U2_78, VasuNzinga_32, Wakanda_7, Wanda_121, Westy_7, Wheeler_92, WilliamBoone_173, Zelink_116, Zephyr_86,

Summary by start number:

Start 24:

- Found in 1 of 207 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 184
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ToastyFinz_36 (BC1),

Start 25:

- Found in 4 of 207 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 184
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Euphoria_88 (A1),

Start 29:

- Found in 2 of 207 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 184
- Called 50.0% of time when present

- Phage (with cluster) where this start called: Licorice_87 (A1),

Start 38:

- Found in 7 of 207 (3.4%) of genes in pham
- Manual Annotations of this start: 4 of 184
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Briton15_89 (A1), Bruns_90 (A1), EnzoK_87 (A1), Lesedi_82 (A1), Raid_84 (A1), Zephyr_86 (A1),

Start 39:

- Found in 14 of 207 (6.8%) of genes in pham
- No Manual Annotations of this start.
- Called 7.1% of time when present
- Phage (with cluster) where this start called: Geeche_173 (CQ1),

Start 41:

- Found in 3 of 207 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 184
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Phaded_81 (A2),

Start 45:

- Found in 11 of 207 (5.3%) of genes in pham
- Manual Annotations of this start: 3 of 184
- Called 27.3% of time when present
- Phage (with cluster) where this start called: BrutonGaster_151 (CQ2), Fascinus_82 (A1), WilliamBoone_173 (CQ1),

Start 48:

- Found in 19 of 207 (9.2%) of genes in pham
- Manual Annotations of this start: 6 of 184
- Called 31.6% of time when present
- Phage (with cluster) where this start called: Burton_88 (A1), GageAP_88 (A1), Graduation_89 (A1), Museum_87 (A1), PattyP_85 (A1), Petp2012_86 (A1),

Start 50:

- Found in 16 of 207 (7.7%) of genes in pham
- Manual Annotations of this start: 8 of 184
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Altman_92 (A1), Arcanine_92 (A1), ConceptII_94 (A1), Hope4ever_84 (A1), Kanely_91 (A1), Pinto_85 (A1), Rajelicia_87 (A1), Ruotula_92 (A1),

Start 53:

- Found in 29 of 207 (14.0%) of genes in pham
- Manual Annotations of this start: 11 of 184
- Called 44.8% of time when present
- Phage (with cluster) where this start called: Anglerfish_90 (A1), Atkinbua_95 (A1), Beagle_20 (AP2), GrecoEtereo_90 (A1), Gwendoluna_89 (A1), Kubulix_19 (AP2), McSinger_82 (A1), Odyssey395_21 (AP2), Papez_91 (A1), Pureglobe5_21 (AP2), Rings_76 (AQ), Slagathor_89 (A1), Tripl3t_89 (A1),

Start 54:

- Found in 48 of 207 (23.2%) of genes in pham
- Manual Annotations of this start: 39 of 184
- Called 87.5% of time when present
- Phage (with cluster) where this start called: A6_79 (A1), Agaliana_82 (A1), Amavida_77 (AQ), Amigo_76 (AQ), Anansi_75 (AQ), BK1_79 (A1), Beatrix_84 (A1), Bexan_82 (A1), BigPaolini_83 (A1), BillKnuckles_77 (A1), Blue_80 (A1), Boersma_78 (AQ), CactusRose_91 (A1), Carlyle_84 (A1), Dexes_88 (A1), DrFeelGood_80 (A1), DroogsArmy_55 (A7), Fenn_90 (A1), FlyCatcher_62 (A7), Francis47_89 (A1), Gorgeous_75 (AQ), HINdeR_54 (A7), Heylee_78 (AQ), ILeeKay_83 (A1), Ichor_75 (AQ), Jaek_75 (AQ), Kimona_80 (A19), Kugel_87 (A1), Magnar_84 (A1), Maroc7_87 (A1), Molivia_79 (AQ), Naira_89 (A1), PacerPaul_89 (A1), Seanderson_85 (A1), Sheen_59 (A7), SorJuana_75 (AQ), Thunderclap_75 (AQ), Timshel_56 (A7), Toro_60 (A7), Yakult_45 (CT), Yeezus_75 (AQ), Zeeculate_84 (A1),

Start 55:

- Found in 1 of 207 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 184
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Trina_21 (CE),

Start 56:

- Found in 13 of 207 (6.3%) of genes in pham
- Manual Annotations of this start: 12 of 184
- Called 92.3% of time when present
- Phage (with cluster) where this start called: Ariel_117 (J), Courthouse_112 (J), Ejimix_116 (J), Halley_124 (J), Hughesyang_121 (J), MiaZeal_117 (J), Minerva_119 (J), Pound_111 (J), Redno2_115 (J), Superphikiman_114 (J), ThreeRngTarjay_117 (J), Zelink_116 (J),

Start 57:

- Found in 20 of 207 (9.7%) of genes in pham
- Manual Annotations of this start: 17 of 184
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beelzebub_36 (S), Blackbeetle_32 (S), Clarkson_33 (S), Corazon_30 (S), FeliMaine_34 (S), Gattaca_31 (S), GoongGoong_31 (S), Huphlepuuff_34 (S), JoieB_33 (S), Lilbit_33 (S), LittleLaf_32 (S), Marvin_30 (S), MosMoris_30 (S), Nova53_132 (CG), Poise_32 (S), Pringar_32 (S), Raela_32 (S), RedRaider77_32 (S), Tesla_31 (S), VasuNzinga_32 (S),

Start 58:

- Found in 3 of 207 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 184
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Jaan_86 (A2), Tristan_83 (A2),

Start 59:

- Found in 32 of 207 (15.5%) of genes in pham
- Manual Annotations of this start: 16 of 184
- Called 53.1% of time when present
- Phage (with cluster) where this start called: BAKA_121 (J), BeesKnees_87 (A1), Bobby_114 (J), DmpstrDiver_122 (J), Doom_78 (A1), Dorin_129 (CG), EricMillard_113 (J), Francesca_129 (CG), Herbertwm_80 (A2), Kalah2_113 (J), Klein_118 (J), LittleE_121 (J), Malisha_85 (DN), Marleymoo_105 (J), MrGordo_88

(A1), Optimus_112 (J), Wanda_121 (J),

Start 60:

- Found in 20 of 207 (9.7%) of genes in pham
- Manual Annotations of this start: 15 of 184
- Called 75.0% of time when present
- Phage (with cluster) where this start called: AbbeyMikolon_43 (BL), DD5_84 (A1), Dynamix_85 (A1), Ichabod_88 (A1), KSSJEB_84 (A1), Kamaru_76 (DN1), Lockley_87 (A1), Manatee_85 (A1), McGuire_85 (A1), Nesbitt_41 (BL), Phabuloso_89 (DN1), Seabiscuit_87 (A1), Switzer_84 (A1), U2_78 (A1), Wheeler_92 (A1),

Start 61:

- Found in 4 of 207 (1.9%) of genes in pham
- Manual Annotations of this start: 2 of 184
- Called 75.0% of time when present
- Phage (with cluster) where this start called: AWGoat_14 (AP4), Caprice_28 (S), SilentRX_15 (AP4),

Start 62:

- Found in 5 of 207 (2.4%) of genes in pham
- Manual Annotations of this start: 4 of 184
- Called 80.0% of time when present
- Phage (with cluster) where this start called: Bactobuster_79 (A2), IronMan_84 (A2), Landor_85 (A2), Pukovnik_82 (A2),

Start 63:

- Found in 63 of 207 (30.4%) of genes in pham
- Manual Annotations of this start: 25 of 184
- Called 46.0% of time when present
- Phage (with cluster) where this start called: Annadreamy_6 (BK1), Belfort_7 (BK1), Beuffert_6 (BK1), Big3_87 (A1), Bigchungi_83 (A1), BillNye_8 (BK2), Blueeyedbeauty_7 (BK1), Circinus_9 (BK2), Cueylyss_72 (A1), Faust_6 (BK1), Forrest_7 (BK1), Francob_6 (BK1), Grayson_224 (CB), Karp_7 (BK1), Kenrey_7 (BK1), Killigrew_82 (A1), Limpid_6 (BK1), MeganTheeKilla_7 (BK1), Mkhuseli_82 (A1), Moab_6 (BK1), Muntaha_8 (BK2), Peregrin_218 (CB), Sanya_79 (A1), ShortQueendom_79 (A1), Sibs6_89 (A1), Snazzy_87 (A1), TunaTartare_7 (BK1), TwoPeat_85 (A1), Wakanda_7 (BK2),

Start 66:

- Found in 57 of 207 (27.5%) of genes in pham
- Manual Annotations of this start: 3 of 184
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Bigfoot_82 (A1), Duke13_116 (J), StrongArm_83 (A1),

Start 68:

- Found in 1 of 207 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 184
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BPBiebs31_91 (A1),

Start 69:

- Found in 19 of 207 (9.2%) of genes in pham
- No Manual Annotations of this start.
- Called 5.3% of time when present
- Phage (with cluster) where this start called: DogYard_18 (AP2),

Start 71:

- Found in 14 of 207 (6.8%) of genes in pham
- Manual Annotations of this start: 1 of 184
- Called 21.4% of time when present
- Phage (with cluster) where this start called: Bagrid_122 (J), Gonephishing_111 (J), PhorbesPhlower_62 (DH),

Start 72:

- Found in 58 of 207 (28.0%) of genes in pham
- Manual Annotations of this start: 11 of 184
- Called 22.4% of time when present
- Phage (with cluster) where this start called: Comrade_7 (BK1), Emma1919_7 (BK1), Gilson_7 (BK1), Jada_7 (BK1), PP_78 (A7), Patelgo_7 (BK1), Phredrick_7 (BK1), SeresaTree_7 (BK1), Sham_7 (BK1), SparkleGoddess_7 (BK1), Squint_115 (J), Stigma_7 (BK1), Westy_7 (BK1),

Summary by clusters:

There are 22 clusters represented in this pham: DN, DH, BL, AP4, A19, A1, AP2, A2, DN1, A7, CQ2, CQ1, CB, J, CG, CE, AQ, S, BK1, BK2, CT, BC1,

Info for manual annotations of cluster A1:

- Start number 25 was manually annotated 1 time for cluster A1.
- Start number 29 was manually annotated 1 time for cluster A1.
- Start number 38 was manually annotated 4 times for cluster A1.
- Start number 45 was manually annotated 1 time for cluster A1.
- Start number 48 was manually annotated 6 times for cluster A1.
- Start number 50 was manually annotated 8 times for cluster A1.
- Start number 53 was manually annotated 7 times for cluster A1.
- Start number 54 was manually annotated 21 times for cluster A1.
- Start number 59 was manually annotated 3 times for cluster A1.
- Start number 60 was manually annotated 11 times for cluster A1.
- Start number 63 was manually annotated 6 times for cluster A1.
- Start number 66 was manually annotated 2 times for cluster A1.
- Start number 68 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster A19:

- Start number 54 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 41 was manually annotated 1 time for cluster A2.
- Start number 58 was manually annotated 1 time for cluster A2.
- Start number 59 was manually annotated 1 time for cluster A2.
- Start number 62 was manually annotated 4 times for cluster A2.

Info for manual annotations of cluster A7:

- Start number 54 was manually annotated 4 times for cluster A7.
- Start number 72 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster AP2:

- Start number 53 was manually annotated 3 times for cluster AP2.

Info for manual annotations of cluster AP4:

- Start number 61 was manually annotated 2 times for cluster AP4.

Info for manual annotations of cluster AQ:

- Start number 53 was manually annotated 1 time for cluster AQ.
- Start number 54 was manually annotated 12 times for cluster AQ.

Info for manual annotations of cluster BC1:

- Start number 24 was manually annotated 1 time for cluster BC1.

Info for manual annotations of cluster BK1:

- Start number 63 was manually annotated 13 times for cluster BK1.
- Start number 72 was manually annotated 9 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 63 was manually annotated 4 times for cluster BK2.

Info for manual annotations of cluster BL:

- Start number 60 was manually annotated 2 times for cluster BL.

Info for manual annotations of cluster CB:

- Start number 63 was manually annotated 2 times for cluster CB.

Info for manual annotations of cluster CE:

- Start number 55 was manually annotated 1 time for cluster CE.

Info for manual annotations of cluster CG:

- Start number 59 was manually annotated 2 times for cluster CG.

Info for manual annotations of cluster CQ1:

- Start number 45 was manually annotated 1 time for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 45 was manually annotated 1 time for cluster CQ2.

Info for manual annotations of cluster CT:

- Start number 54 was manually annotated 1 time for cluster CT.

Info for manual annotations of cluster DH:

- Start number 71 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DN:

- Start number 59 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 60 was manually annotated 2 times for cluster DN1.

Info for manual annotations of cluster J:

- Start number 56 was manually annotated 12 times for cluster J.

- Start number 59 was manually annotated 9 times for cluster J.
- Start number 66 was manually annotated 1 time for cluster J.
- Start number 72 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster S:

- Start number 57 was manually annotated 17 times for cluster S.

