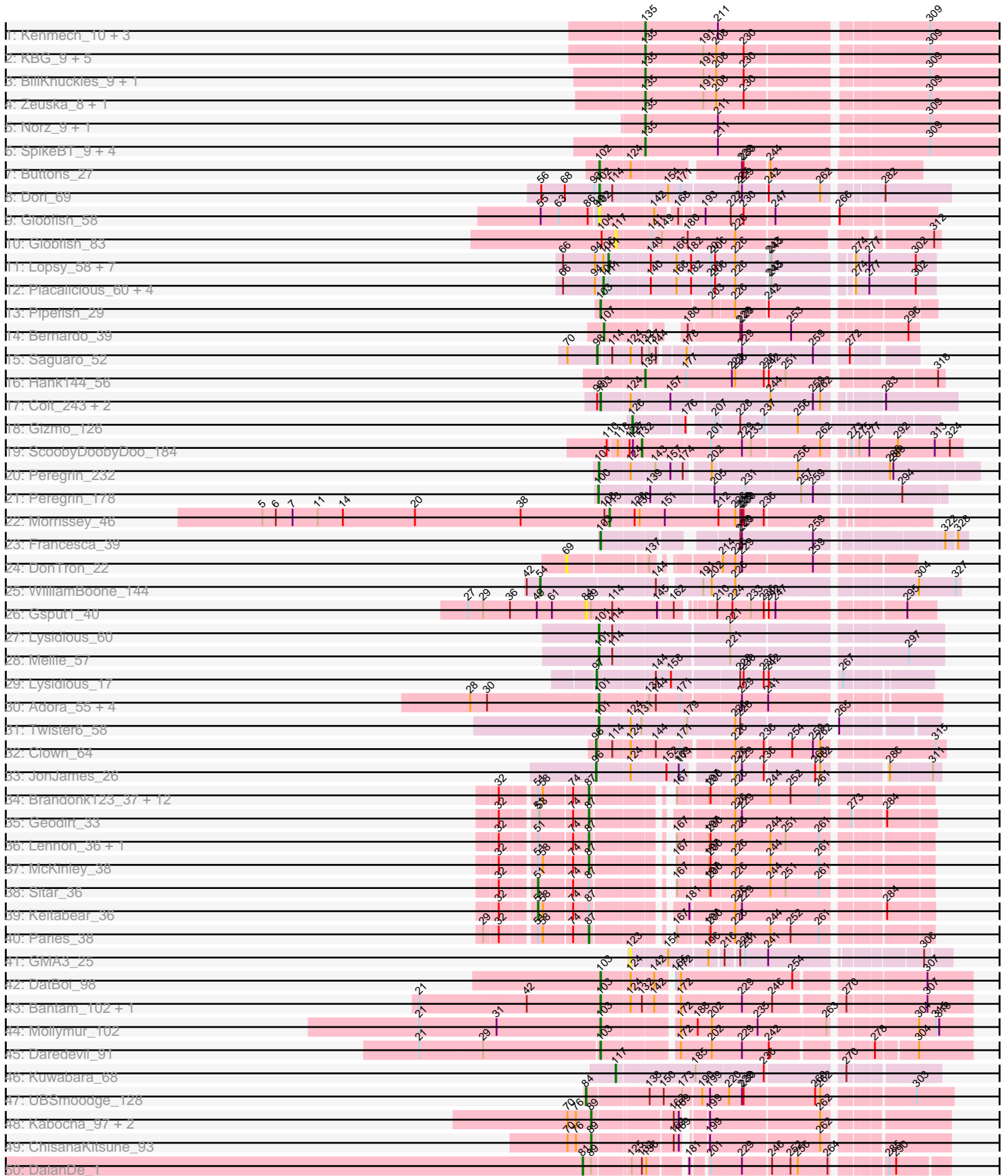
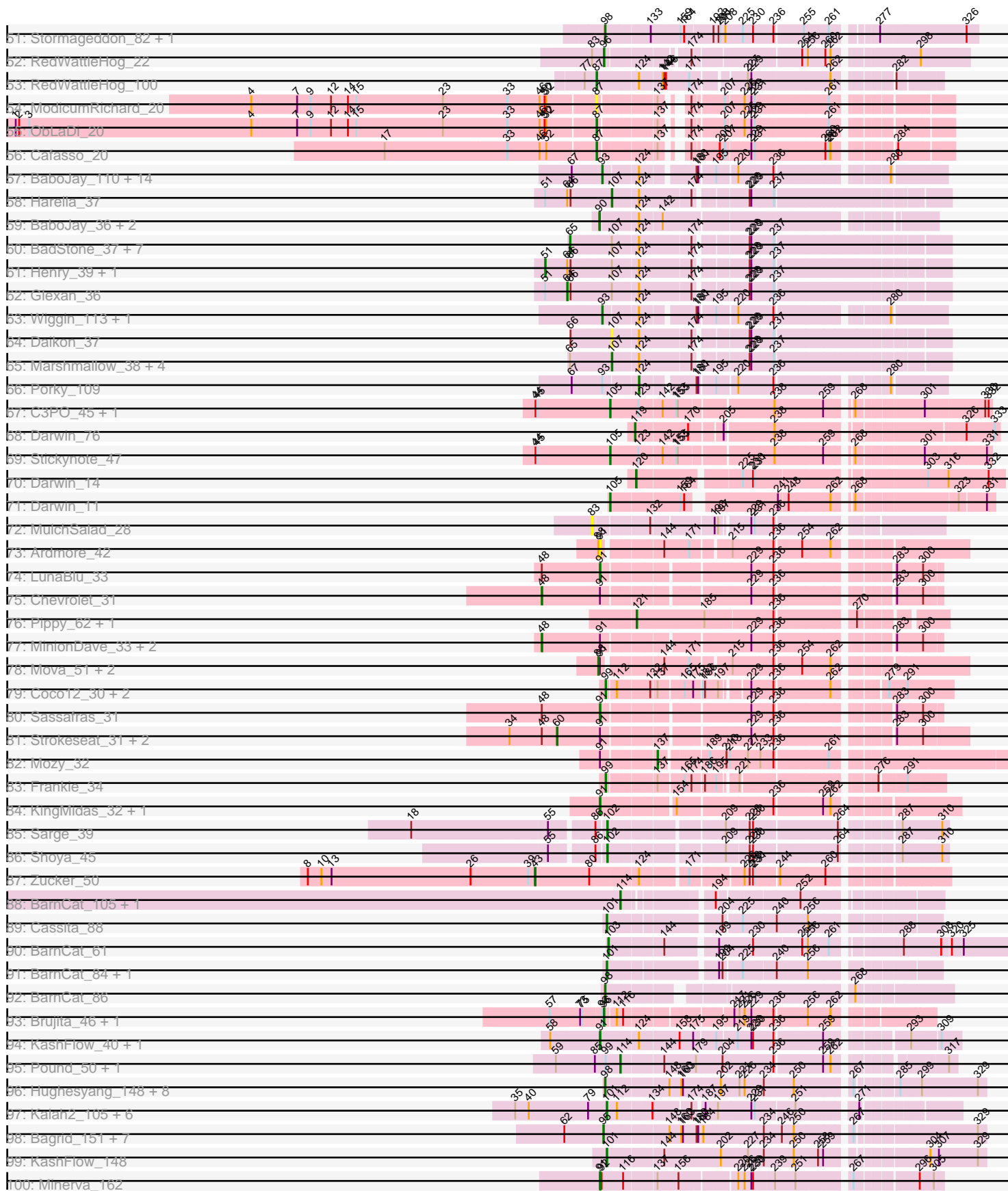