Gene Information:

Gene: A6_79 Start: 46951, Stop: 46274, Start Num: 54

Candidate Starts for A6_79:

(9, 47182), (Start: 45 @46972 has 3 MA's), (Start: 54 @46951 has 39 MA's), (Start: 66 @46933 has 3 MA's), (74, 46867), (75, 46861), (85, 46795), (94, 46768), (98, 46729), (107, 46660), (113, 46633), (115, 46621), (120, 46591), (122, 46576), (124, 46561), (137, 46489), (144, 46441), (153, 46411), (156, 46390), (157, 46384), (166, 46306),

Gene: AWGoat_14 Start: 5930, Stop: 6646, Start Num: 61

Candidate Starts for AWGoat_14:

(Start: 61 @5930 has 2 MA's), (75, 6014), (85, 6083), (104, 6194), (106, 6206), (116, 6257), (119, 6281), (122, 6299), (132, 6395), (134, 6416), (137, 6422), (151, 6497), (156, 6521), (159, 6536), (162, 6551), (166, 6602), (171, 6617), (174, 6623),

Gene: AbbeyMikolon_43 Start: 29546, Stop: 30193, Start Num: 60

Candidate Starts for AbbeyMikolon_43:

(46, 29519), (Start: 48 @29522 has 6 MA's), (52, 29534), (Start: 60 @29546 has 15 MA's), (Start: 72 @29594 has 11 MA's), (73, 29624), (76, 29642), (101, 29792), (108, 29837), (112, 29852), (119, 29891), (120, 29894), (122, 29909), (138, 30020), (153, 30077), (155, 30086), (156, 30098),

Gene: Agaliana_82 Start: 48068, Stop: 47394, Start Num: 54

Candidate Starts for Agaliana_82:

(Start: 54 @48068 has 39 MA's), (74, 47984), (75, 47978), (85, 47912), (94, 47885), (98, 47846), (107, 47780), (113, 47753), (115, 47741), (120, 47711), (122, 47696), (124, 47681), (137, 47609), (144, 47561), (156, 47510), (157, 47504), (160, 47489), (166, 47426),

Gene: Altman_92 Start: 51336, Stop: 50647, Start Num: 50

Candidate Starts for Altman_92:

(Start: 50 @51336 has 8 MA's), (Start: 53 @51330 has 11 MA's), (Start: 66 @51315 has 3 MA's), (73, 51252), (75, 51243), (113, 51033), (115, 51021), (122, 50976), (126, 50943), (139, 50865), (147, 50835), (149, 50829), (153, 50808), (156, 50787), (159, 50772), (165, 50709), (166, 50706), (170, 50694),

Gene: Amavida_77 Start: 49536, Stop: 48835, Start Num: 54

Candidate Starts for Amavida_77:

(39, 49584), (47, 49554), (49, 49548), (Start: 54 @49536 has 39 MA's), (73, 49452), (80, 49401), (83, 49386), (85, 49371), (108, 49215), (121, 49146), (122, 49134), (124, 49119), (125, 49116), (156, 48942), (157, 48936), (162, 48909), (166, 48858), (168, 48849), (173, 48840),

Gene: Amigo_76 Start: 49754, Stop: 49053, Start Num: 54

Candidate Starts for Amigo_76:

(21, 49868), (26, 49850), (32, 49820), (39, 49802), (47, 49772), (49, 49766), (Start: 53 @49757 has 11 MA's), (Start: 54 @49754 has 39 MA's), (73, 49670), (83, 49604), (84, 49601), (108, 49433), (115,

49397), (122, 49352), (124, 49337), (125, 49334), (156, 49160), (157, 49154), (166, 49076), (168, 49067), (173, 49058),

Gene: Anansi_75 Start: 49355, Stop: 48654, Start Num: 54

Candidate Starts for Anansi_75:

(27, 49436), (32, 49421), (39, 49403), (49, 49367), (Start: 54 @49355 has 39 MA's), (73, 49271), (78, 49244), (79, 49241), (83, 49205), (84, 49202), (108, 49034), (121, 48965), (122, 48953), (124, 48938), (125, 48935), (156, 48761), (157, 48755), (162, 48728), (166, 48677), (168, 48668), (173, 48659),

Gene: Anglerfish_90 Start: 51186, Stop: 50512, Start Num: 53

Candidate Starts for Anglerfish_90:

(Start: 50 @51192 has 8 MA's), (Start: 53 @51186 has 11 MA's), (Start: 66 @51171 has 3 MA's), (73, 51108), (75, 51099), (113, 50889), (115, 50877), (122, 50832), (139, 50721), (147, 50691), (149, 50685), (156, 50643), (159, 50628), (175, 50538),

Gene: Annadreamy_6 Start: 2126, Stop: 1452, Start Num: 63

Candidate Starts for Annadreamy_6:

(Start: 63 @2126 has 25 MA's), (78, 2030), (82, 2006), (86, 1976), (87, 1973), (88, 1970), (94, 1952), (96, 1925), (98, 1913), (107, 1859), (112, 1841), (117, 1805), (120, 1790), (122, 1775), (130, 1721), (141, 1643), (144, 1631), (156, 1574), (159, 1559), (176, 1457),

Gene: Arcanine_92 Start: 51479, Stop: 50790, Start Num: 50

Candidate Starts for Arcanine_92:

(Start: 50 @51479 has 8 MA's), (Start: 53 @51473 has 11 MA's), (Start: 66 @51458 has 3 MA's), (73, 51395), (75, 51386), (113, 51176), (115, 51164), (122, 51119), (139, 51008), (147, 50978), (149, 50972), (153, 50951), (156, 50930), (159, 50915), (165, 50852), (166, 50849), (170, 50837),

Gene: Ariel_117 Start: 63532, Stop: 64182, Start Num: 56

Candidate Starts for Ariel_117:

(30, 63460), (Start: 56 @63532 has 12 MA's), (Start: 72 @63583 has 11 MA's), (73, 63610), (74, 63613), (75, 63619), (89, 63694), (101, 63772), (122, 63898), (124, 63913), (129, 63949), (144, 64033), (156, 64084), (160, 64105),

Gene: Atkinbua_95 Start: 51766, Stop: 51083, Start Num: 53

Candidate Starts for Atkinbua_95:

(Start: 50 @51772 has 8 MA's), (Start: 53 @51766 has 11 MA's), (Start: 66 @51751 has 3 MA's), (73, 51688), (75, 51679), (113, 51469), (115, 51457), (122, 51412), (126, 51379), (139, 51301), (147, 51271), (149, 51265), (153, 51244), (156, 51223), (159, 51208), (165, 51145), (166, 51142), (170, 51130),

Gene: BAKA_121 Start: 67154, Stop: 67777, Start Num: 59

Candidate Starts for BAKA_121:

(Start: 59 @67154 has 16 MA's), (Start: 66 @67163 has 3 MA's), (Start: 71 @67199 has 1 MA's), (74, 67229), (75, 67235), (84, 67289), (139, 67601), (147, 67631), (149, 67637), (150, 67640), (156, 67679), (159, 67694),

Gene: BK1_79 Start: 46951, Stop: 46274, Start Num: 54

Candidate Starts for BK1_79:

(9, 47182), (Start: 45 @46972 has 3 MA's), (Start: 54 @46951 has 39 MA's), (Start: 66 @46933 has 3 MA's), (74, 46867), (75, 46861), (85, 46795), (94, 46768), (98, 46729), (107, 46660), (113, 46633), (115, 46621), (120, 46591), (122, 46576), (124, 46561), (137, 46489), (144, 46441), (153, 46411), (156, 46390), (157, 46384), (166, 46306),

Gene: BPBiebs31_91 Start: 51295, Stop: 50630, Start Num: 68

Candidate Starts for BPBiebs31_91:

(Start: 68 @51295 has 1 MA's), (70, 51265), (73, 51235), (75, 51226), (113, 51016), (115, 51004), (122, 50959), (139, 50848), (147, 50818), (149, 50812), (153, 50791), (156, 50770), (159, 50755), (165, 50692), (166, 50689), (170, 50677),

Gene: Bactobuster_79 Start: 48348, Stop: 47665, Start Num: 62

Candidate Starts for Bactobuster_79:

(Start: 62 @48348 has 4 MA's), (Start: 72 @48303 has 11 MA's), (108, 48069), (116, 48030), (119, 48006), (122, 47988), (127, 47949), (142, 47856), (156, 47796), (173, 47694), (177, 47673),

Gene: Bagrid_122 Start: 67160, Stop: 67738, Start Num: 71

Candidate Starts for Bagrid_122:

(Start: 59 @67115 has 16 MA's), (Start: 66 @67124 has 3 MA's), (Start: 71 @67160 has 1 MA's), (75, 67196), (84, 67250), (139, 67562), (147, 67592), (149, 67598), (150, 67601), (156, 67640), (159, 67655),

Gene: Beagle_20 Start: 6529, Stop: 7245, Start Num: 53

Candidate Starts for Beagle_20:

(Start: 53 @6529 has 11 MA's), (69, 6562), (100, 6772), (115, 6865), (122, 6910), (128, 6985), (156, 7135), (159, 7150), (170, 7225), (174, 7231),

Gene: Beatrix_84 Start: 49764, Stop: 49084, Start Num: 54

Candidate Starts for Beatrix_84:

(4, 50085), (5, 50067), (6, 50055), (13, 49944), (14, 49935), (19, 49884), (Start: 54 @49764 has 39 MA's), (Start: 66 @49746 has 3 MA's), (74, 49680), (75, 49674), (85, 49608), (94, 49581), (98, 49542), (107, 49473), (113, 49446), (115, 49434), (120, 49404), (122, 49389), (124, 49374), (137, 49299), (144, 49251), (153, 49221), (156, 49200), (157, 49194), (166, 49116),

Gene: Beelzebub_36 Start: 10697, Stop: 10047, Start Num: 57

Candidate Starts for Beelzebub_36:

(7, 10961), (10, 10883), (12, 10859), (36, 10733), (Start: 57 @10697 has 17 MA's), (64, 10685), (67, 10679), (73, 10619), (81, 10568), (98, 10478), (105, 10433), (122, 10331), (129, 10280), (132, 10268), (143, 10211), (144, 10208), (156, 10160), (159, 10145),

Gene: BeesKnees_87 Start: 48684, Stop: 48004, Start Num: 59

Candidate Starts for BeesKnees_87:

(16, 48828), (22, 48798), (Start: 59 @48684 has 16 MA's), (Start: 63 @48678 has 25 MA's), (73, 48609), (75, 48600), (113, 48390), (115, 48378), (118, 48363), (122, 48333), (126, 48300), (139, 48222), (147, 48192), (149, 48186), (153, 48165), (156, 48144), (159, 48129), (165, 48066), (166, 48063), (170, 48051),

Gene: Belfort_7 Start: 2280, Stop: 1633, Start Num: 63

Candidate Starts for Belfort_7:

(Start: 63 @2280 has 25 MA's), (67, 2271), (69, 2265), (Start: 72 @2238 has 11 MA's), (82, 2160), (86, 2130), (87, 2127), (88, 2124), (98, 2067), (107, 2013), (120, 1947), (121, 1944), (122, 1932), (124, 1914), (141, 1797), (144, 1785), (146, 1779), (156, 1728), (159, 1713), (173, 1638),

Gene: Beuffert_6 Start: 2198, Stop: 1509, Start Num: 63

Candidate Starts for Beuffert_6:

(Start: 63 @2198 has 25 MA's), (78, 2102), (82, 2078), (86, 2048), (87, 2045), (88, 2042), (96, 1997), (98, 1985), (107, 1931), (113, 1904), (115, 1892), (117, 1877), (120, 1862), (122, 1847), (130, 1793), (141, 1715), (144, 1703), (156, 1646), (159, 1631), (176, 1532),

Gene: Bexan_82 Start: 49540, Stop: 48860, Start Num: 54

Candidate Starts for Bexan_82:

(4, 49861), (5, 49843), (6, 49831), (13, 49720), (14, 49711), (19, 49660), (Start: 54 @49540 has 39 MA's), (Start: 66 @49522 has 3 MA's), (74, 49456), (75, 49450), (85, 49384), (94, 49357), (98, 49318), (107, 49249), (113, 49222), (115, 49210), (120, 49180), (122, 49165), (124, 49150), (137, 49075), (144, 49027), (153, 48997), (156, 48976), (157, 48970), (166, 48892),

Gene: Big3_87 Start: 51481, Stop: 50807, Start Num: 63

Candidate Starts for Big3_87:

(Start: 48 @51505 has 6 MA's), (Start: 59 @51487 has 16 MA's), (Start: 63 @51481 has 25 MA's), (73, 51412), (75, 51403), (113, 51193), (115, 51181), (122, 51136), (126, 51103), (139, 51025), (147, 50995), (149, 50989), (153, 50968), (156, 50947), (159, 50932), (165, 50869), (166, 50866), (170, 50854),

Gene: BigPaolini_83 Start: 48463, Stop: 47786, Start Num: 54

Candidate Starts for BigPaolini_83:

(Start: 54 @48463 has 39 MA's), (74, 48379), (75, 48373), (85, 48307), (94, 48280), (98, 48241), (107, 48175), (113, 48148), (115, 48136), (120, 48106), (122, 48091), (124, 48076), (137, 48001), (144, 47953), (153, 47923), (156, 47902), (157, 47896), (166, 47818),

Gene: Bigchungj_83 Start: 50312, Stop: 49638, Start Num: 63

Candidate Starts for Bigchungj_83:

(Start: 48 @50336 has 6 MA's), (Start: 59 @50318 has 16 MA's), (Start: 63 @50312 has 25 MA's), (73, 50243), (75, 50234), (113, 50024), (115, 50012), (122, 49967), (126, 49934), (139, 49856), (147, 49826), (149, 49820), (153, 49799), (156, 49778), (159, 49763), (165, 49700), (166, 49697), (170, 49685),

Gene: Bigfoot_82 Start: 49765, Stop: 49106, Start Num: 66

Candidate Starts for Bigfoot_82:

(Start: 45 @49804 has 3 MA's), (Start: 54 @49783 has 39 MA's), (Start: 66 @49765 has 3 MA's), (74, 49699), (75, 49693), (94, 49600), (98, 49561), (107, 49492), (109, 49486), (113, 49465), (115, 49453), (120, 49423), (122, 49408), (124, 49393), (137, 49321), (144, 49273), (153, 49243), (156, 49222), (157, 49216), (166, 49138),

Gene: BillKnuckles_77 Start: 48897, Stop: 48223, Start Num: 54

Candidate Starts for BillKnuckles_77:

(Start: 54 @48897 has 39 MA's), (65, 48885), (67, 48879), (73, 48819), (85, 48744), (94, 48717), (98, 48678), (107, 48609), (113, 48582), (115, 48570), (120, 48540), (122, 48525), (124, 48510), (137, 48438), (144, 48390), (153, 48360), (156, 48339), (157, 48333), (166, 48255),