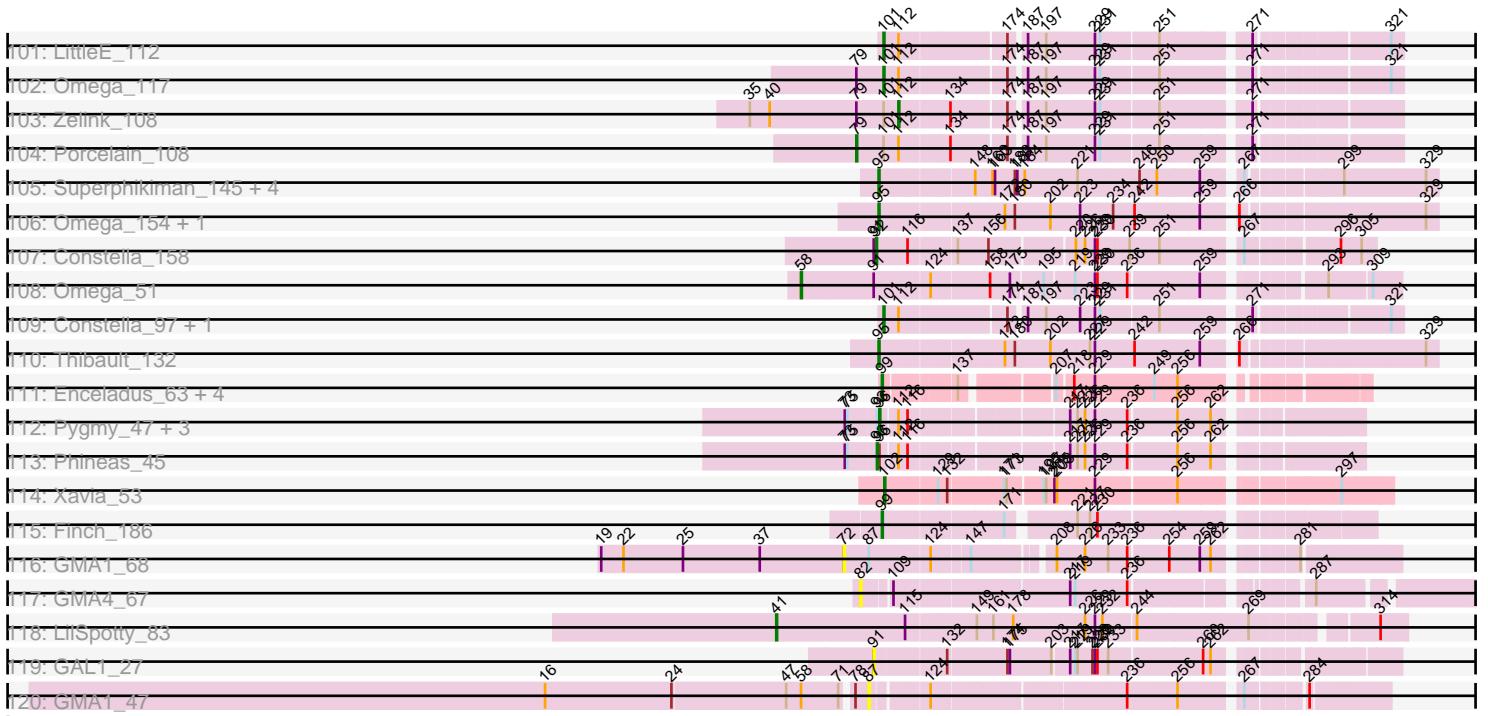
Pham 193706



Pham 193706



Pham 193706



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 193706 Report

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

Pham number 193706 has 248 members, 18 are drafts.

Phages represented in each track:

- Track 1 : Kenmech_10, LilBib_8, Papez_9, TheloniousMonk_9
- Track 2 : KBG_9, Solon_8, Gwendoluna_9, Nerujay_9, Squee_8, Graduation_10
- Track 3 : BillKnuckles_9, DD5_9
- Track 4 : Zeuska_8, QTRlifeCrisis_8
- Track 5 : Norz_9, Monet_9
- Track 6 : SpikeBT_9, Hermia_10, Treddle_9, Buttons_9, Edtherson_9
- Track 7 : Buttons_27
- Track 8 : Dori_69
- Track 9 : Globfish_58
- Track 10 : Globfish_83
- Track 11 : Lopsy_58, Buckeye_60, LeiMonet_62, Coletti_62, Podrick_58, Adriana_61, Matalotodo_59, KingTut_52
- Track 12 : Placalicious_60, FugateOSU_60, Orfeu_58, LostAndPhound_60, Toni_59
- Track 13 : Pipefish_29
- Track 14 : Bernardo_39
- Track 15 : Saguaro_52
- Track 16 : Hank144_56
- Track 17 : Colt_243, Blubba_240, Cane17_242
- Track 18 : Gizmo_126
- Track 19 : ScoobyDoobyDoo_184
- Track 20 : Peregrin_232
- Track 21 : Peregrin_178
- Track 22 : Morrissey_46
- Track 23 : Francesca_39
- Track 24 : DonTron_22
- Track 25 : WilliamBoone_144
- Track 26 : Gspu1_40
- Track 27 : Lysidious_60
- Track 28 : Mellie_57
- Track 29 : Lysidious_17
- Track 30 : Adora_55, Shlim410_56, Hortense_58, Howe_58, Twinkle_57
- Track 31 : Twister6_58
- Track 32 : Clown_64
- Track 33 : JonJames_26
- Track 34 : Brandonk123_37, Love_39, Fosterous_34, Nordenberg_30, Sedona_36, Charming_36, Galadriel_36, BobBob_33, Vivi2_38, Rofo_36, Angelicage_34,

Tangent_36, Bibwit_35

- Track 35 : Geodirt_33
- Track 36 : Lennon_36, Affeca_34
- Track 37 : McKinley_38
- Track 38 : Sitar_36
- Track 39 : Keitabear_36
- Track 40 : Paries_38
- Track 41 : GMA3_25
- Track 42 : DatBoi_98
- Track 43 : Bantam_102, SpeedDemon_1040
- Track 44 : Mollymur_102
- Track 45 : Daredevil_91
- Track 46 : Kuwabara_68
- Track 47 : UBSmoodge_128
- Track 48 : Kabocha_97, Chidiebere_96, Schomber_94
- Track 49 : ChisanaKitsune_93
- Track 50 : DalanDe_1
- Track 51 : Stormageddon_82, RedWattleHog_85
- Track 52 : RedWattleHog_22
- Track 53 : RedWattleHog_100
- Track 54 : ModicumRichard_20
- Track 55 : ObLaDi_20
- Track 56 : Cafasso_20
- Track 57 : BaboJay_110, JeTaime_109, Goku_110, Nimrod_111, Kimchi_115, Teaspoon_111, 244_112, Stank_113, Icee_112, BigBubba_112, Filch_113, Goldilocks_114, TBrady12_114, Xandras_110, Holt_116
- Track 58 : Harella_37
- Track 59 : BaboJay_36, Eureka_37, Goku_37
- Track 60 : BadStone_37, Myrale_38, ABCat_37, Tuco_39, DrDrey_39, BilboSwaggins_38, Dusk_37, ShamWow_38
- Track 61 : Henry_39, Gator_36
- Track 62 : Glexan_36
- Track 63 : Wiggin_113, Marshmallow_109
- Track 64 : Daikon_37
- Track 65 : Marshmallow_38, Teaspoon_39, Balomoji_37, Pumpkin_40, Toto_38
- Track 66 : Porky_109
- Track 67 : C3PO_45, Cruella_45
- Track 68 : Darwin_76
- Track 69 : Stickynote_47
- Track 70 : Darwin_14
- Track 71 : Darwin_11
- Track 72 : MulchSalad_28
- Track 73 : Ardmore_42
- Track 74 : LunaBlu_33
- Track 75 : Chevrolet_31
- Track 76 : Pippy_62, Maravista_65
- Track 77 : MinionDave_33, Galactic_32, Ramsey_33
- Track 78 : Mova_51, Bobi_53, Mutaforma13_54
- Track 79 : Coco12_30, Starcevich_34, JalFarm20_33
- Track 80 : Sassafras_31
- Track 81 : Strokeseat_31, Mandlovu_31, Hlubikazi_31
- Track 82 : Mozy_32
- Track 83 : Frankie_34

- Track 84 : KingMidas_32, Leozinho_32
- Track 85 : Sarge_39
- Track 86 : Shoya_45
- Track 87 : Zucker_50
- Track 88 : BarnCat_105, LeeroyJenkins_114
- Track 89 : Cassita_88
- Track 90 : BarnCat_61
- Track 91 : BarnCat_84, LeeroyJenkins_94
- Track 92 : BarnCat_86
- Track 93 : Brujita_46, Island3_46
- Track 94 : KashFlow_40, Hannaconda_43
- Track 95 : Pound_50, Bombitas_45
- Track 96 : Hughesyang_148, Dove_135, Wanda_148, Zelink_143, Kalah2_140, Minerva_148, ThreeRngTarjay_144, Bobby_139, Phoebus_149
- Track 97 : Kalah2_105, Phoebus_113, Dallas_113, EricMillard_105, Hughesyang_111, ThreeRngTarjay_109, DmpstrDiver_113
- Track 98 : Bagrid_151, Optimus_141, Duke13_146, EricMillard_142, HokkenD_142, BAKA_150, Gonephishing_141, Klein_147
- Track 99 : KashFlow_148
- Track 100 : Minerva_162
- Track 101 : LittleE_112
- Track 102 : Omega_117
- Track 103 : Zelink_108
- Track 104 : Porcelain_108
- Track 105 : Superphikiman_145, Ariel_147, Courthouse_143, Beem_151, Hannaconda_141
- Track 106 : Omega_154, LittleE_150
- Track 107 : Constella_158
- Track 108 : Omega_51
- Track 109 : Constella_97, Thibault_95
- Track 110 : Thibault_132
- Track 111 : Enceladus_63, UPIE_65, JoeDirt_64, Rose5_65, Wamburggrxpress_65
- Track 112 : Pygmy_47, Bogie_47, Shipwreck_47, HUHilltop_45
- Track 113 : Phineas_45
- Track 114 : Xavia_53
- Track 115 : Finch_186
- Track 116 : GMA1_68
- Track 117 : GMA4_67
- Track 118 : LilSpotty_83
- Track 119 : GAL1_27
- Track 120 : GMA1_47

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

The start number called the most often in the published annotations is 101, it was called in 24 of the 230 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adora_55, BarnCat_84, Cassita_88, Constella_97, Dallas_113, DmpstrDiver_113, EricMillard_105, Hortense_58, Howe_58, Hughesyang_111, Kalah2_105,

KashFlow_148, LeeroyJenkins_94, LittleE_112, Lysidious_60, Mellie_57, Omega_117, Peregrin_232, Phoebus_113, Shlim410_56, Thibault_95, ThreeRngTarjay_109, Twinkle_57, Twister6_58,

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

- Porcelain_108, Zelink_108,

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

- 244_112, ABCat_37, Adriana_61, Affeca_34, Angelicage_34, Ardmore_42, Ariel_147, BAKA_150, BaboJay_110, BaboJay_36, BadStone_37, Bagrid_151, Balomoji_37, Bantam_102, BarnCat_105, BarnCat_61, BarnCat_86, Beem_151, Bernardo_39, Bibwit_35, BigBubba_112, BilboSwaggins_38, BillKnuckles_9, Blubba_240, BobBob_33, Bobby_139, Bobi_53, Bogie_47, Bombitas_45, Brandonk123_37, Brujita_46, Buckeye_60, Buttons_27, Buttons_9, C3PO_45, Cafasso_20, Cane17_242, Charming_36, Chevrolet_31, Chidiebere_96, ChisanaKitsune_93, Clown_64, Coco12_30, Coletti_62, Colt_243, Constella_158, Courthouse_143, Cruella_45, DD5_9, Daikon_37, DalanDe_1, Daredevil_91, Darwin_11, Darwin_14, Darwin_76, DatBoi_98, DonTron_22, Dori_69, Dove_135, DrDrey_39, Duke13_146, Dusk_37, Edtherson_9, Enceladus_63, EricMillard_142, Eureka_37, Filch_113, Finch_186, Fosterous_34, Francesca_39, Frankie_34, FugateOSU_60, GAL1_27, GMA1_47, GMA1_68, GMA3_25, GMA4_67, Galactic_32, Galadriel_36, Gator_36, Geodirt_33, Gizmo_126, Glexan_36, Globfish_58, Globfish_83, Goku_110, Goku_37, Goldilocks_114, Gonephishing_141, Graduation_10, Gspu1_40, Gwendoluna_9, HUHilltop_45, Hank144_56, Hannaconda_141, Hannaconda_43, Harella_37, Henry_39, Hermia_10, Hlubikazi_31, HokkenD_142, Holt_116, Hughesyang_148, Icee_112, Island3_46, JalFarm20_33, JeTaima_109, JoeDirt_64, JonJames_26, KBG_9, Kabocha_97, Kalah2_140, KashFlow_40, Keitabear_36, Kenmech_10, Kimchi_115, KingMidas_32, KingTut_52, Klein_147, Kuwabara_68, LeeroyJenkins_114, LeiMonet_62, Lennon_36, Leozinho_32, LilBib_8, LilSpotty_83, LittleE_150, Lopsy_58, LostAndPhound_60, Love_39, LunaBlu_33, Lysidious_17, Mandlovu_31, Maravista_65, Marshmallow_109, Marshmallow_38, Matalotodo_59, McKinley_38, Minerva_148, Minerva_162, MinionDave_33, ModicumRichard_20, Mollymur_102, Monet_9, Morrissey_46, Mova_51, Mozy_32, MulchSalad_28, Mutaforma13_54, Myrale_38, Nerujay_9, Nimrod_111, Nordenberg_30, Norz_9, ObLaDi_20, Omega_154, Omega_51, Optimus_141, Orfeu_58, Papez_9, Paries_38, Peregrin_178, Phineas_45, Phoebus_149, Pipefish_29, Pippy_62, Placalicious_60, Podrick_58, Porky_109, Pound_50, Pumpkin_40, Pygmy_47, QTRlifeCrisis_8, Ramsey_33, RedWattleHog_100, RedWattleHog_22, RedWattleHog_85, Rofo_36, Rose5_65, Saguaro_52, Sarge_39, Sassafras_31, Schomber_94, ScoobyDoobyDoo_184, Sedona_36, ShamWow_38, Shipwreck_47, Shoya_45, Sitar_36, Solon_8, SpeedDemon_1040, SpikeBT_9, Squee_8, Stank_113, Starcevic_34, Stickynote_47, Stormageddon_82, Strokeseat_31, Superphikiman_145, TBrady12_114, Tangent_36, Teaspoon_111, Teaspoon_39, TheloniousMonk_9, Thibault_132, ThreeRngTarjay_144, Toni_59, Toto_38, Treddle_9, Tuco_39, UBSmoodge_128, UPIE_65, Vivi2_38, Wamburgrxpress_65, Wanda_148, Wiggin_113, WilliamBoone_144, Xandras_110, Xavia_53, Zelink_143, Zeuska_8, Zucker_50,