Gene: BillNye_8 Start: 3730, Stop: 3080, Start Num: 63

Candidate Starts for BillNye_8:

(Start: 63 @3730 has 25 MA's), (Start: 66 @3724 has 3 MA's), (75, 3652), (83, 3601), (94, 3562), (106, 3478), (120, 3400), (121, 3397), (122, 3385), (135, 3295), (144, 3241), (156, 3184), (159, 3169), (168, 3094),

Gene: Blackbeetle_32 Start: 9689, Stop: 9039, Start Num: 57

Candidate Starts for Blackbeetle_32:

(7, 9980), (10, 9902), (12, 9878), (36, 9752), (40, 9740), (Start: 57 @9689 has 17 MA's), (64, 9677), (73, 9611), (81, 9560), (98, 9470), (105, 9425), (122, 9323), (129, 9272), (132, 9260), (143, 9203), (144, 9200), (156, 9152), (159, 9137),

Gene: Blue_80 Start: 48982, Stop: 48305, Start Num: 54

Candidate Starts for Blue_80:

(9, 49213), (Start: 45 @49003 has 3 MA's), (Start: 54 @48982 has 39 MA's), (Start: 66 @48964 has 3 MA's), (74, 48898), (75, 48892), (85, 48826), (94, 48799), (98, 48760), (107, 48691), (113, 48664), (115, 48652), (122, 48607), (124, 48592), (144, 48472), (153, 48442), (156, 48421), (157, 48415), (166, 48337),

Gene: Blueeyedbeauty_7 Start: 2331, Stop: 1621, Start Num: 63

Candidate Starts for Blueeyedbeauty_7:

(Start: 63 @2331 has 25 MA's), (67, 2322), (Start: 72 @2289 has 11 MA's), (78, 2235), (82, 2211), (86, 2181), (87, 2178), (88, 2175), (96, 2130), (98, 2118), (107, 2064), (113, 2037), (115, 2025), (117, 2010), (120, 1995), (122, 1980), (124, 1962), (126, 1947), (130, 1926), (141, 1848), (144, 1836), (156, 1779), (159, 1764),

Gene: Bobby_114 Start: 68576, Stop: 69196, Start Num: 59

Candidate Starts for Bobby_114:

(Start: 59 @68576 has 16 MA's), (Start: 66 @68585 has 3 MA's), (Start: 71 @68621 has 1 MA's), (73, 68648), (75, 68657), (84, 68711), (139, 69020), (147, 69050), (149, 69056), (150, 69059), (156, 69098), (159, 69113),

Gene: Boersma_78 Start: 49754, Stop: 49053, Start Num: 54

Candidate Starts for Boersma_78:

(21, 49868), (26, 49850), (32, 49820), (39, 49802), (47, 49772), (49, 49766), (Start: 53 @49757 has 11 MA's), (Start: 54 @49754 has 39 MA's), (73, 49670), (83, 49604), (84, 49601), (108, 49433), (115, 49397), (122, 49352), (124, 49337), (125, 49334), (156, 49160), (157, 49154), (166, 49076), (168, 49067), (173, 49058),

Gene: Briton15_89 Start: 50750, Stop: 50073, Start Num: 38

Candidate Starts for Briton15_89:

(Start: 38 @50750 has 4 MA's), (73, 50669), (75, 50660), (81, 50618), (94, 50567), (98, 50528), (112, 50441), (113, 50432), (120, 50390), (122, 50375), (124, 50360), (137, 50288), (144, 50240), (156, 50189), (157, 50183), (160, 50168), (166, 50105),

Gene: Bruns_90 Start: 50053, Stop: 49328, Start Num: 38

Candidate Starts for Bruns_90:

(Start: 25 @50098 has 1 MA's), (Start: 38 @50053 has 4 MA's), (51, 50014), (Start: 60 @49999 has 15 MA's), (Start: 63 @49993 has 25 MA's), (73, 49924), (75, 49915), (81, 49873), (94, 49822), (98, 49783), (112, 49696), (113, 49687), (120, 49645), (122, 49630), (124, 49615), (137, 49543), (144, 49495), (156, 49444), (157, 49438), (160, 49423), (166, 49360),

Gene: BrutonGaster_151 Start: 82896, Stop: 82189, Start Num: 45

Candidate Starts for BrutonGaster_151:

(Start: 45 @82896 has 3 MA's), (65, 82857), (Start: 72 @82818 has 11 MA's), (73, 82791), (93, 82689), (108, 82581), (113, 82557), (115, 82545), (118, 82530), (122, 82500), (124, 82485), (137, 82410), (144, 82362), (153, 82332), (156, 82311), (166, 82227),

Gene: Burton_88 Start: 51831, Stop: 51142, Start Num: 48

Candidate Starts for Burton_88:

(Start: 48 @51831 has 6 MA's), (Start: 59 @51813 has 16 MA's), (Start: 62 @51807 has 4 MA's), (73, 51738), (75, 51729), (113, 51519), (115, 51507), (122, 51462), (139, 51351), (147, 51321), (149, 51315), (153, 51294), (156, 51273), (159, 51258), (175, 51168),

Gene: CactusRose_91 Start: 50800, Stop: 50123, Start Num: 54

Candidate Starts for CactusRose_91:

(Start: 45 @50821 has 3 MA's), (Start: 54 @50800 has 39 MA's), (Start: 66 @50782 has 3 MA's), (74, 50716), (75, 50710), (94, 50617), (98, 50578), (107, 50509), (109, 50503), (113, 50482), (115, 50470), (120, 50440), (122, 50425), (124, 50410), (137, 50338), (144, 50290), (153, 50260), (156, 50239), (157, 50233), (166, 50155),

Gene: Caprice_28 Start: 9258, Stop: 8611, Start Num: 61

Candidate Starts for Caprice_28:

(39, 9288), (Start: 61 @9258 has 2 MA's), (73, 9183), (81, 9132), (98, 9042), (105, 8997), (122, 8895), (129, 8844), (132, 8832), (143, 8775), (144, 8772), (156, 8724), (159, 8709),

Gene: Carlyle_84 Start: 48483, Stop: 47806, Start Num: 54

Candidate Starts for Carlyle_84:

(9, 48714), (Start: 45 @48504 has 3 MA's), (Start: 54 @48483 has 39 MA's), (Start: 66 @48465 has 3 MA's), (74, 48399), (75, 48393), (85, 48327), (94, 48300), (98, 48261), (102, 48225), (107, 48192), (113, 48165), (115, 48153), (120, 48123), (122, 48108), (124, 48093), (137, 48021), (144, 47973), (153, 47943), (156, 47922), (157, 47916), (166, 47838),

Gene: Circinus_9 Start: 3611, Stop: 2961, Start Num: 63

Candidate Starts for Circinus_9:

(Start: 63 @3611 has 25 MA's), (Start: 66 @3605 has 3 MA's), (75, 3533), (83, 3482), (94, 3443), (106, 3359), (120, 3281), (121, 3278), (122, 3266), (135, 3176), (144, 3122), (156, 3065), (159, 3050), (168, 2975),

Gene: Clarkson_33 Start: 10398, Stop: 9748, Start Num: 57

Candidate Starts for Clarkson_33:

(7, 10662), (10, 10584), (12, 10560), (36, 10434), (Start: 57 @10398 has 17 MA's), (64, 10386), (73, 10320), (81, 10269), (98, 10179), (105, 10134), (122, 10032), (129, 9981), (132, 9969), (143, 9912), (144, 9909), (156, 9861), (159, 9846),

Gene: Comrade_7 Start: 2239, Stop: 1634, Start Num: 72

Candidate Starts for Comrade_7:

(Start: 63 @2281 has 25 MA's), (67, 2272), (69, 2266), (Start: 72 @2239 has 11 MA's), (82, 2161), (86, 2131), (87, 2128), (88, 2125), (98, 2068), (107, 2014), (120, 1948), (121, 1945), (122, 1933), (124, 1915), (141, 1798), (144, 1786), (146, 1780), (156, 1729), (159, 1714), (173, 1639),

Gene: Conceptll_94 Start: 52101, Stop: 51412, Start Num: 50

Candidate Starts for Conceptll_94:

(Start: 50 @52101 has 8 MA's), (Start: 53 @52095 has 11 MA's), (Start: 66 @52080 has 3 MA's), (73, 52017), (75, 52008), (113, 51798), (115, 51786), (122, 51741), (126, 51708), (139, 51630), (147, 51600), (149, 51594), (153, 51573), (156, 51552), (159, 51537), (165, 51474), (166, 51471), (170, 51459),

Gene: Corazon_30 Start: 10351, Stop: 9701, Start Num: 57

Candidate Starts for Corazon_30:

(7, 10615), (10, 10537), (12, 10513), (36, 10387), (Start: 57 @10351 has 17 MA's), (64, 10339), (67, 10333), (73, 10273), (81, 10222), (98, 10132), (105, 10087), (122, 9985), (129, 9934), (132, 9922), (143, 9865), (144, 9862), (156, 9814), (159, 9799),

Gene: Courthouse_112 Start: 63132, Stop: 63782, Start Num: 56

Candidate Starts for Courthouse_112:

(30, 63060), (Start: 56 @63132 has 12 MA's), (Start: 72 @63183 has 11 MA's), (73, 63210), (74, 63213), (75, 63219), (89, 63294), (101, 63372), (122, 63498), (124, 63513), (129, 63549), (144,

63633), (156, 63684), (160, 63705),

Gene: Cueyllyss_72 Start: 46773, Stop: 46099, Start Num: 63

Candidate Starts for Cueyllyss_72:

(Start: 48 @46797 has 6 MA's), (Start: 59 @46779 has 16 MA's), (Start: 63 @46773 has 25 MA's), (73, 46704), (75, 46695), (113, 46485), (115, 46473), (122, 46428), (126, 46395), (139, 46317), (147, 46287), (149, 46281), (153, 46260), (156, 46239), (159, 46224), (165, 46161), (166, 46158), (170, 46146),

Gene: DD5_84 Start: 50105, Stop: 49434, Start Num: 60

Candidate Starts for DD5_84:

(17, 50249), (23, 50219), (Start: 60 @50105 has 15 MA's), (Start: 63 @50099 has 25 MA's), (73, 50030), (75, 50021), (81, 49979), (94, 49928), (98, 49889), (112, 49802), (113, 49793), (115, 49781), (120, 49751), (122, 49736), (124, 49721), (137, 49649), (144, 49601), (156, 49550), (157, 49544), (160, 49529), (166, 49466),

Gene: Dexes_88 Start: 52469, Stop: 51795, Start Num: 54

Candidate Starts for Dexes_88:

(Start: 54 @52469 has 39 MA's), (65, 52457), (67, 52451), (73, 52391), (85, 52316), (94, 52289), (98, 52250), (107, 52181), (113, 52154), (115, 52142), (122, 52097), (124, 52082), (137, 52010), (144, 51962), (153, 51932), (156, 51911), (157, 51905), (166, 51827),

Gene: DmpstrDiver_122 Start: 67404, Stop: 68027, Start Num: 59

Candidate Starts for DmpstrDiver_122:

(Start: 59 @67404 has 16 MA's), (Start: 66 @67413 has 3 MA's), (Start: 71 @67449 has 1 MA's), (75, 67485), (84, 67539), (139, 67851), (147, 67881), (149, 67887), (150, 67890), (156, 67929), (159, 67944),

Gene: DogYard_18 Start: 6632, Stop: 7315, Start Num: 69

Candidate Starts for DogYard_18:

(Start: 53 @6599 has 11 MA's), (69, 6632), (99, 6836), (100, 6842), (115, 6935), (122, 6980), (128, 7055), (156, 7205), (159, 7220), (170, 7295), (174, 7301),

Gene: Doom_78 Start: 48519, Stop: 47839, Start Num: 59

Candidate Starts for Doom_78:

(Start: 48 @48537 has 6 MA's), (Start: 59 @48519 has 16 MA's), (Start: 63 @48513 has 25 MA's), (73, 48444), (75, 48435), (113, 48225), (115, 48213), (122, 48168), (139, 48057), (147, 48027), (149, 48021), (153, 48000), (156, 47979), (159, 47964), (165, 47901), (166, 47898), (170, 47886),

Gene: Dorin_129 Start: 82694, Stop: 83350, Start Num: 59

Candidate Starts for Dorin_129:

(35, 82631), (37, 82637), (Start: 59 @82694 has 16 MA's), (112, 82988), (115, 83009), (122, 83060), (136, 83153), (139, 83180), (156, 83258),

Gene: DrFeelGood_80 Start: 47764, Stop: 47084, Start Num: 54

Candidate Starts for DrFeelGood_80:

(Start: 45 @47785 has 3 MA's), (Start: 54 @47764 has 39 MA's), (Start: 66 @47746 has 3 MA's), (74, 47680), (75, 47674), (85, 47608), (94, 47581), (98, 47542), (107, 47473), (113, 47446), (115, 47434), (122, 47389), (124, 47374), (153, 47221), (156, 47200), (157, 47194), (166, 47116),

Gene: DroogsArmy_55 Start: 40958, Stop: 40269, Start Num: 54

Candidate Starts for DroogsArmy_55:

(Start: 54 @40958 has 39 MA's), (65, 40946), (69, 40934), (Start: 72 @40907 has 11 MA's), (73, 40880), (75, 40871), (107, 40664), (112, 40646), (122, 40580), (130, 40526), (137, 40490), (144, 40442), (153, 40412), (156, 40391), (165, 40310), (169, 40298),

Gene: Duke13_116 Start: 64831, Stop: 65445, Start Num: 66

Candidate Starts for Duke13_116:

(Start: 59 @64822 has 16 MA's), (Start: 66 @64831 has 3 MA's), (Start: 71 @64867 has 1 MA's), (74, 64897), (75, 64903), (84, 64957), (139, 65269), (147, 65299), (149, 65305), (150, 65308), (156, 65347), (159, 65362),