Summary by start number:

Start 41:

- Found in 1 of 248 (0.4%) of genes in pham

- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilSpotty_83 (singleton),

Start 43:

- Found in 1 of 248 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Zucker_50 (FN),

Start 48:

- Found in 9 of 248 (3.6%) of genes in pham
- Manual Annotations of this start: 4 of 230
- Called 44.4% of time when present
- Phage (with cluster) where this start called: Chevrolet_31 (F1), Galactic_32 (F1), MinionDave_33 (F1), Ramsey_33 (F1),

Start 51:

- Found in 24 of 248 (9.7%) of genes in pham
- Manual Annotations of this start: 4 of 230
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Gator_36 (E), Henry_39 (E), Keitabear_36 (DE1), Sitar_36 (DE1),

Start 54:

- Found in 1 of 248 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: WilliamBoone_144 (CQ1),

Start 58:

- Found in 20 of 248 (8.1%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 5.0% of time when present
- Phage (with cluster) where this start called: Omega_51 (J),

Start 60:

- Found in 3 of 248 (1.2%) of genes in pham
- Manual Annotations of this start: 3 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Hlubikazi_31 (F1), Mandlovu_31 (F1), Strokeseat_31 (F1),

Start 64:

- Found in 4 of 248 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Glexan_36 (E),

Start 65:

- Found in 13 of 248 (5.2%) of genes in pham
- Manual Annotations of this start: 7 of 230
- Called 61.5% of time when present

- Phage (with cluster) where this start called: ABCat_37 (E), BadStone_37 (E), BilboSwaggins_38 (E), DrDrey_39 (E), Dusk_37 (E), Myrale_38 (E), ShamWow_38 (E), Tuco_39 (E),

Start 69:

- Found in 1 of 248 (0.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DonTron_22 (CP),

Start 72:

- Found in 1 of 248 (0.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA1_68 (singleton),

Start 79:

- Found in 10 of 248 (4.0%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 10.0% of time when present
- Phage (with cluster) where this start called: Porcelain_108 (J),

Start 81:

- Found in 1 of 248 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DalanDe_1 (DQ),

Start 82:

- Found in 1 of 248 (0.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA4_67 (singleton),

Start 83:

- Found in 2 of 248 (0.8%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: MulchSalad_28 (F),

Start 84:

- Found in 2 of 248 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gsput1_40 (CU2), UBSmoodge_128 (DQ),

Start 87:

- Found in 26 of 248 (10.5%) of genes in pham
- Manual Annotations of this start: 21 of 230
- Called 88.5% of time when present
- Phage (with cluster) where this start called: Affeca_34 (DE1), Angelicage_34 (DE1), Bibwit_35 (DE1), BobBob_33 (DE1), Brandonk123_37 (DE1), Cafasso_20 (DZ),

Charming_36 (DE1), Fosterous_34 (DE1), GMA1_47 (singleton), Galadriel_36 (DE1), Geodirt_33 (DE1), Lennon_36 (DE1), Love_39 (DE1), McKinley_38 (DE1), ModicumRichard_20 (DZ), Nordenberg_30 (DE1), ObLaDi_20 (DZ), Paries_38 (DE1), RedWattleHog_100 (DX), Rofo_36 (DE1), Sedona_36 (DE1), Tangent_36 (DE1), Vivi2_38 (DE1),

Start 88:

- Found in 4 of 248 (1.6%) of genes in pham
- Manual Annotations of this start: 3 of 230
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Bobi_53 (F1), Mova_51 (F1), Mutaforma13_54 (F1),

Start 89:

- Found in 6 of 248 (2.4%) of genes in pham
- Manual Annotations of this start: 4 of 230
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Chidiebere_96 (DQ), ChisanaKitsune_93 (DQ), Kabocha_97 (DQ), Schomber_94 (DQ),

Start 90:

- Found in 3 of 248 (1.2%) of genes in pham
- Manual Annotations of this start: 3 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BaboJay_36 (E), Eureka_37 (E), Goku_37 (E),

Start 91:

- Found in 22 of 248 (8.9%) of genes in pham
- Manual Annotations of this start: 7 of 230
- Called 40.9% of time when present
- Phage (with cluster) where this start called: Ardmore_42 (F1), GAL1_27 (singleton), Hannaconda_43 (J), KashFlow_40 (J), KingMidas_32 (F1), Leozinho_32 (F1), LunaBlu_33 (F1), Minerva_162 (J), Sassafras_31 (F1),

Start 92:

- Found in 2 of 248 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Constella_158 (J),

Start 93:

- Found in 26 of 248 (10.5%) of genes in pham
- Manual Annotations of this start: 18 of 230
- Called 69.2% of time when present
- Phage (with cluster) where this start called: 244_112 (E), BaboJay_110 (E), BigBubba_112 (E), Filch_113 (E), Goku_110 (E), Goldilocks_114 (E), Holt_116 (E), Icee_112 (E), JeTaime_109 (E), Kimchi_115 (E), Marshmallow_109 (E), Nimrod_111 (E), Phineas_45 (P1), Stank_113 (E), TBrady12_114 (E), Teaspoon_111 (E), Wiggin_113 (E), Xandras_110 (E),

Start 95:

- Found in 16 of 248 (6.5%) of genes in pham

- Manual Annotations of this start: 14 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ariel_147 (J), BAKA_150 (J), Bagrid_151 (J), Beem_151 (J), Courthouse_143 (J), Duke13_146 (J), EricMillard_142 (J), Gonephishing_141 (J), Hannaconda_141 (J), HokkenD_142 (J), Klein_147 (J), LittleE_150 (J), Omega_154 (J), Optimus_141 (J), Superphikiman_145 (J), Thibault_132 (J),

Start 96:

- Found in 10 of 248 (4.0%) of genes in pham
- Manual Annotations of this start: 9 of 230
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Bogie_47 (P1), Brujita_46 (I1), Clown_64 (DC2), HUHilltop_45 (P1), Island3_46 (I1), JonJames_26 (DD), Pygmy_47 (P1), RedWattleHog_22 (DX), Shipwreck_47 (P1),

Start 97:

- Found in 1 of 248 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lysidious_17 (CV),

Start 98:

- Found in 16 of 248 (6.5%) of genes in pham
- Manual Annotations of this start: 13 of 230
- Called 81.2% of time when present
- Phage (with cluster) where this start called: BarnCat_86 (GB), Bobby_139 (J), Dove_135 (J), Hughesyang_148 (J), Kalah2_140 (J), Minerva_148 (J), Phoebus_149 (J), RedWattleHog_85 (DX), Saguaro_52 (B7), Stormageddon_82 (DX), ThreeRngTarjay_144 (J), Wanda_148 (J), Zelink_143 (J),

Start 99:

- Found in 13 of 248 (5.2%) of genes in pham
- Manual Annotations of this start: 10 of 230
- Called 76.9% of time when present
- Phage (with cluster) where this start called: Coco12_30 (F1), Enceladus_63 (L1), Finch_186 (singleton), Frankie_34 (F1), JalFarm20_33 (F1), JoeDirt_64 (L1), Rose5_65 (L1), Starcevich_34 (F1), UPIE_65 (L1), Wamburgxpress_65 (L1),

Start 100:

- Found in 1 of 248 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Peregrin_178 (CB),

Start 101:

- Found in 26 of 248 (10.5%) of genes in pham
- Manual Annotations of this start: 24 of 230
- Called 92.3% of time when present
- Phage (with cluster) where this start called: Adora_55 (CZ4), BarnCat_84 (GB), Cassita_88 (GB), Constella_97 (J), Dallas_113 (J), DmpstrDiver_113 (J), EricMillard_105 (J), Hortense_58 (CZ4), Howe_58 (CZ4), Hughesyang_111 (J), Kalah2_105 (J), KashFlow_148 (J), LeeroyJenkins_94 (GB), LittleE_112 (J),

Lysidious_60 (CV), Mellie_57 (CV), Omega_117 (J), Peregrin_232 (CB),
Phoebus_113 (J), Shlim410_56 (CZ4), Thibault_95 (J), ThreeRngTarjay_109 (J),
Twinkle_57 (CZ4), Twister6_58 (DC1),

Start 102:

- Found in 6 of 248 (2.4%) of genes in pham
- Manual Annotations of this start: 5 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Buttons_27 (A1), Dori_69 (AD), Globfish_58 (AY), Sarge_39 (FB), Shoya_45 (FB), Xavia_53 (P3),

Start 103:

- Found in 11 of 248 (4.4%) of genes in pham
- Manual Annotations of this start: 11 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bantam_102 (DL), BarnCat_61 (GB), Blubba_240 (C1), Cane17_242 (C1), Colt_243 (C1), Daredevil_91 (DL), DatBoi_98 (DL), Francesca_39 (CG), Mollymur_102 (DL), Pipefish_29 (B3), SpeedDemon_1040 (DL),

Start 105:

- Found in 4 of 248 (1.6%) of genes in pham
- Manual Annotations of this start: 4 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: C3PO_45 (EN), Cruella_45 (EN), Darwin_11 (EN), Stickynote_47 (EN),

Start 106:

- Found in 13 of 248 (5.2%) of genes in pham
- Manual Annotations of this start: 5 of 230
- Called 38.5% of time when present
- Phage (with cluster) where this start called: FugateOSU_60 (B1), LostAndPhound_60 (B1), Orfeu_58 (B1), Placalicious_60 (B1), Toni_59 (B1),

Start 107:

- Found in 19 of 248 (7.7%) of genes in pham
- Manual Annotations of this start: 7 of 230
- Called 42.1% of time when present
- Phage (with cluster) where this start called: Balomoji_37 (E), Bernardo_39 (B3), Daikon_37 (E), Harella_37 (E), Marshmallow_38 (E), Pumpkin_40 (E), Teaspoon_39 (E), Toto_38 (E),

Start 111:

- Found in 13 of 248 (5.2%) of genes in pham
- Manual Annotations of this start: 6 of 230
- Called 61.5% of time when present
- Phage (with cluster) where this start called: Adriana_61 (B1), Buckeye_60 (B1), Coletti_62 (B1), KingTut_52 (B1), LeiMonet_62 (B1), Lopsy_58 (B1), Matalotodo_59 (B1), Podrick_58 (B1),

Start 112:

- Found in 23 of 248 (9.3%) of genes in pham
- Manual Annotations of this start: 1 of 230

- Called 4.3% of time when present
- Phage (with cluster) where this start called: Zelink_108 (J),

Start 113:

- Found in 1 of 248 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Morrissey_46 (CD),

Start 114:

- Found in 10 of 248 (4.0%) of genes in pham
- Manual Annotations of this start: 4 of 230
- Called 40.0% of time when present
- Phage (with cluster) where this start called: BarnCat_105 (GB), Bombitas_45 (J), LeeroyJenkins_114 (GB), Pound_50 (J),

Start 117:

- Found in 2 of 248 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Globfish_83 (AY), Kuwabara_68 (DN4),

Start 119:

- Found in 1 of 248 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Darwin_76 (EN),

Start 120:

- Found in 1 of 248 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Darwin_14 (EN),

Start 121:

- Found in 2 of 248 (0.8%) of genes in pham
- Manual Annotations of this start: 2 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Maravista_65 (F1), Pippy_62 (F1),

Start 123:

- Found in 4 of 248 (1.6%) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: GMA3_25 (DF2),

Start 124:

- Found in 58 of 248 (23.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 1.7% of time when present
- Phage (with cluster) where this start called: Porky_109 (E),

Start 126:

- Found in 1 of 248 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gizmo_126 (C1),

Start 132:

- Found in 11 of 248 (4.4%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 9.1% of time when present
- Phage (with cluster) where this start called: ScoobyDoobyDoo_184 (C2),

Start 135:

- Found in 22 of 248 (8.9%) of genes in pham
- Manual Annotations of this start: 22 of 230
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BillKnuckles_9 (A1), Buttons_9 (A1), DD5_9 (A1), Edtherson_9 (A1), Graduation_10 (A1), Gwendoluna_9 (A1), Hank144_56 (BD2), Hermia_10 (A1), KBG_9 (A1), Kenmech_10 (A1), LilBib_8 (A1), Monet_9 (A1), Nerujay_9 (A1), Norz_9 (A1), Papez_9 (A1), QTRlifeCrisis_8 (A1), Solon_8 (A1), SpikeBT_9 (A1), Squee_8 (A1), TheloniousMonk_9 (A1), Treddle_9 (A1), Zeuska_8 (A1),

Start 137:

- Found in 22 of 248 (8.9%) of genes in pham
- Manual Annotations of this start: 1 of 230
- Called 4.5% of time when present
- Phage (with cluster) where this start called: Mozy_32 (F1),

Summary by clusters:

There are 40 clusters represented in this pham: DL, DD, singleton, CZ4, FB, EN, DZ, DX, FN, DQ, CU2, I1, DF2, A1, DN4, BD2, C2, CQ1, P3, P1, E, AD, F, CB, J, CG, CD, GB, L1, AY, CP, DC2, CV, DC1, F1, DE1, B7, B1, B3, C1,

Info for manual annotations of cluster A1:

- Start number 102 was manually annotated 1 time for cluster A1.
- Start number 135 was manually annotated 21 times for cluster A1.

Info for manual annotations of cluster AD:

- Start number 102 was manually annotated 1 time for cluster AD.

Info for manual annotations of cluster B1:

- Start number 106 was manually annotated 5 times for cluster B1.
- Start number 111 was manually annotated 6 times for cluster B1.

Info for manual annotations of cluster B3:

- Start number 103 was manually annotated 1 time for cluster B3.
- Start number 107 was manually annotated 1 time for cluster B3.

Info for manual annotations of cluster B7:

- Start number 98 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster BD2:

- Start number 135 was manually annotated 1 time for cluster BD2.

Info for manual annotations of cluster C1:

- Start number 103 was manually annotated 3 times for cluster C1.
- Start number 126 was manually annotated 1 time for cluster C1.

Info for manual annotations of cluster C2:

- Start number 132 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster CB:

- Start number 100 was manually annotated 1 time for cluster CB.
- Start number 101 was manually annotated 1 time for cluster CB.

Info for manual annotations of cluster CD:

- Start number 113 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster CG:

- Start number 103 was manually annotated 1 time for cluster CG.

Info for manual annotations of cluster CQ1:

- Start number 54 was manually annotated 1 time for cluster CQ1.