Gene: Dynamix_85 Start: 48097, Stop: 47417, Start Num: 60

Candidate Starts for Dynamix_85:

(17, 48241), (23, 48211), (Start: 60 @48097 has 15 MA's), (Start: 63 @48091 has 25 MA's), (73, 48013), (75, 48004), (81, 47962), (94, 47911), (98, 47872), (112, 47785), (113, 47776), (120, 47734), (122, 47719), (124, 47704), (137, 47632), (144, 47584), (156, 47533), (157, 47527), (160, 47512), (166, 47449),

Gene: Ejimix_116 Start: 68532, Stop: 69179, Start Num: 56

Candidate Starts for Ejimix_116:

(Start: 56 @68532 has 12 MA's), (Start: 66 @68541 has 3 MA's), (Start: 72 @68577 has 11 MA's), (75, 68613), (89, 68688), (108, 68811), (119, 68874), (122, 68892), (128, 68937), (137, 68979), (144, 69027), (156, 69078),

Gene: Emma1919_7 Start: 2249, Stop: 1644, Start Num: 72

Candidate Starts for Emma1919_7:

(Start: 63 @2291 has 25 MA's), (Start: 72 @2249 has 11 MA's), (75, 2213), (82, 2171), (86, 2141), (87, 2138), (88, 2135), (95, 2114), (107, 2024), (112, 2006), (120, 1958), (122, 1943), (123, 1931), (130, 1886), (144, 1796), (148, 1784), (156, 1739), (159, 1724),

Gene: EnzoK_87 Start: 47912, Stop: 47187, Start Num: 38

Candidate Starts for EnzoK_87:

(Start: 25 @47957 has 1 MA's), (Start: 38 @47912 has 4 MA's), (51, 47873), (Start: 60 @47858 has 15 MA's), (Start: 63 @47852 has 25 MA's), (73, 47783), (75, 47774), (81, 47732), (94, 47681), (98, 47642), (112, 47555), (113, 47546), (120, 47504), (122, 47489), (124, 47474), (137, 47402), (144, 47354), (156, 47303), (157, 47297), (160, 47282), (166, 47219),

Gene: EricMillard_113 Start: 66791, Stop: 67414, Start Num: 59

Candidate Starts for EricMillard_113:

(Start: 59 @66791 has 16 MA's), (Start: 66 @66800 has 3 MA's), (Start: 71 @66836 has 1 MA's), (74, 66866), (75, 66872), (84, 66926), (139, 67238), (147, 67268), (149, 67274), (150, 67277), (156, 67316), (159, 67331),

Gene: Euphoria_88 Start: 50663, Stop: 49890, Start Num: 25

Candidate Starts for Euphoria_88:

(Start: 25 @50663 has 1 MA's), (Start: 38 @50618 has 4 MA's), (51, 50579), (Start: 60 @50564 has 15 MA's), (Start: 63 @50558 has 25 MA's), (73, 50489), (75, 50480), (81, 50438), (94, 50387), (98, 50348), (107, 50279), (113, 50252), (115, 50240), (120, 50210), (122, 50195), (124, 50180), (137, 50105), (144, 50057), (156, 50006), (157, 50000), (160, 49985), (166, 49922),

Gene: Fascinus_82 Start: 50318, Stop: 49620, Start Num: 45

Candidate Starts for Fascinus_82:

(Start: 45 @50318 has 3 MA's), (Start: 54 @50297 has 39 MA's), (Start: 66 @50279 has 3 MA's), (74, 50213), (75, 50207), (94, 50114), (98, 50075), (107, 50006), (109, 50000), (113, 49979), (115, 49967),

(120, 49937), (122, 49922), (124, 49907), (137, 49835), (144, 49787), (153, 49757), (156, 49736), (157, 49730), (166, 49652),

Gene: Faust_6 Start: 2432, Stop: 1746, Start Num: 63

Candidate Starts for Faust_6:

(Start: 63 @2432 has 25 MA's), (67, 2423), (Start: 72 @2390 has 11 MA's), (82, 2312), (86, 2282), (87, 2279), (88, 2276), (98, 2219), (107, 2165), (112, 2147), (115, 2126), (117, 2111), (120, 2096), (122, 2081), (123, 2069), (144, 1937), (156, 1880), (159, 1865),

Gene: FeliMaine_34 Start: 10399, Stop: 9749, Start Num: 57

Candidate Starts for FeliMaine_34:

(1, 10948), (7, 10663), (10, 10585), (12, 10561), (36, 10435), (Start: 57 @10399 has 17 MA's), (64, 10387), (73, 10321), (81, 10270), (98, 10180), (105, 10135), (122, 10033), (129, 9982), (132, 9970), (143, 9913), (144, 9910), (156, 9862), (159, 9847),

Gene: Fenn_90 Start: 50622, Stop: 49948, Start Num: 54

Candidate Starts for Fenn_90:

(Start: 54 @50622 has 39 MA's), (65, 50610), (67, 50604), (73, 50544), (85, 50469), (94, 50442), (98, 50403), (107, 50334), (113, 50307), (115, 50295), (120, 50265), (122, 50250), (124, 50235), (137, 50163), (144, 50115), (153, 50085), (156, 50064), (157, 50058), (166, 49980),

Gene: FlyCatcher_62 Start: 41844, Stop: 41167, Start Num: 54

Candidate Starts for FlyCatcher_62:

(Start: 54 @41844 has 39 MA's), (Start: 66 @41829 has 3 MA's), (Start: 72 @41793 has 11 MA's), (74, 41763), (75, 41757), (91, 41664), (92, 41661), (98, 41616), (104, 41577), (113, 41529), (122, 41472), (124, 41457), (127, 41433), (137, 41382), (153, 41304), (156, 41283), (161, 41256),

Gene: Forrest_7 Start: 2288, Stop: 1641, Start Num: 63

Candidate Starts for Forrest_7:

(Start: 63 @2288 has 25 MA's), (67, 2279), (Start: 72 @2246 has 11 MA's), (77, 2198), (82, 2168), (86, 2138), (87, 2135), (88, 2132), (95, 2111), (107, 2021), (112, 2003), (120, 1955), (122, 1940), (123, 1928), (130, 1883), (144, 1793), (148, 1781), (156, 1736), (159, 1721),

Gene: Francesca_129 Start: 83609, Stop: 84265, Start Num: 59

Candidate Starts for Francesca_129:

(35, 83546), (37, 83552), (Start: 59 @83609 has 16 MA's), (112, 83903), (115, 83924), (122, 83975), (136, 84068), (139, 84095), (156, 84173),

Gene: Francis47_89 Start: 52474, Stop: 51800, Start Num: 54

Candidate Starts for Francis47_89:

(Start: 54 @52474 has 39 MA's), (74, 52390), (75, 52384), (85, 52318), (94, 52291), (98, 52252), (107, 52186), (113, 52159), (115, 52147), (120, 52117), (122, 52102), (124, 52087), (137, 52015), (144, 51967), (156, 51916), (157, 51910), (160, 51895), (166, 51832),

Gene: Francob_6 Start: 2290, Stop: 1643, Start Num: 63

Candidate Starts for Francob_6:

(Start: 63 @2290 has 25 MA's), (Start: 72 @2248 has 11 MA's), (78, 2194), (82, 2170), (86, 2140), (87, 2137), (88, 2134), (95, 2113), (107, 2023), (112, 2005), (113, 1996), (120, 1954), (122, 1939), (123, 1927), (141, 1807), (144, 1795), (156, 1738), (159, 1723),

Gene: GageAP_88 Start: 51129, Stop: 50431, Start Num: 48

Candidate Starts for GageAP_88:

(Start: 48 @51129 has 6 MA's), (Start: 59 @51111 has 16 MA's), (Start: 63 @51105 has 25 MA's), (73, 51036), (75, 51027), (113, 50817), (115, 50805), (122, 50760), (126, 50727), (139, 50649), (147, 50619), (149, 50613), (153, 50592), (156, 50571), (159, 50556), (165, 50493), (166, 50490), (170, 50478),

Gene: Gattaca_31 Start: 9578, Stop: 8928, Start Num: 57

Candidate Starts for Gattaca_31:

(1, 10127), (7, 9842), (10, 9764), (12, 9740), (36, 9614), (Start: 57 @9578 has 17 MA's), (64, 9566), (67, 9560), (73, 9500), (81, 9449), (98, 9359), (105, 9314), (122, 9212), (129, 9161), (132, 9149), (143, 9092), (144, 9089), (156, 9041), (159, 9026),

Gene: Geeche_173 Start: 87550, Stop: 86852, Start Num: 39

Candidate Starts for Geeche_173:

(39, 87550), (65, 87511), (73, 87445), (84, 87379), (87, 87358), (98, 87292), (101, 87271), (106, 87238), (112, 87208), (113, 87199), (122, 87142), (126, 87112), (144, 87019), (156, 86971), (157, 86965), (166, 86890),

Gene: Gilson_7 Start: 2246, Stop: 1641, Start Num: 72

Candidate Starts for Gilson_7:

(Start: 63 @2288 has 25 MA's), (Start: 72 @2246 has 11 MA's), (77, 2198), (82, 2168), (86, 2138), (87, 2135), (88, 2132), (95, 2111), (107, 2021), (112, 2003), (120, 1955), (122, 1940), (123, 1928), (130, 1883), (144, 1793), (148, 1781), (156, 1736), (159, 1721),

Gene: Gonephishing_111 Start: 62610, Stop: 63188, Start Num: 71

Candidate Starts for Gonephishing_111:

(Start: 29 @62487 has 1 MA's), (Start: 59 @62559 has 16 MA's), (Start: 71 @62610 has 1 MA's), (73, 62637), (74, 62640), (75, 62646), (122, 62913), (123, 62925), (126, 62946), (139, 63015), (147, 63045), (149, 63051), (150, 63054), (156, 63093), (159, 63108),

Gene: GoongGoong_31 Start: 9591, Stop: 8941, Start Num: 57

Candidate Starts for GoongGoong_31:

(7, 9882), (10, 9804), (12, 9780), (36, 9654), (40, 9642), (Start: 57 @9591 has 17 MA's), (64, 9579), (73, 9513), (81, 9462), (98, 9372), (105, 9327), (122, 9225), (129, 9174), (132, 9162), (143, 9105), (144, 9102), (156, 9054), (159, 9039),

Gene: Gorgeous_75 Start: 49355, Stop: 48654, Start Num: 54

Candidate Starts for Gorgeous_75:

(27, 49436), (32, 49421), (39, 49403), (49, 49367), (Start: 54 @49355 has 39 MA's), (73, 49271), (78, 49244), (79, 49241), (83, 49205), (84, 49202), (108, 49034), (121, 48965), (122, 48953), (124, 48938), (125, 48935), (156, 48761), (157, 48755), (162, 48728), (166, 48677), (168, 48668), (173, 48659),

Gene: Graduation_89 Start: 50205, Stop: 49507, Start Num: 48

Candidate Starts for Graduation_89:

(Start: 48 @50205 has 6 MA's), (Start: 59 @50187 has 16 MA's), (Start: 63 @50181 has 25 MA's), (73, 50112), (75, 50103), (113, 49893), (115, 49881), (122, 49836), (126, 49803), (139, 49725), (147, 49695), (149, 49689), (153, 49668), (156, 49647), (159, 49632), (165, 49569), (166, 49566), (170, 49554),

Gene: Grayson_224 Start: 110034, Stop: 110687, Start Num: 63

Candidate Starts for Grayson_224:

(Start: 63 @110034 has 25 MA's), (69, 110049), (84, 110172), (94, 110208), (97, 110244), (98, 110247), (114, 110331), (122, 110391), (133, 110472), (156, 110589), (166, 110673),

Gene: GrecoEtereo_90 Start: 51375, Stop: 50692, Start Num: 53

Candidate Starts for GrecoEtereo_90:

(Start: 50 @51381 has 8 MA's), (Start: 53 @51375 has 11 MA's), (Start: 66 @51360 has 3 MA's), (73, 51297), (75, 51288), (113, 51078), (115, 51066), (122, 51021), (139, 50910), (147, 50880), (156, 50832), (159, 50817), (165, 50754), (166, 50751), (170, 50739),

Gene: Gwendoluna_89 Start: 50909, Stop: 50226, Start Num: 53

Candidate Starts for Gwendoluna_89:

(Start: 50 @50915 has 8 MA's), (Start: 53 @50909 has 11 MA's), (Start: 66 @50894 has 3 MA's), (73, 50831), (75, 50822), (113, 50612), (115, 50600), (122, 50555), (126, 50522), (139, 50444), (147, 50414), (149, 50408), (153, 50387), (156, 50366), (159, 50351), (165, 50288), (166, 50285), (170, 50273),

Gene: HINdeR_54 Start: 40614, Stop: 39931, Start Num: 54

Candidate Starts for HINdeR_54:

(Start: 54 @40614 has 39 MA's), (Start: 66 @40599 has 3 MA's), (Start: 72 @40563 has 11 MA's), (75, 40527), (107, 40326), (112, 40308), (121, 40254), (122, 40242), (130, 40188), (137, 40152), (153, 40074), (156, 40053), (169, 39960),

Gene: Halley_124 Start: 68848, Stop: 69495, Start Num: 56

Candidate Starts for Halley_124:

(Start: 56 @68848 has 12 MA's), (Start: 66 @68857 has 3 MA's), (Start: 72 @68893 has 11 MA's), (75, 68929), (89, 69004), (108, 69127), (119, 69190), (122, 69208), (128, 69253), (137, 69295), (144, 69343), (156, 69394),

Gene: Herbertwm_80 Start: 47646, Stop: 46972, Start Num: 59

Candidate Starts for Herbertwm_80:

(18, 47781), (44, 47673), (49, 47661), (Start: 59 @47646 has 16 MA's), (Start: 72 @47595 has 11 MA's), (73, 47568), (108, 47361), (122, 47280), (124, 47265), (127, 47241), (142, 47148), (144, 47139), (156, 47088), (166, 47004),