Info for manual annotations of cluster CV:

- Start number 97 was manually annotated 1 time for cluster CV.
- Start number 101 was manually annotated 2 times for cluster CV.

Info for manual annotations of cluster CZ4:

- Start number 101 was manually annotated 5 times for cluster CZ4.

Info for manual annotations of cluster DC1:

- Start number 101 was manually annotated 1 time for cluster DC1.

Info for manual annotations of cluster DC2:

- Start number 96 was manually annotated 1 time for cluster DC2.

Info for manual annotations of cluster DD:

- Start number 96 was manually annotated 1 time for cluster DD.

Info for manual annotations of cluster DE1:

- Start number 51 was manually annotated 2 times for cluster DE1.
- Start number 87 was manually annotated 18 times for cluster DE1.

Info for manual annotations of cluster DL:

- Start number 103 was manually annotated 5 times for cluster DL.

Info for manual annotations of cluster DN4:

- Start number 117 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster DQ:

- Start number 81 was manually annotated 1 time for cluster DQ.
- Start number 84 was manually annotated 1 time for cluster DQ.
- Start number 89 was manually annotated 4 times for cluster DQ.

Info for manual annotations of cluster DX:

- Start number 87 was manually annotated 1 time for cluster DX.
- Start number 96 was manually annotated 1 time for cluster DX.
- Start number 98 was manually annotated 2 times for cluster DX.

Info for manual annotations of cluster DZ:

- Start number 87 was manually annotated 2 times for cluster DZ.

Info for manual annotations of cluster E:

- Start number 51 was manually annotated 2 times for cluster E.
- Start number 64 was manually annotated 1 time for cluster E.
- Start number 65 was manually annotated 7 times for cluster E.
- Start number 90 was manually annotated 3 times for cluster E.
- Start number 93 was manually annotated 17 times for cluster E.
- Start number 107 was manually annotated 6 times for cluster E.
- Start number 124 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster EN:

- Start number 105 was manually annotated 4 times for cluster EN.
- Start number 119 was manually annotated 1 time for cluster EN.
- Start number 120 was manually annotated 1 time for cluster EN.

Info for manual annotations of cluster F1:

- Start number 48 was manually annotated 4 times for cluster F1.
- Start number 60 was manually annotated 3 times for cluster F1.
- Start number 88 was manually annotated 3 times for cluster F1.
- Start number 91 was manually annotated 4 times for cluster F1.
- Start number 99 was manually annotated 4 times for cluster F1.
- Start number 121 was manually annotated 2 times for cluster F1.
- Start number 137 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster FB:

- Start number 102 was manually annotated 2 times for cluster FB.

Info for manual annotations of cluster FN:

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

Info for manual annotations of cluster GB:

- Start number 98 was manually annotated 1 time for cluster GB.
- Start number 101 was manually annotated 3 times for cluster GB.
- Start number 103 was manually annotated 1 time for cluster GB.
- Start number 114 was manually annotated 2 times for cluster GB.

Info for manual annotations of cluster I1:

- Start number 96 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster J:

- Start number 58 was manually annotated 1 time for cluster J.

- Start number 79 was manually annotated 1 time for cluster J.
- Start number 91 was manually annotated 3 times for cluster J.
- Start number 92 was manually annotated 1 time for cluster J.
- Start number 95 was manually annotated 14 times for cluster J.
- Start number 98 was manually annotated 9 times for cluster J.
- Start number 101 was manually annotated 12 times for cluster J.
- Start number 112 was manually annotated 1 time for cluster J.
- Start number 114 was manually annotated 2 times for cluster J.

Info for manual annotations of cluster L1:

- Start number 99 was manually annotated 5 times for cluster L1.

Info for manual annotations of cluster P1:

- Start number 93 was manually annotated 1 time for cluster P1.
- Start number 96 was manually annotated 4 times for cluster P1.

Info for manual annotations of cluster P3:

- Start number 102 was manually annotated 1 time for cluster P3.

Gene Information:

Gene: 244_112 Start: 62827, Stop: 63327, Start Num: 93

Candidate Starts for 244_112:

(67, 62773), (Start: 93 @62827 has 18 MA's), (Start: 124 @62881 has 1 MA's), (180, 62962), (181, 62965), (195, 62989), (220, 63022), (236, 63079), (280, 63241),

Gene: ABCat_37 Start: 34121, Stop: 33534, Start Num: 65

Candidate Starts for ABCat_37:

(Start: 65 @34121 has 7 MA's), (Start: 107 @34055 has 7 MA's), (Start: 124 @34013 has 1 MA's), (174, 33926), (228, 33848), (229, 33845), (237, 33809),

Gene: Adora_55 Start: 40141, Stop: 40647, Start Num: 101

Candidate Starts for Adora_55:

(28, 39916), (30, 39946), (Start: 101 @40141 has 24 MA's), (Start: 137 @40216 has 1 MA's), (144, 40228), (171, 40270), (229, 40357), (241, 40396),

Gene: Adriana_61 Start: 53245, Stop: 52730, Start Num: 111

Candidate Starts for Adriana_61:

(66, 53323), (94, 53269), (Start: 106 @53254 has 5 MA's), (Start: 111 @53245 has 6 MA's), (140, 53179), (166, 53134), (182, 53110), (201, 53074), (206, 53068), (226, 53035), (243, 52981), (245, 52978), (274, 52861), (277, 52840), (302, 52765),

Gene: Affeca_34 Start: 32900, Stop: 32427, Start Num: 87

Candidate Starts for Affeca_34:

(32, 33038), (Start: 51 @32984 has 4 MA's), (74, 32927), (Start: 87 @32900 has 21 MA's), (167, 32801), (197, 32759), (200, 32756), (226, 32720), (244, 32663), (251, 32639), (261, 32582),

Gene: Angelicage_34 Start: 33318, Stop: 32845, Start Num: 87

Candidate Starts for Angelicage_34:

(32, 33456), (Start: 51 @33402 has 4 MA's), (Start: 58 @33393 has 1 MA's), (74, 33345), (Start: 87 @33318 has 21 MA's), (167, 33219), (197, 33177), (200, 33174), (226, 33138), (244, 33081), (252,

33048), (261, 33000),

Gene: Ardmore_42 Start: 34484, Stop: 35032, Start Num: 91

Candidate Starts for Ardmore_42:

(Start: 88 @34481 has 3 MA's), (Start: 91 @34484 has 7 MA's), (144, 34574), (171, 34616), (215, 34676), (236, 34742), (254, 34784), (262, 34832),

Gene: Ariel_147 Start: 75437, Stop: 76039, Start Num: 95

Candidate Starts for Ariel_147:

(Start: 95 @75437 has 14 MA's), (148, 75542), (160, 75563), (163, 75566), (180, 75590), (181, 75593), (184, 75599), (221, 75659), (246, 75728), (250, 75746), (259, 75797), (267, 75833), (299, 75929), (329, 76025),

Gene: BAKA_150 Start: 78761, Stop: 79363, Start Num: 95

Candidate Starts for BAKA_150:

(62, 78692), (Start: 95 @78761 has 14 MA's), (148, 78866), (160, 78887), (163, 78890), (180, 78914), (181, 78917), (184, 78923), (234, 79025), (246, 79052), (250, 79070), (267, 79157), (329, 79349),

Gene: BaboJay_110 Start: 64000, Stop: 64500, Start Num: 93

Candidate Starts for BaboJay_110:

(67, 63946), (Start: 93 @64000 has 18 MA's), (Start: 124 @64054 has 1 MA's), (180, 64135), (181, 64138), (195, 64162), (220, 64195), (236, 64252), (280, 64414),

Gene: BaboJay_36 Start: 33175, Stop: 32675, Start Num: 90

Candidate Starts for BaboJay_36:

(Start: 90 @33175 has 3 MA's), (Start: 124 @33118 has 1 MA's), (142, 33082),

Gene: BadStone_37 Start: 34121, Stop: 33534, Start Num: 65

Candidate Starts for BadStone_37:

(Start: 65 @34121 has 7 MA's), (Start: 107 @34055 has 7 MA's), (Start: 124 @34013 has 1 MA's), (174, 33926), (228, 33848), (229, 33845), (237, 33809),

Gene: Bagrid_151 Start: 79456, Stop: 80058, Start Num: 95

Candidate Starts for Bagrid_151:

(62, 79387), (Start: 95 @79456 has 14 MA's), (148, 79561), (160, 79582), (163, 79585), (180, 79609), (181, 79612), (184, 79618), (234, 79720), (246, 79747), (250, 79765), (267, 79852), (329, 80044),

Gene: Balomoji_37 Start: 33789, Stop: 33268, Start Num: 107

Candidate Starts for Balomoji_37:

(Start: 65 @33855 has 7 MA's), (Start: 107 @33789 has 7 MA's), (Start: 124 @33747 has 1 MA's), (174, 33660), (228, 33582), (229, 33579), (237, 33543),

Gene: Bantam_102 Start: 67594, Stop: 68172, Start Num: 103

Candidate Starts for Bantam_102:

(21, 67276), (42, 67462), (Start: 103 @67594 has 11 MA's), (Start: 124 @67642 has 1 MA's), (Start: 132 @67660 has 1 MA's), (142, 67678), (172, 67711), (229, 67813), (246, 67864), (270, 67966), (307, 68092),

Gene: BarnCat_105 Start: 54966, Stop: 54505, Start Num: 114

Candidate Starts for BarnCat_105:

(Start: 114 @54966 has 4 MA's), (194, 54837), (252, 54714),

Gene: BarnCat_61 Start: 35513, Stop: 34857, Start Num: 103

Candidate Starts for BarnCat_61:

(Start: 103 @35513 has 11 MA's), (144, 35426), (199, 35345), (230, 35288), (254, 35210), (256, 35201), (261, 35165), (288, 35069), (308, 35006), (320, 34991), (325, 34970),

Gene: BarnCat_84 Start: 47542, Stop: 47033, Start Num: 101

Candidate Starts for BarnCat_84:

(Start: 101 @47542 has 24 MA's), (199, 47371), (204, 47365), (225, 47335), (240, 47281), (256, 47233),

Gene: BarnCat_86 Start: 49536, Stop: 49024, Start Num: 98

Candidate Starts for BarnCat_86:

(Start: 98 @49536 has 13 MA's), (268, 49179),

Gene: Beem_151 Start: 80198, Stop: 80800, Start Num: 95

Candidate Starts for Beem_151:

(Start: 95 @80198 has 14 MA's), (148, 80303), (160, 80324), (163, 80327), (180, 80351), (181, 80354), (184, 80360), (221, 80420), (246, 80489), (250, 80507), (259, 80558), (267, 80594), (299, 80690), (329, 80786),

Gene: Bernardo_39 Start: 36994, Stop: 37440, Start Num: 107

Candidate Starts for Bernardo_39:

(Start: 107 @36994 has 7 MA's), (180, 37090), (228, 37174), (229, 37177), (253, 37255), (296, 37423),

Gene: Bibwit_35 Start: 32719, Stop: 32246, Start Num: 87

Candidate Starts for Bibwit_35:

(32, 32857), (Start: 51 @32803 has 4 MA's), (Start: 58 @32794 has 1 MA's), (74, 32746), (Start: 87 @32719 has 21 MA's), (167, 32620), (197, 32578), (200, 32575), (226, 32539), (244, 32482), (252, 32449), (261, 32401),

Gene: BigBubba_112 Start: 62473, Stop: 62973, Start Num: 93

Candidate Starts for BigBubba_112:

(67, 62419), (Start: 93 @62473 has 18 MA's), (Start: 124 @62527 has 1 MA's), (180, 62608), (181, 62611), (195, 62635), (220, 62668), (236, 62725), (280, 62887),

Gene: BilboSwaggins_38 Start: 34129, Stop: 33542, Start Num: 65

Candidate Starts for BilboSwaggins_38:

(Start: 65 @34129 has 7 MA's), (Start: 107 @34063 has 7 MA's), (Start: 124 @34021 has 1 MA's), (174, 33934), (228, 33856), (229, 33853), (237, 33817),

Gene: BillKnuckles_9 Start: 4709, Stop: 5290, Start Num: 135

Candidate Starts for BillKnuckles_9:

(Start: 135 @4709 has 22 MA's), (191, 4811), (208, 4832), (230, 4880), (309, 5159),

Gene: Blubba_240 Start: 148292, Stop: 148846, Start Num: 103

Candidate Starts for Blubba_240:

(Start: 98 @148286 has 13 MA's), (Start: 103 @148292 has 11 MA's), (Start: 124 @148340 has 1 MA's), (157, 148403), (244, 148559), (259, 148631), (262, 148643), (283, 148721),

Gene: BobBob_33 Start: 31999, Stop: 31526, Start Num: 87

Candidate Starts for BobBob_33:

(32, 32137), (Start: 51 @32083 has 4 MA's), (Start: 58 @32074 has 1 MA's), (74, 32026), (Start: 87 @31999 has 21 MA's), (167, 31900), (197, 31858), (200, 31855), (226, 31819), (244, 31762), (252,

31729), (261, 31681),

Gene: Bobby_139 Start: 80254, Stop: 80853, Start Num: 98

Candidate Starts for Bobby_139:

(Start: 98 @80254 has 13 MA's), (148, 80356), (160, 80377), (163, 80380), (202, 80443), (221, 80473), (226, 80482), (234, 80515), (250, 80560), (267, 80647), (285, 80707), (299, 80743), (329, 80839),

Gene: Bobi_53 Start: 37484, Stop: 38035, Start Num: 88

Candidate Starts for Bobi_53:

(Start: 88 @37484 has 3 MA's), (Start: 91 @37487 has 7 MA's), (144, 37577), (171, 37619), (215, 37679), (236, 37745), (254, 37787), (262, 37835),

Gene: Bogie_47 Start: 33238, Stop: 33729, Start Num: 96

Candidate Starts for Bogie_47:

(73, 33199), (75, 33202), (Start: 93 @33235 has 18 MA's), (Start: 96 @33238 has 9 MA's), (Start: 112 @33256 has 1 MA's), (116, 33265), (217, 33430), (221, 33439), (226, 33445), (229, 33457), (236, 33493), (256, 33544), (262, 33583),

Gene: Bombitas_45 Start: 41655, Stop: 42164, Start Num: 114

Candidate Starts for Bombitas_45:

(59, 41544), (85, 41613), (Start: 99 @41631 has 10 MA's), (Start: 114 @41655 has 4 MA's), (144, 41721), (179, 41775), (204, 41820), (236, 41907), (259, 41985), (262, 41997), (317, 42150),

Gene: Brandonk123_37 Start: 33065, Stop: 32592, Start Num: 87

Candidate Starts for Brandonk123_37:

(32, 33203), (Start: 51 @33149 has 4 MA's), (Start: 58 @33140 has 1 MA's), (74, 33092), (Start: 87 @33065 has 21 MA's), (167, 32966), (197, 32924), (200, 32921), (226, 32885), (244, 32828), (252, 32795), (261, 32747),