Gene: Heylee_78 Start: 49536, Stop: 48835, Start Num: 54

Candidate Starts for Heylee_78:

(39, 49584), (47, 49554), (49, 49548), (Start: 54 @49536 has 39 MA's), (73, 49452), (80, 49401), (83, 49386), (85, 49371), (108, 49215), (121, 49146), (122, 49134), (124, 49119), (125, 49116), (156, 48942), (157, 48936), (162, 48909), (166, 48858), (168, 48849), (173, 48840),

Gene: Hope4ever_84 Start: 49344, Stop: 48655, Start Num: 50

Candidate Starts for Hope4ever_84:

(Start: 50 @49344 has 8 MA's), (Start: 53 @49338 has 11 MA's), (Start: 66 @49323 has 3 MA's), (73, 49260), (75, 49251), (113, 49041), (115, 49029), (122, 48984), (139, 48873), (147, 48843), (149, 48837), (153, 48816), (156, 48795), (159, 48780), (165, 48717), (166, 48714), (170, 48702),

Gene: Hughesyang_121 Start: 68304, Stop: 68951, Start Num: 56

Candidate Starts for Hughesyang_121:

(Start: 56 @68304 has 12 MA's), (Start: 66 @68313 has 3 MA's), (Start: 72 @68349 has 11 MA's), (74, 68379), (75, 68385), (89, 68460), (108, 68583), (119, 68646), (122, 68664), (128, 68709), (144, 68799), (156, 68850),

Gene: Huphlepuuff_34 Start: 10203, Stop: 9553, Start Num: 57

Candidate Starts for Huphlepuuff_34:

(7, 10467), (10, 10389), (12, 10365), (36, 10239), (Start: 57 @10203 has 17 MA's), (64, 10191), (73, 10125), (81, 10074), (98, 9984), (105, 9939), (122, 9837), (129, 9786), (132, 9774), (143, 9717), (144,

9714), (156, 9666), (159, 9651),

Gene: ILeeKay_83 Start: 47940, Stop: 47263, Start Num: 54

Candidate Starts for ILeeKay_83:

(3, 48324), (6, 48228), (8, 48180), (Start: 54 @47940 has 39 MA's), (Start: 66 @47922 has 3 MA's), (74, 47856), (75, 47850), (85, 47784), (94, 47757), (98, 47718), (107, 47649), (113, 47622), (115, 47610), (120, 47580), (122, 47565), (124, 47550), (137, 47478), (144, 47430), (153, 47400), (156, 47379), (157, 47373), (166, 47295),

Gene: Ichabod_88 Start: 50257, Stop: 49586, Start Num: 60

Candidate Starts for Ichabod_88:

(17, 50401), (23, 50371), (Start: 60 @50257 has 15 MA's), (Start: 63 @50251 has 25 MA's), (73, 50182), (75, 50173), (81, 50131), (94, 50080), (98, 50041), (107, 49972), (113, 49945), (115, 49933), (120, 49903), (122, 49888), (124, 49873), (137, 49801), (144, 49753), (156, 49702), (157, 49696), (160, 49681), (166, 49618),

Gene: Ichor_75 Start: 49754, Stop: 49053, Start Num: 54

Candidate Starts for Ichor_75:

(21, 49868), (26, 49850), (32, 49820), (39, 49802), (47, 49772), (49, 49766), (Start: 53 @49757 has 11 MA's), (Start: 54 @49754 has 39 MA's), (73, 49670), (83, 49604), (84, 49601), (108, 49433), (115, 49397), (122, 49352), (124, 49337), (125, 49334), (156, 49160), (157, 49154), (166, 49076), (168, 49067), (173, 49058),

Gene: IronMan_84 Start: 49875, Stop: 49189, Start Num: 62

Candidate Starts for IronMan_84:

(44, 49902), (Start: 62 @49875 has 4 MA's), (Start: 72 @49830 has 11 MA's), (108, 49596), (116, 49557), (119, 49533), (122, 49515), (127, 49476), (142, 49383), (156, 49323), (174, 49218), (177, 49197),

Gene: Jaan_86 Start: 49980, Stop: 49297, Start Num: 58

Candidate Starts for Jaan_86:

(Start: 41 @50019 has 1 MA's), (Start: 58 @49980 has 1 MA's), (Start: 72 @49935 has 11 MA's), (108, 49701), (119, 49638), (122, 49620), (127, 49581), (142, 49488), (156, 49428), (173, 49326), (177, 49305),

Gene: Jada_7 Start: 2246, Stop: 1641, Start Num: 72

Candidate Starts for Jada_7:

(Start: 63 @2288 has 25 MA's), (Start: 72 @2246 has 11 MA's), (77, 2198), (82, 2168), (86, 2138), (87, 2135), (88, 2132), (95, 2111), (107, 2021), (112, 2003), (120, 1955), (122, 1940), (123, 1928), (130, 1883), (144, 1793), (148, 1781), (156, 1736), (159, 1721),

Gene: Jaek_75 Start: 49754, Stop: 49053, Start Num: 54

Candidate Starts for Jaek_75:

(21, 49868), (26, 49850), (32, 49820), (39, 49802), (47, 49772), (49, 49766), (Start: 53 @49757 has 11 MA's), (Start: 54 @49754 has 39 MA's), (73, 49670), (83, 49604), (84, 49601), (108, 49433), (115, 49397), (122, 49352), (124, 49337), (125, 49334), (156, 49160), (157, 49154), (166, 49076), (168, 49067), (173, 49058),

Gene: JoieB_33 Start: 10422, Stop: 9772, Start Num: 57

Candidate Starts for JoieB_33:

(7, 10686), (10, 10608), (12, 10584), (36, 10458), (Start: 57 @10422 has 17 MA's), (64, 10410), (67, 10404), (73, 10344), (81, 10293), (98, 10203), (105, 10158), (122, 10056), (129, 10005), (132, 9993), (143, 9936), (144, 9933), (156, 9885), (159, 9870),

Gene: KSSJEB_84 Start: 48621, Stop: 47950, Start Num: 60

Candidate Starts for KSSJEB_84:

(17, 48765), (23, 48735), (Start: 60 @48621 has 15 MA's), (Start: 63 @48615 has 25 MA's), (73, 48546), (75, 48537), (81, 48495), (94, 48444), (98, 48405), (112, 48318), (113, 48309), (120, 48267), (122, 48252), (124, 48237), (137, 48165), (144, 48117), (156, 48066), (157, 48060), (160, 48045), (166, 47982),

Gene: Kalah2_113 Start: 67017, Stop: 67640, Start Num: 59

Candidate Starts for Kalah2_113:

(Start: 59 @67017 has 16 MA's), (Start: 66 @67026 has 3 MA's), (Start: 71 @67062 has 1 MA's), (75, 67098), (84, 67152), (139, 67464), (147, 67494), (149, 67500), (150, 67503), (156, 67542), (159, 67557),

Gene: Kamaru_76 Start: 44933, Stop: 45595, Start Num: 60

Candidate Starts for Kamaru_76:

(Start: 60 @44933 has 15 MA's), (112, 45224), (121, 45278), (122, 45290), (156, 45479), (160, 45500), (174, 45578),

Gene: Kanely_91 Start: 51113, Stop: 50424, Start Num: 50

Candidate Starts for Kanely_91:

(Start: 50 @51113 has 8 MA's), (Start: 53 @51107 has 11 MA's), (Start: 66 @51092 has 3 MA's), (73, 51029), (75, 51020), (113, 50810), (115, 50798), (122, 50753), (126, 50720), (139, 50642), (147, 50612), (149, 50606), (153, 50585), (156, 50564), (159, 50549), (165, 50486), (166, 50483), (170, 50471),

Gene: Karp_7 Start: 2281, Stop: 1634, Start Num: 63

Candidate Starts for Karp_7:

(Start: 63 @2281 has 25 MA's), (67, 2272), (69, 2266), (Start: 72 @2239 has 11 MA's), (82, 2161), (86, 2131), (87, 2128), (88, 2125), (98, 2068), (107, 2014), (120, 1948), (121, 1945), (122, 1933), (124, 1915), (141, 1798), (144, 1786), (146, 1780), (156, 1729), (159, 1714), (173, 1639),

Gene: Kenrey_7 Start: 2277, Stop: 1630, Start Num: 63

Candidate Starts for Kenrey_7:

(Start: 63 @2277 has 25 MA's), (67, 2268), (69, 2262), (Start: 72 @2235 has 11 MA's), (82, 2157), (86, 2127), (88, 2121), (107, 2010), (117, 1956), (120, 1944), (122, 1929), (123, 1917), (124, 1911), (144, 1782), (156, 1725), (159, 1710),

Gene: Killigrew_82 Start: 48701, Stop: 48027, Start Num: 63

Candidate Starts for Killigrew_82:

(Start: 63 @48701 has 25 MA's), (73, 48632), (75, 48623), (113, 48413), (115, 48401), (122, 48356), (139, 48245), (147, 48215), (149, 48209), (153, 48188), (156, 48167), (159, 48152), (165, 48089), (166, 48086), (170, 48074),

Gene: Kimona_80 Start: 46221, Stop: 45568, Start Num: 54

Candidate Starts for Kimona_80:

(28, 46290), (31, 46284), (34, 46278), (Start: 54 @46221 has 39 MA's), (Start: 72 @46170 has 11 MA's), (73, 46143), (108, 45942), (111, 45933), (118, 45891), (124, 45846), (137, 45771), (144, 45723), (156, 45672), (159, 45657), (163, 45618),

Gene: Klein_118 Start: 65374, Stop: 65997, Start Num: 59

Candidate Starts for Klein_118:

(Start: 59 @65374 has 16 MA's), (Start: 66 @65383 has 3 MA's), (Start: 71 @65419 has 1 MA's), (75, 65455), (84, 65509), (139, 65821), (147, 65851), (149, 65857), (150, 65860), (156, 65899), (159, 65914),

Gene: Kubulix_19 Start: 6728, Stop: 7444, Start Num: 53

Candidate Starts for Kubulix_19:

(Start: 53 @6728 has 11 MA's), (69, 6761), (99, 6965), (100, 6971), (115, 7064), (122, 7109), (128, 7184), (156, 7334), (159, 7349), (170, 7424), (174, 7430),

Gene: Kugel_87 Start: 50139, Stop: 49459, Start Num: 54

Candidate Starts for Kugel_87:

(Start: 54 @50139 has 39 MA's), (Start: 66 @50121 has 3 MA's), (74, 50055), (75, 50049), (94, 49956), (98, 49917), (107, 49848), (113, 49821), (115, 49809), (120, 49779), (122, 49764), (124, 49749), (144, 49626), (153, 49596), (156, 49575), (157, 49569), (166, 49491),

Gene: Landor_85 Start: 49908, Stop: 49222, Start Num: 62

Candidate Starts for Landor_85:

(44, 49935), (Start: 62 @49908 has 4 MA's), (Start: 72 @49863 has 11 MA's), (108, 49629), (116, 49590), (119, 49566), (122, 49548), (127, 49509), (142, 49416), (156, 49356), (174, 49251), (177, 49230),

Gene: Lesedi_82 Start: 48034, Stop: 47309, Start Num: 38

Candidate Starts for Lesedi_82:

(Start: 25 @48079 has 1 MA's), (Start: 38 @48034 has 4 MA's), (51, 47995), (Start: 60 @47980 has 15 MA's), (Start: 63 @47974 has 25 MA's), (73, 47905), (75, 47896), (81, 47854), (94, 47803), (98, 47764), (112, 47677), (113, 47668), (120, 47626), (122, 47611), (124, 47596), (137, 47524), (144, 47476), (156, 47425), (157, 47419), (160, 47404), (166, 47341),

Gene: Licorice_87 Start: 51728, Stop: 50982, Start Num: 29

Candidate Starts for Licorice_87:

(Start: 29 @51728 has 1 MA's), (Start: 54 @51659 has 39 MA's), (74, 51575), (75, 51569), (85, 51503), (94, 51476), (98, 51437), (107, 51371), (113, 51344), (115, 51332), (120, 51302), (122, 51287), (124, 51272), (137, 51197), (144, 51149), (153, 51119), (156, 51098), (157, 51092), (166, 51014),

Gene: Lilbit_33 Start: 10399, Stop: 9749, Start Num: 57

Candidate Starts for Lilbit_33:

(1, 10948), (7, 10663), (10, 10585), (12, 10561), (36, 10435), (Start: 57 @10399 has 17 MA's), (64, 10387), (73, 10321), (81, 10270), (98, 10180), (105, 10135), (122, 10033), (129, 9982), (132, 9970), (143, 9913), (144, 9910), (156, 9862), (159, 9847),

Gene: Limpid_6 Start: 2125, Stop: 1451, Start Num: 63

Candidate Starts for Limpid_6:

(Start: 63 @2125 has 25 MA's), (78, 2029), (82, 2005), (86, 1975), (87, 1972), (88, 1969), (94, 1951), (96, 1924), (98, 1912), (107, 1858), (112, 1840), (117, 1804), (120, 1789), (122, 1774), (130, 1720), (141, 1642), (144, 1630), (156, 1573), (159, 1558), (176, 1456),

Gene: LittleE_121 Start: 66758, Stop: 67387, Start Num: 59

Candidate Starts for LittleE_121:

(33, 66692), (Start: 59 @66758 has 16 MA's), (Start: 71 @66809 has 1 MA's), (73, 66836), (74, 66839), (75, 66845), (122, 67112), (123, 67124), (126, 67145), (139, 67214), (147, 67244), (149, 67250), (150, 67253), (156, 67292), (159, 67307),

Gene: LittleLaf_32 Start: 10128, Stop: 9478, Start Num: 57

Candidate Starts for LittleLaf_32:

(7, 10392), (10, 10314), (12, 10290), (36, 10164), (Start: 57 @10128 has 17 MA's), (64, 10116), (73, 10050), (81, 9999), (98, 9909), (105, 9864), (122, 9762), (129, 9711), (132, 9699), (143, 9642), (144, 9639), (156, 9591), (159, 9576),

Gene: Lockley_87 Start: 49860, Stop: 49189, Start Num: 60

Candidate Starts for Lockley_87:

(17, 50004), (23, 49974), (Start: 60 @49860 has 15 MA's), (Start: 63 @49854 has 25 MA's), (73, 49785), (75, 49776), (81, 49734), (94, 49683), (98, 49644), (112, 49557), (113, 49548), (115, 49536), (120, 49506), (122, 49491), (124, 49476), (137, 49404), (144, 49356), (156, 49305), (157, 49299), (160, 49284), (166, 49221),

Gene: Magnar_84 Start: 49011, Stop: 48337, Start Num: 54

Candidate Starts for Magnar_84:

(Start: 54 @49011 has 39 MA's), (65, 48999), (67, 48993), (73, 48933), (85, 48858), (94, 48831), (98, 48792), (107, 48723), (113, 48696), (115, 48684), (122, 48639), (124, 48624), (144, 48504), (153, 48474), (156, 48453), (157, 48447), (166, 48369),

Gene: Malisha_85 Start: 50278, Stop: 50961, Start Num: 59

Candidate Starts for Malisha_85:

(Start: 53 @50269 has 11 MA's), (Start: 59 @50278 has 16 MA's), (145, 50794), (147, 50797), (149, 50803), (156, 50845), (162, 50875),

Gene: Manatee_85 Start: 48517, Stop: 47846, Start Num: 60

Candidate Starts for Manatee_85:

(17, 48661), (23, 48631), (Start: 60 @48517 has 15 MA's), (Start: 63 @48511 has 25 MA's), (73, 48442), (75, 48433), (81, 48391), (94, 48340), (98, 48301), (112, 48214), (113, 48205), (115, 48193), (120, 48163), (122, 48148), (124, 48133), (137, 48061), (144, 48013), (156, 47962), (157, 47956), (160, 47941), (166, 47878),

Gene: Marleymoo_105 Start: 64322, Stop: 64942, Start Num: 59

Candidate Starts for Marleymoo_105:

(Start: 59 @64322 has 16 MA's), (Start: 66 @64331 has 3 MA's), (Start: 71 @64367 has 1 MA's), (73, 64394), (75, 64403), (84, 64457), (139, 64766), (147, 64796), (149, 64802), (150, 64805), (156, 64844), (159, 64859),

Gene: Maroc7_87 Start: 51516, Stop: 50839, Start Num: 54

Candidate Starts for Maroc7_87:

(Start: 45 @51537 has 3 MA's), (Start: 54 @51516 has 39 MA's), (Start: 66 @51498 has 3 MA's), (74, 51432), (75, 51426), (94, 51333), (98, 51294), (107, 51225), (109, 51219), (113, 51198), (115, 51186), (120, 51156), (122, 51141), (124, 51126), (137, 51054), (144, 51006), (153, 50976), (156, 50955), (157, 50949), (166, 50871),

Gene: Marvin_30 Start: 10398, Stop: 9748, Start Num: 57

Candidate Starts for Marvin_30:

(1, 10947), (7, 10662), (10, 10584), (12, 10560), (36, 10434), (Start: 57 @10398 has 17 MA's), (64, 10386), (73, 10320), (81, 10269), (98, 10179), (105, 10134), (122, 10032), (129, 9981), (132, 9969), (143, 9912), (144, 9909), (156, 9861), (159, 9846),

Gene: McGuire_85 Start: 48751, Stop: 48110, Start Num: 60

Candidate Starts for McGuire_85:

(17, 48895), (23, 48865), (Start: 60 @48751 has 15 MA's), (Start: 63 @48745 has 25 MA's), (73, 48676), (75, 48667), (81, 48625), (94, 48574), (98, 48535), (112, 48448), (113, 48439), (120, 48397),

(122, 48382), (124, 48367), (137, 48295), (144, 48247), (154, 48214), (164, 48124),

Gene: McSinger_82 Start: 49476, Stop: 48793, Start Num: 53

Candidate Starts for McSinger_82:

(Start: 50 @49482 has 8 MA's), (Start: 53 @49476 has 11 MA's), (Start: 66 @49461 has 3 MA's), (73, 49398), (75, 49389), (113, 49179), (115, 49167), (122, 49122), (139, 49011), (147, 48981), (149, 48975), (153, 48954), (156, 48933), (159, 48918), (165, 48855), (166, 48852), (170, 48840),

Gene: MeganTheeKilla_7 Start: 2288, Stop: 1641, Start Num: 63

Candidate Starts for MeganTheeKilla_7:

(Start: 63 @2288 has 25 MA's), (Start: 72 @2246 has 11 MA's), (75, 2210), (82, 2168), (86, 2138), (87, 2135), (88, 2132), (95, 2111), (107, 2021), (112, 2003), (120, 1955), (122, 1940), (123, 1928), (130, 1883), (144, 1793), (148, 1781), (156, 1736), (159, 1721),

Gene: MiaZeal_117 Start: 64204, Stop: 64857, Start Num: 56

Candidate Starts for MiaZeal_117:

(30, 64132), (Start: 56 @64204 has 12 MA's), (Start: 72 @64255 has 11 MA's), (73, 64282), (75, 64291), (89, 64366), (101, 64444), (107, 64486), (108, 64489), (122, 64570), (124, 64585), (129, 64621), (137, 64657), (156, 64756),

Gene: Minerva_119 Start: 66905, Stop: 67552, Start Num: 56

Candidate Starts for Minerva_119:

(Start: 56 @66905 has 12 MA's), (Start: 66 @66914 has 3 MA's), (Start: 72 @66950 has 11 MA's), (74, 66980), (75, 66986), (89, 67061), (108, 67184), (119, 67247), (122, 67265), (128, 67310), (144, 67400), (156, 67451),

Gene: Mkhuseleli_82 Start: 47268, Stop: 46594, Start Num: 63

Candidate Starts for Mkhuseleli_82:

(Start: 48 @47292 has 6 MA's), (Start: 59 @47274 has 16 MA's), (Start: 63 @47268 has 25 MA's), (73, 47199), (75, 47190), (113, 46980), (115, 46968), (122, 46923), (126, 46890), (139, 46812), (147, 46782), (149, 46776), (153, 46755), (156, 46734), (159, 46719), (165, 46656), (166, 46653), (170, 46641),

Gene: Moab_6 Start: 2241, Stop: 1594, Start Num: 63

Candidate Starts for Moab_6:

(Start: 63 @2241 has 25 MA's), (Start: 72 @2199 has 11 MA's), (82, 2121), (86, 2091), (87, 2088), (88, 2085), (107, 1974), (112, 1956), (113, 1947), (115, 1935), (119, 1911), (120, 1908), (121, 1905), (122, 1893), (123, 1881), (144, 1746), (156, 1689), (159, 1674),

Gene: Molivia_79 Start: 48343, Stop: 47642, Start Num: 54

Candidate Starts for Molivia_79:

(49, 48355), (Start: 54 @48343 has 39 MA's), (Start: 72 @48286 has 11 MA's), (78, 48232), (85, 48178), (98, 48088), (108, 48022), (119, 47959), (125, 47923), (156, 47749), (157, 47743), (162, 47716), (166, 47665), (173, 47647),

Gene: MosMoris_30 Start: 9578, Stop: 8928, Start Num: 57

Candidate Starts for MosMoris_30:

(1, 10127), (7, 9842), (10, 9764), (12, 9740), (36, 9614), (Start: 57 @9578 has 17 MA's), (64, 9566), (67, 9560), (73, 9500), (81, 9449), (98, 9359), (105, 9314), (122, 9212), (129, 9161), (132, 9149), (143, 9092), (144, 9089), (156, 9041), (159, 9026),

Gene: MrGordo_88 Start: 49233, Stop: 48553, Start Num: 59

Candidate Starts for MrGordo_88:

(Start: 48 @49251 has 6 MA's), (Start: 59 @49233 has 16 MA's), (Start: 63 @49227 has 25 MA's), (73, 49158), (75, 49149), (113, 48939), (115, 48927), (122, 48882), (126, 48849), (139, 48771), (147, 48741), (149, 48735), (153, 48714), (156, 48693), (159, 48678), (165, 48615), (166, 48612), (170, 48600),

Gene: Muntaha_8 Start: 3277, Stop: 2633, Start Num: 63

Candidate Starts for Muntaha_8:

(Start: 63 @3277 has 25 MA's), (Start: 72 @3235 has 11 MA's), (83, 3148), (106, 3025), (107, 3016), (120, 2947), (122, 2932), (130, 2878), (135, 2842), (141, 2800), (144, 2788), (156, 2731), (159, 2716), (165, 2653),

Gene: Museum_87 Start: 50254, Stop: 49556, Start Num: 48

Candidate Starts for Museum_87:

(Start: 48 @50254 has 6 MA's), (Start: 59 @50236 has 16 MA's), (Start: 63 @50230 has 25 MA's), (73, 50161), (75, 50152), (113, 49942), (115, 49930), (122, 49885), (126, 49852), (139, 49774), (147, 49744), (149, 49738), (153, 49717), (156, 49696), (159, 49681), (165, 49618), (166, 49615), (170, 49603),

Gene: Naira_89 Start: 50754, Stop: 50080, Start Num: 54

Candidate Starts for Naira_89:

(Start: 54 @50754 has 39 MA's), (65, 50742), (67, 50736), (73, 50676), (85, 50601), (94, 50574), (98, 50535), (107, 50466), (113, 50439), (115, 50427), (120, 50397), (122, 50382), (124, 50367), (137, 50295), (144, 50247), (153, 50217), (156, 50196), (157, 50190), (166, 50112),

Gene: Nesbitt_41 Start: 29441, Stop: 30088, Start Num: 60

Candidate Starts for Nesbitt_41:

(46, 29414), (Start: 48 @29417 has 6 MA's), (52, 29429), (Start: 60 @29441 has 15 MA's), (Start: 72 @29489 has 11 MA's), (73, 29519), (76, 29537), (101, 29687), (108, 29732), (112, 29747), (119, 29786), (120, 29789), (122, 29804), (138, 29915), (153, 29972), (155, 29981), (156, 29993), (160, 30014),

Gene: Nova53_132 Start: 84326, Stop: 84982, Start Num: 57

Candidate Starts for Nova53_132:

(20, 84203), (23, 84215), (42, 84287), (Start: 57 @84326 has 17 MA's), (90, 84497), (98, 84548), (122, 84692), (136, 84785), (139, 84812), (156, 84890),

Gene: Odyssey395_21 Start: 6730, Stop: 7446, Start Num: 53

Candidate Starts for Odyssey395_21:

(Start: 53 @6730 has 11 MA's), (69, 6763), (99, 6967), (100, 6973), (115, 7066), (122, 7111), (128, 7186), (156, 7336), (159, 7351), (170, 7426), (174, 7432),

Gene: Optimus_112 Start: 65325, Stop: 65948, Start Num: 59

Candidate Starts for Optimus_112:

(Start: 59 @65325 has 16 MA's), (Start: 66 @65334 has 3 MA's), (Start: 71 @65370 has 1 MA's), (74, 65400), (75, 65406), (84, 65460), (139, 65772), (147, 65802), (149, 65808), (150, 65811), (156, 65850), (159, 65865),

Gene: PP_78 Start: 50822, Stop: 50058, Start Num: 72

Candidate Starts for PP_78:

(12, 51065), (15, 51047), (52, 50882), (Start: 60 @50870 has 15 MA's), (Start: 72 @50822 has 11 MA's), (75, 50786), (81, 50747), (85, 50723), (107, 50597), (108, 50594), (113, 50570), (115, 50558), (119, 50531), (122, 50513), (124, 50498), (156, 50324), (159, 50309), (162, 50291), (167, 50237), (169, 50231), (178, 50099), (179, 50093),

Gene: PacerPaul_89 Start: 51271, Stop: 50597, Start Num: 54

Candidate Starts for PacerPaul_89:

(Start: 54 @51271 has 39 MA's), (74, 51187), (75, 51181), (85, 51115), (94, 51088), (98, 51049), (107, 50983), (113, 50956), (115, 50944), (120, 50914), (122, 50899), (124, 50884), (137, 50812), (144, 50764), (153, 50734), (156, 50713), (157, 50707), (166, 50629),

Gene: Papez_91 Start: 51123, Stop: 50632, Start Num: 53

Candidate Starts for Papez_91:

(Start: 50 @51129 has 8 MA's), (Start: 53 @51123 has 11 MA's), (Start: 66 @51108 has 3 MA's), (73, 51045), (75, 51036), (113, 50826), (115, 50814), (122, 50769), (126, 50736),

Gene: Patelgo_7 Start: 2199, Stop: 1594, Start Num: 72

Candidate Starts for Patelgo_7:

(Start: 63 @2241 has 25 MA's), (Start: 72 @2199 has 11 MA's), (82, 2121), (86, 2091), (87, 2088), (88, 2085), (107, 1974), (112, 1956), (113, 1947), (115, 1935), (119, 1911), (120, 1908), (121, 1905), (122, 1893), (123, 1881), (132, 1824), (144, 1746), (156, 1689), (159, 1674),

Gene: PattyP_85 Start: 49801, Stop: 49100, Start Num: 48

Candidate Starts for PattyP_85:

(Start: 48 @49801 has 6 MA's), (Start: 63 @49774 has 25 MA's), (73, 49705), (75, 49696), (113, 49486), (115, 49474), (122, 49429), (126, 49396), (139, 49318), (147, 49288), (149, 49282), (153, 49261), (156, 49240), (159, 49225), (165, 49162), (166, 49159), (170, 49147),

Gene: Peregrin_218 Start: 109695, Stop: 110348, Start Num: 63

Candidate Starts for Peregrin_218:

(Start: 63 @109695 has 25 MA's), (69, 109710), (84, 109833), (97, 109905), (98, 109908), (114, 109992), (122, 110052), (133, 110133), (156, 110250), (166, 110334),

Gene: Petp2012_86 Start: 50544, Stop: 49852, Start Num: 48

Candidate Starts for Petp2012_86:

(Start: 48 @50544 has 6 MA's), (Start: 63 @50517 has 25 MA's), (73, 50448), (75, 50439), (113, 50229), (115, 50217), (122, 50172), (139, 50061), (147, 50031), (149, 50025), (153, 50004), (156, 49983), (159, 49968), (175, 49878),

Gene: Phabuloso_89 Start: 47857, Stop: 48519, Start Num: 60

Candidate Starts for Phabuloso_89:

(Start: 60 @47857 has 15 MA's), (112, 48148), (121, 48202), (122, 48214), (156, 48403), (160, 48424), (174, 48502),

Gene: Phaded_81 Start: 49902, Stop: 49180, Start Num: 41

Candidate Starts for Phaded_81:

(Start: 41 @49902 has 1 MA's), (Start: 58 @49863 has 1 MA's), (Start: 72 @49818 has 11 MA's), (108, 49584), (119, 49521), (122, 49503), (127, 49464), (142, 49371), (156, 49311), (173, 49209), (177, 49188),

Gene: PhorbesPhlower_62 Start: 36855, Stop: 37460, Start Num: 71

Candidate Starts for PhorbesPhlower_62:

(Start: 53 @36798 has 11 MA's), (Start: 61 @36807 has 2 MA's), (Start: 71 @36855 has 1 MA's), (115, 37122), (152, 37332), (156, 37347), (172, 37443),

Gene: Phredrick_7 Start: 2246, Stop: 1641, Start Num: 72

Candidate Starts for Phredrick_7:

(Start: 63 @2288 has 25 MA's), (67, 2279), (Start: 72 @2246 has 11 MA's), (82, 2168), (86, 2138), (87, 2135), (88, 2132), (107, 2021), (120, 1955), (122, 1940), (123, 1928), (144, 1793), (156, 1736), (159, 1721),

Gene: Pinto_85 Start: 49797, Stop: 49108, Start Num: 50

Candidate Starts for Pinto_85:

(Start: 50 @49797 has 8 MA's), (Start: 53 @49791 has 11 MA's), (Start: 66 @49776 has 3 MA's), (73, 49713), (75, 49704), (113, 49494), (115, 49482), (122, 49437), (126, 49404), (139, 49326), (147, 49296), (149, 49290), (153, 49269), (156, 49248), (159, 49233), (165, 49170), (166, 49167), (170, 49155),

Gene: Poise_32 Start: 9689, Stop: 9039, Start Num: 57

Candidate Starts for Poise_32:

(7, 9980), (10, 9902), (12, 9878), (36, 9752), (40, 9740), (Start: 57 @9689 has 17 MA's), (64, 9677), (73, 9611), (81, 9560), (98, 9470), (105, 9425), (122, 9323), (129, 9272), (132, 9260), (143, 9203), (144, 9200), (156, 9152), (159, 9137),

Gene: Pound_111 Start: 65924, Stop: 66571, Start Num: 56

Candidate Starts for Pound_111:

(Start: 56 @65924 has 12 MA's), (Start: 66 @65933 has 3 MA's), (Start: 72 @65969 has 11 MA's), (75, 66005), (89, 66080), (108, 66203), (119, 66266), (122, 66284), (128, 66329), (144, 66419), (156, 66470),

Gene: Pringar_32 Start: 10028, Stop: 9378, Start Num: 57

Candidate Starts for Pringar_32:

(7, 10292), (10, 10214), (12, 10190), (36, 10064), (Start: 57 @10028 has 17 MA's), (64, 10016), (67, 10010), (73, 9950), (81, 9899), (98, 9809), (105, 9764), (122, 9662), (129, 9611), (132, 9599), (143, 9542), (144, 9539), (156, 9491), (159, 9476),

Gene: Pukovnik_82 Start: 49336, Stop: 48650, Start Num: 62

Candidate Starts for Pukovnik_82:

(44, 49360), (Start: 62 @49336 has 4 MA's), (Start: 72 @49291 has 11 MA's), (108, 49057), (119, 48994), (122, 48976), (124, 48961), (127, 48937), (142, 48844), (144, 48835), (156, 48784), (174, 48679), (177, 48658),

Gene: Pureglobe5_21 Start: 6744, Stop: 7460, Start Num: 53

Candidate Starts for Pureglobe5_21:

(Start: 53 @6744 has 11 MA's), (69, 6777), (99, 6981), (100, 6987), (115, 7080), (122, 7125), (128, 7200), (156, 7350), (159, 7365), (170, 7440), (174, 7446),

Gene: Raela_32 Start: 10244, Stop: 9594, Start Num: 57

Candidate Starts for Raela_32:

(7, 10535), (10, 10457), (12, 10433), (36, 10307), (40, 10295), (Start: 57 @10244 has 17 MA's), (64, 10232), (73, 10166), (81, 10115), (98, 10025), (105, 9980), (122, 9878), (129, 9827), (132, 9815), (143, 9758), (144, 9755), (156, 9707), (159, 9692),

Gene: Raid_84 Start: 49022, Stop: 48345, Start Num: 38

Candidate Starts for Raid_84:

(Start: 38 @49022 has 4 MA's), (73, 48941), (75, 48932), (94, 48839), (98, 48800), (112, 48713), (113, 48704), (115, 48692), (120, 48662), (122, 48647), (124, 48632), (137, 48560), (144, 48512), (156, 48461), (157, 48455), (160, 48440), (166, 48377),

Gene: Rajelicia_87 Start: 52049, Stop: 51360, Start Num: 50

Candidate Starts for Rajelicia_87:

(Start: 50 @52049 has 8 MA's), (Start: 53 @52043 has 11 MA's), (Start: 66 @52028 has 3 MA's), (73, 51965), (75, 51956), (113, 51746), (115, 51734), (122, 51689), (139, 51578), (147, 51548), (153, 51521), (156, 51500), (159, 51485), (165, 51422), (166, 51419), (170, 51407),

Gene: RedRaider77_32 Start: 10172, Stop: 9522, Start Num: 57

Candidate Starts for RedRaider77_32:

(7, 10436), (10, 10358), (12, 10334), (36, 10208), (Start: 57 @10172 has 17 MA's), (64, 10160), (67, 10154), (73, 10094), (81, 10043), (98, 9953), (105, 9908), (122, 9806), (129, 9755), (132, 9743), (143, 9686), (144, 9683), (156, 9635), (159, 9620),

Gene: Redno2_115 Start: 65360, Stop: 66007, Start Num: 56

Candidate Starts for Redno2_115:

(Start: 56 @65360 has 12 MA's), (Start: 66 @65369 has 3 MA's), (Start: 72 @65405 has 11 MA's), (75, 65441), (89, 65516), (108, 65639), (119, 65702), (122, 65720), (128, 65765), (137, 65807), (144, 65855), (156, 65906),

Gene: Rings_76 Start: 49802, Stop: 49098, Start Num: 53

Candidate Starts for Rings_76:

(39, 49847), (47, 49817), (49, 49811), (Start: 53 @49802 has 11 MA's), (Start: 54 @49799 has 39 MA's), (73, 49715), (80, 49664), (83, 49649), (108, 49478), (121, 49409), (122, 49397), (124, 49382), (125, 49379), (156, 49205), (157, 49199), (162, 49172), (166, 49121), (168, 49112), (173, 49103),

Gene: Ruotula_92 Start: 51789, Stop: 51100, Start Num: 50

Candidate Starts for Ruotula_92:

(Start: 50 @51789 has 8 MA's), (Start: 53 @51783 has 11 MA's), (Start: 66 @51768 has 3 MA's), (73, 51705), (75, 51696), (113, 51486), (115, 51474), (122, 51429), (126, 51396), (139, 51318), (147, 51288), (149, 51282), (153, 51261), (156, 51240), (159, 51225), (165, 51162), (166, 51159), (170, 51147),

Gene: Sanya_79 Start: 49939, Stop: 49265, Start Num: 63

Candidate Starts for Sanya_79:

(Start: 48 @49963 has 6 MA's), (Start: 59 @49945 has 16 MA's), (Start: 63 @49939 has 25 MA's), (73, 49870), (75, 49861), (113, 49651), (115, 49639), (122, 49594), (126, 49561), (139, 49483), (147, 49453), (149, 49447), (153, 49426), (156, 49405), (159, 49390), (165, 49327), (166, 49324), (170, 49312),

Gene: Seabiscuit_87 Start: 48983, Stop: 48312, Start Num: 60

Candidate Starts for Seabiscuit_87:

(17, 49127), (23, 49097), (Start: 60 @48983 has 15 MA's), (Start: 63 @48977 has 25 MA's), (73, 48908), (75, 48899), (81, 48857), (94, 48806), (98, 48767), (112, 48680), (113, 48671), (120, 48629), (122, 48614), (124, 48599), (137, 48527), (144, 48479), (156, 48428), (157, 48422), (160, 48407), (166, 48344),

Gene: Seanderson_85 Start: 51237, Stop: 50560, Start Num: 54

Candidate Starts for Seanderson_85:

(Start: 54 @51237 has 39 MA's), (Start: 66 @51219 has 3 MA's), (74, 51153), (75, 51147), (81, 51105), (94, 51054), (98, 51015), (107, 50946), (113, 50919), (115, 50907), (120, 50877), (122, 50862), (124, 50847), (137, 50775), (144, 50727), (156, 50676), (157, 50670), (160, 50655), (166, 50592),

Gene: SeresaTree_7 Start: 2390, Stop: 1746, Start Num: 72

Candidate Starts for SeresaTree_7:

(Start: 63 @2432 has 25 MA's), (69, 2417), (Start: 72 @2390 has 11 MA's), (82, 2312), (86, 2282), (87, 2279), (88, 2276), (98, 2219), (107, 2165), (112, 2147), (115, 2126), (120, 2096), (122, 2081), (123, 2069), (144, 1937), (156, 1880), (159, 1865),

Gene: Sham_7 Start: 2371, Stop: 1727, Start Num: 72

Candidate Starts for Sham_7:

(Start: 63 @2413 has 25 MA's), (67, 2404), (69, 2398), (Start: 72 @2371 has 11 MA's), (78, 2317), (82, 2293), (86, 2263), (87, 2260), (88, 2257), (94, 2239), (98, 2200), (107, 2146), (112, 2128), (120, 2077), (122, 2062), (123, 2050), (141, 1930), (144, 1918), (156, 1861), (159, 1846),

Gene: Sheen_59 Start: 41732, Stop: 41055, Start Num: 54

Candidate Starts for Sheen_59:

(Start: 54 @41732 has 39 MA's), (Start: 66 @41717 has 3 MA's), (Start: 72 @41681 has 11 MA's), (74, 41651), (75, 41645), (91, 41552), (92, 41549), (98, 41504), (104, 41465), (113, 41417), (122, 41360), (124, 41345), (127, 41321), (137, 41270), (153, 41192), (156, 41171), (161, 41144),

Gene: ShortQueendom_79 Start: 47837, Stop: 47163, Start Num: 63

Candidate Starts for ShortQueendom_79:

(Start: 48 @47861 has 6 MA's), (Start: 59 @47843 has 16 MA's), (Start: 63 @47837 has 25 MA's), (73, 47768), (75, 47759), (113, 47549), (115, 47537), (122, 47492), (126, 47459), (139, 47381), (147, 47351), (149, 47345), (153, 47324), (156, 47303), (159, 47288), (165, 47225), (166, 47222), (170, 47210),

Gene: Sibs6_89 Start: 47701, Stop: 47027, Start Num: 63

Candidate Starts for Sibs6_89:

(43, 47737), (Start: 48 @47725 has 6 MA's), (Start: 59 @47707 has 16 MA's), (Start: 63 @47701 has 25 MA's), (73, 47632), (75, 47623), (113, 47413), (115, 47401), (122, 47356), (126, 47323), (139, 47245), (147, 47215), (149, 47209), (153, 47188), (156, 47167), (159, 47152), (165, 47089), (166, 47086), (170, 47074),

Gene: SilentRX_15 Start: 5723, Stop: 6439, Start Num: 61

Candidate Starts for SilentRX_15:

(Start: 54 @5714 has 39 MA's), (Start: 61 @5723 has 2 MA's), (75, 5807), (85, 5876), (105, 5990), (106, 5999), (119, 6074), (122, 6092), (132, 6188), (134, 6209), (137, 6215), (151, 6290), (156, 6314), (159, 6329), (166, 6395), (171, 6410), (174, 6416),

Gene: Slagathor_89 Start: 50784, Stop: 50101, Start Num: 53

Candidate Starts for Slagathor_89:

(Start: 50 @50790 has 8 MA's), (Start: 53 @50784 has 11 MA's), (Start: 66 @50769 has 3 MA's), (73, 50706), (75, 50697), (113, 50487), (115, 50475), (122, 50430), (139, 50319), (147, 50289), (149, 50283), (153, 50262), (156, 50241), (159, 50226), (165, 50163), (166, 50160), (170, 50148),

Gene: Snazzy_87 Start: 50092, Stop: 49418, Start Num: 63

Candidate Starts for Snazzy_87:

(Start: 48 @50119 has 6 MA's), (Start: 63 @50092 has 25 MA's), (73, 50023), (75, 50014), (113, 49804), (115, 49792), (122, 49747), (126, 49714), (139, 49636), (147, 49606), (149, 49600), (153, 49579), (156, 49558), (159, 49543), (165, 49480), (166, 49477), (170, 49465),

Gene: SorJuana_75 Start: 49355, Stop: 48654, Start Num: 54

Candidate Starts for SorJuana_75:

(27, 49436), (32, 49421), (39, 49403), (49, 49367), (Start: 54 @49355 has 39 MA's), (73, 49271), (78, 49244), (79, 49241), (83, 49205), (84, 49202), (108, 49034), (121, 48965), (122, 48953), (124, 48938), (125, 48935), (156, 48761), (157, 48755), (162, 48728), (166, 48677), (168, 48668), (173, 48659),

Gene: SparkleGoddess_7 Start: 2235, Stop: 1630, Start Num: 72

Candidate Starts for SparkleGoddess_7:

(Start: 63 @2277 has 25 MA's), (67, 2268), (69, 2262), (Start: 72 @2235 has 11 MA's), (82, 2157), (86, 2127), (87, 2124), (88, 2121), (98, 2064), (107, 2010), (120, 1944), (121, 1941), (122, 1929), (124, 1911), (141, 1794), (144, 1782), (146, 1776), (156, 1725), (159, 1710), (173, 1635),

Gene: Squint_115 Start: 64374, Stop: 64973, Start Num: 72

Candidate Starts for Squint_115:

(30, 64251), (Start: 56 @64323 has 12 MA's), (Start: 72 @64374 has 11 MA's), (73, 64401), (74, 64404), (75, 64410), (89, 64485), (101, 64563), (122, 64689), (124, 64704), (129, 64740), (144, 64824), (156, 64875), (160, 64896),

Gene: Stigma_7 Start: 2239, Stop: 1634, Start Num: 72

Candidate Starts for Stigma_7:

(Start: 63 @2281 has 25 MA's), (67, 2272), (69, 2266), (Start: 72 @2239 has 11 MA's), (82, 2161), (86, 2131), (87, 2128), (88, 2125), (98, 2068), (107, 2014), (120, 1948), (121, 1945), (122, 1933), (124, 1915), (141, 1798), (144, 1786), (146, 1780), (156, 1729), (159, 1714), (173, 1639),

Gene: StrongArm_83 Start: 49650, Stop: 48988, Start Num: 66

Candidate Starts for StrongArm_83:

(4, 49989), (5, 49971), (6, 49959), (13, 49848), (14, 49839), (19, 49788), (Start: 54 @49668 has 39 MA's), (Start: 66 @49650 has 3 MA's), (74, 49584), (75, 49578), (85, 49512), (94, 49485), (98, 49446), (107, 49377), (113, 49350), (115, 49338), (120, 49308), (122, 49293), (124, 49278), (137, 49203), (144, 49155), (153, 49125), (156, 49104), (157, 49098), (166, 49020),

Gene: Superphikiman_114 Start: 63414, Stop: 64064, Start Num: 56

Candidate Starts for Superphikiman_114:

(30, 63342), (Start: 56 @63414 has 12 MA's), (Start: 72 @63465 has 11 MA's), (73, 63492), (74, 63495), (75, 63501), (89, 63576), (101, 63654), (122, 63780), (124, 63795), (129, 63831), (144, 63915), (156, 63966), (160, 63987),

Gene: Switzer_84 Start: 49767, Stop: 49096, Start Num: 60

Candidate Starts for Switzer_84:

(17, 49911), (23, 49881), (Start: 60 @49767 has 15 MA's), (Start: 63 @49761 has 25 MA's), (73, 49692), (75, 49683), (81, 49641), (94, 49590), (98, 49551), (112, 49464), (113, 49455), (120, 49413), (122, 49398), (124, 49383), (137, 49311), (144, 49263), (156, 49212), (157, 49206), (160, 49191), (166, 49128),

Gene: Tesla_31 Start: 10021, Stop: 9371, Start Num: 57

Candidate Starts for Tesla_31:

(7, 10285), (10, 10207), (12, 10183), (36, 10057), (Start: 57 @10021 has 17 MA's), (64, 10009), (67, 10003), (73, 9943), (81, 9892), (98, 9802), (105, 9757), (122, 9655), (129, 9604), (132, 9592), (143, 9535), (144, 9532), (156, 9484), (159, 9469),

Gene: ThreeRngTarjay_117 Start: 68249, Stop: 68896, Start Num: 56

Candidate Starts for ThreeRngTarjay_117:

(Start: 56 @68249 has 12 MA's), (Start: 66 @68258 has 3 MA's), (Start: 72 @68294 has 11 MA's), (74, 68324), (75, 68330), (89, 68405), (108, 68528), (119, 68591), (122, 68609), (128, 68654), (144, 68744), (156, 68795),

Gene: Thunderclap_75 Start: 49777, Stop: 49076, Start Num: 54

Candidate Starts for Thunderclap_75:

(27, 49858), (32, 49843), (39, 49825), (49, 49789), (Start: 54 @49777 has 39 MA's), (73, 49693), (78, 49666), (79, 49663), (83, 49627), (84, 49624), (108, 49456), (121, 49387), (122, 49375), (124, 49360), (125, 49357), (156, 49183), (157, 49177), (162, 49150), (166, 49099), (168, 49090), (173, 49081),

Gene: Timshel_56 Start: 41030, Stop: 40329, Start Num: 54

Candidate Starts for Timshel_56:

(Start: 54 @41030 has 39 MA's), (69, 41006), (Start: 72 @40979 has 11 MA's), (73, 40952), (75, 40943), (107, 40724), (112, 40706), (122, 40640), (130, 40586), (137, 40550), (144, 40502), (153, 40472), (156, 40451), (165, 40370), (169, 40358),

Gene: ToastyFinz_36 Start: 28865, Stop: 29620, Start Num: 24

Candidate Starts for ToastyFinz_36:

(2, 28502), (11, 28769), (Start: 24 @28865 has 1 MA's), (34, 28904), (Start: 72 @29021 has 11 MA's), (108, 29243), (122, 29324), (123, 29333), (139, 29420), (140, 29432), (147, 29450), (156, 29498), (157, 29504), (162, 29528),

Gene: Toro_60 Start: 41844, Stop: 41167, Start Num: 54

Candidate Starts for Toro_60:

(Start: 54 @41844 has 39 MA's), (Start: 66 @41829 has 3 MA's), (Start: 72 @41793 has 11 MA's), (74, 41763), (75, 41757), (91, 41664), (92, 41661), (98, 41616), (104, 41577), (113, 41529), (122, 41472), (124, 41457), (127, 41433), (137, 41382), (153, 41304), (156, 41283), (161, 41256),

Gene: Trina_21 Start: 7519, Stop: 6875, Start Num: 55

Candidate Starts for Trina_21:

(Start: 55 @7519 has 1 MA's), (98, 7309), (113, 7222), (122, 7165), (156, 6976), (166, 6892),

Gene: Tripl3t_89 Start: 52782, Stop: 52099, Start Num: 53

Candidate Starts for Tripl3t_89:

(Start: 50 @52788 has 8 MA's), (Start: 53 @52782 has 11 MA's), (Start: 66 @52767 has 3 MA's), (73, 52704), (75, 52695), (113, 52485), (115, 52473), (122, 52428), (126, 52395), (139, 52317), (147, 52287), (149, 52281), (153, 52260), (156, 52239), (159, 52224), (165, 52161), (166, 52158), (170, 52146),

Gene: Tristan_83 Start: 49695, Stop: 49012, Start Num: 58

Candidate Starts for Tristan_83:

(Start: 41 @49734 has 1 MA's), (Start: 58 @49695 has 1 MA's), (Start: 72 @49650 has 11 MA's), (108, 49416), (119, 49353), (122, 49335), (127, 49296), (142, 49203), (156, 49143), (173, 49041), (177, 49020),

Gene: TunaTartare_7 Start: 2413, Stop: 1730, Start Num: 63

Candidate Starts for TunaTartare_7:

(Start: 63 @2413 has 25 MA's), (67, 2404), (69, 2398), (Start: 72 @2371 has 11 MA's), (78, 2317), (82, 2293), (86, 2263), (87, 2260), (88, 2257), (94, 2239), (98, 2200), (107, 2146), (112, 2128), (120, 2077), (122, 2062), (123, 2050), (141, 1930), (144, 1918), (156, 1861), (159, 1846),

Gene: TwoPeat_85 Start: 49196, Stop: 48633, Start Num: 63

Candidate Starts for TwoPeat_85:

(Start: 48 @49220 has 6 MA's), (Start: 59 @49202 has 16 MA's), (Start: 63 @49196 has 25 MA's), (73, 49127), (75, 49118), (113, 48908), (115, 48896), (122, 48851), (126, 48818), (158, 48650),

Gene: U2_78 Start: 49972, Stop: 49301, Start Num: 60

Candidate Starts for U2_78:

(17, 50116), (23, 50086), (Start: 60 @49972 has 15 MA's), (Start: 63 @49966 has 25 MA's), (73, 49897), (75, 49888), (81, 49846), (94, 49795), (98, 49756), (112, 49669), (113, 49660), (120, 49618), (122, 49603), (124, 49588), (137, 49516), (144, 49468), (156, 49417), (157, 49411), (160, 49396), (166, 49333),

Gene: VasuNzinga_32 Start: 9605, Stop: 8955, Start Num: 57

Candidate Starts for VasuNzinga_32:

(7, 9869), (10, 9791), (12, 9767), (36, 9641), (Start: 57 @9605 has 17 MA's), (64, 9593), (67, 9587), (73, 9527), (81, 9476), (98, 9386), (105, 9341), (122, 9239), (129, 9188), (132, 9176), (143, 9119), (144, 9116), (156, 9068), (159, 9053),

Gene: Wakanda_7 Start: 3176, Stop: 2532, Start Num: 63

Candidate Starts for Wakanda_7:

(Start: 63 @3176 has 25 MA's), (Start: 72 @3134 has 11 MA's), (83, 3047), (106, 2924), (107, 2915), (120, 2846), (122, 2831), (130, 2777), (135, 2741), (141, 2699), (144, 2687), (156, 2630), (159, 2615), (165, 2552),

Gene: Wanda_121 Start: 65651, Stop: 66274, Start Num: 59

Candidate Starts for Wanda_121:

(Start: 59 @65651 has 16 MA's), (Start: 66 @65660 has 3 MA's), (Start: 71 @65696 has 1 MA's), (75, 65732), (84, 65786), (139, 66098), (147, 66128), (149, 66134), (150, 66137), (156, 66176), (159, 66191),

Gene: Westy_7 Start: 2239, Stop: 1634, Start Num: 72

Candidate Starts for Westy_7:

(Start: 63 @2281 has 25 MA's), (67, 2272), (69, 2266), (Start: 72 @2239 has 11 MA's), (82, 2161), (86, 2131), (87, 2128), (88, 2125), (98, 2068), (107, 2014), (120, 1948), (121, 1945), (122, 1933), (124, 1915), (141, 1798), (144, 1786), (146, 1780), (156, 1729), (159, 1714), (173, 1639),

Gene: Wheeler_92 Start: 52122, Stop: 51451, Start Num: 60

Candidate Starts for Wheeler_92:

(17, 52266), (23, 52236), (Start: 60 @52122 has 15 MA's), (Start: 63 @52116 has 25 MA's), (73, 52047), (75, 52038), (81, 51996), (98, 51906), (112, 51819), (113, 51810), (120, 51768), (122, 51753), (124, 51738), (137, 51666), (144, 51618), (156, 51567), (157, 51561), (160, 51546), (166, 51483),

Gene: WilliamBoone_173 Start: 85461, Stop: 84754, Start Num: 45

Candidate Starts for WilliamBoone_173:

(Start: 45 @85461 has 3 MA's), (Start: 72 @85383 has 11 MA's), (73, 85356), (75, 85347), (98, 85209), (103, 85176), (108, 85146), (113, 85122), (118, 85095), (122, 85065), (124, 85050), (144, 84927), (156, 84876), (166, 84792),

Gene: Yakult_45 Start: 31564, Stop: 30911, Start Num: 54

Candidate Starts for Yakult_45:

(Start: 54 @31564 has 39 MA's), (74, 31483), (98, 31345), (104, 31300), (110, 31270), (113, 31252), (115, 31240), (120, 31210), (122, 31195), (124, 31180), (127, 31156), (131, 31141), (138, 31087), (144, 31060), (156, 31009), (166, 30925), (168, 30916),

Gene: Yeezus_75 Start: 49753, Stop: 49052, Start Num: 54

Candidate Starts for Yeezus_75:

(21, 49867), (26, 49849), (32, 49819), (39, 49801), (47, 49771), (49, 49765), (Start: 53 @49756 has 11 MA's), (Start: 54 @49753 has 39 MA's), (73, 49669), (83, 49603), (84, 49600), (108, 49432), (115, 49396), (122, 49351), (124, 49336), (125, 49333), (156, 49159), (157, 49153), (166, 49075), (168, 49066), (173, 49057),

Gene: Zeeculate_84 Start: 50762, Stop: 50082, Start Num: 54

Candidate Starts for Zeeculate_84:

(8, 51002), (Start: 54 @50762 has 39 MA's), (Start: 66 @50744 has 3 MA's), (74, 50678), (75, 50672), (85, 50606), (94, 50579), (98, 50540), (107, 50471), (113, 50444), (115, 50432), (120, 50402), (122, 50387), (124, 50372), (144, 50249), (156, 50198), (157, 50192), (160, 50177), (166, 50114),

Gene: Zelink_116 Start: 68196, Stop: 68843, Start Num: 56

Candidate Starts for Zelink_116:

(Start: 56 @68196 has 12 MA's), (Start: 66 @68205 has 3 MA's), (Start: 72 @68241 has 11 MA's), (74, 68271), (75, 68277), (89, 68352), (108, 68475), (119, 68538), (122, 68556), (128, 68601), (144, 68691), (156, 68742),

Gene: Zephyr_86 Start: 49855, Stop: 49178, Start Num: 38

Candidate Starts for Zephyr_86:

(Start: 38 @49855 has 4 MA's), (73, 49774), (75, 49765), (94, 49672), (98, 49633), (112, 49546), (113, 49537), (115, 49525), (120, 49495), (122, 49480), (124, 49465), (137, 49393), (144, 49345), (156, 49294), (157, 49288), (160, 49273), (166, 49210),