Gene: Brujita_46 Start: 33137, Stop: 33628, Start Num: 96

Candidate Starts for Brujita_46:

(57, 33044), (73, 33098), (75, 33101), (Start: 93 @33134 has 18 MA's), (Start: 96 @33137 has 9 MA's), (Start: 112 @33155 has 1 MA's), (116, 33164), (217, 33329), (221, 33338), (226, 33344), (229, 33356), (236, 33392), (256, 33443), (262, 33482),

Gene: Buckeye_60 Start: 52975, Stop: 52460, Start Num: 111

Candidate Starts for Buckeye_60:

(66, 53053), (94, 52999), (Start: 106 @52984 has 5 MA's), (Start: 111 @52975 has 6 MA's), (140, 52909), (166, 52864), (182, 52840), (201, 52804), (206, 52798), (226, 52765), (243, 52711), (245, 52708), (274, 52591), (277, 52570), (302, 52495),

Gene: Buttons_27 Start: 21411, Stop: 21896, Start Num: 102

Candidate Starts for Buttons_27:

(Start: 102 @21411 has 5 MA's), (Start: 124 @21459 has 1 MA's), (229, 21630), (230, 21633), (244, 21672),

Gene: Buttons_9 Start: 4220, Stop: 4798, Start Num: 135

Candidate Starts for Buttons_9:

(Start: 135 @4220 has 22 MA's), (211, 4346), (309, 4679),

Gene: C3PO_45 Start: 42754, Stop: 42164, Start Num: 105

Candidate Starts for C3PO_45:

(44, 42886), (45, 42883), (Start: 105 @42754 has 4 MA's), (123, 42706), (142, 42667), (153, 42643), (155, 42640), (238, 42496), (259, 42418), (268, 42385), (301, 42277), (330, 42175), (332, 42169),

Gene: Cafasso_20 Start: 18713, Stop: 18225, Start Num: 87

Candidate Starts for Cafasso_20:

(17, 19079), (33, 18863), (46, 18806), (52, 18794), (Start: 87 @18713 has 21 MA's), (Start: 137 @18629 has 1 MA's), (174, 18605), (200, 18569), (207, 18560), (229, 18521), (231, 18515), (260, 18401), (261, 18395), (262, 18392), (284, 18314),

Gene: Cane17_242 Start: 148701, Stop: 149255, Start Num: 103

Candidate Starts for Cane17_242:

(Start: 98 @148695 has 13 MA's), (Start: 103 @148701 has 11 MA's), (Start: 124 @148749 has 1 MA's), (157, 148812), (244, 148968), (259, 149040), (262, 149052), (283, 149130),

Gene: Cassita_88 Start: 48685, Stop: 48176, Start Num: 101

Candidate Starts for Cassita_88:

(Start: 101 @48685 has 24 MA's), (204, 48508), (225, 48478), (240, 48424), (256, 48376),

Gene: Charming_36 Start: 32566, Stop: 32093, Start Num: 87

Candidate Starts for Charming_36:

(32, 32704), (Start: 51 @32650 has 4 MA's), (Start: 58 @32641 has 1 MA's), (74, 32593), (Start: 87 @32566 has 21 MA's), (167, 32467), (197, 32425), (200, 32422), (226, 32386), (244, 32329), (252, 32296), (261, 32248),

Gene: Chevrolet_31 Start: 27455, Stop: 28054, Start Num: 48

Candidate Starts for Chevrolet_31:

(Start: 48 @27455 has 4 MA's), (Start: 91 @27557 has 7 MA's), (229, 27779), (236, 27815), (283, 27980), (300, 28025),

Gene: Chidiebere_96 Start: 69963, Stop: 70481, Start Num: 89

Candidate Starts for Chidiebere_96:

(70, 69921), (76, 69936), (Start: 89 @69963 has 4 MA's), (162, 70086), (169, 70095), (199, 70119), (262, 70299),

Gene: ChisanaKitsune_93 Start: 68907, Stop: 69425, Start Num: 89

Candidate Starts for ChisanaKitsune_93:

(70, 68865), (76, 68880), (Start: 89 @68907 has 4 MA's), (162, 69030), (169, 69039), (199, 69063), (262, 69243),

Gene: Clown_64 Start: 45007, Stop: 45525, Start Num: 96

Candidate Starts for Clown_64:

(Start: 96 @45007 has 9 MA's), (Start: 114 @45031 has 4 MA's), (Start: 124 @45058 has 1 MA's), (144, 45097), (171, 45136), (226, 45214), (236, 45262), (254, 45304), (259, 45340), (262, 45352), (315, 45511),

Gene: Coco12_30 Start: 26826, Stop: 26320, Start Num: 99

Candidate Starts for Coco12_30:

(Start: 99 @26826 has 10 MA's), (Start: 112 @26811 has 1 MA's), (Start: 132 @26760 has 1 MA's), (Start: 137 @26751 has 1 MA's), (165, 26709), (175, 26694), (183, 26682), (186, 26679), (197, 26658), (229, 26619), (236, 26583), (262, 26493), (279, 26427), (291, 26397),

Gene: Coletti_62 Start: 53240, Stop: 52725, Start Num: 111

Candidate Starts for Coletti_62:

(66, 53318), (94, 53264), (Start: 106 @53249 has 5 MA's), (Start: 111 @53240 has 6 MA's), (140, 53174), (166, 53129), (182, 53105), (201, 53069), (206, 53063), (226, 53030), (243, 52976), (245, 52973), (274, 52856), (277, 52835), (302, 52760),

Gene: Colt_243 Start: 147893, Stop: 148447, Start Num: 103

Candidate Starts for Colt_243:

(Start: 98 @147887 has 13 MA's), (Start: 103 @147893 has 11 MA's), (Start: 124 @147941 has 1 MA's), (157, 148004), (244, 148160), (259, 148232), (262, 148244), (283, 148322),

Gene: Constella_158 Start: 86054, Stop: 86563, Start Num: 92

Candidate Starts for Constella_158:

(Start: 91 @86051 has 7 MA's), (Start: 92 @86054 has 1 MA's), (116, 86087), (Start: 137 @86138 has 1 MA's), (156, 86174), (220, 86264), (226, 86273), (229, 86285), (230, 86288), (239, 86321), (251, 86351), (267, 86432), (296, 86525), (305, 86549),

Gene: Constella_97 Start: 58172, Stop: 58714, Start Num: 101

Candidate Starts for Constella_97:

(Start: 101 @58172 has 24 MA's), (Start: 112 @58190 has 1 MA's), (174, 58310), (187, 58325), (197, 58343), (223, 58382), (229, 58400), (231, 58406), (251, 58466), (271, 58559), (321, 58700),

Gene: Courthouse_143 Start: 75295, Stop: 75897, Start Num: 95

Candidate Starts for Courthouse_143:

(Start: 95 @75295 has 14 MA's), (148, 75400), (160, 75421), (163, 75424), (180, 75448), (181, 75451), (184, 75457), (221, 75517), (246, 75586), (250, 75604), (259, 75655), (267, 75691), (299, 75787), (329, 75883),

Gene: Cruella_45 Start: 42754, Stop: 42164, Start Num: 105

Candidate Starts for Cruella_45:

(44, 42886), (45, 42883), (Start: 105 @42754 has 4 MA's), (123, 42706), (142, 42667), (153, 42643), (155, 42640), (238, 42496), (259, 42418), (268, 42385), (301, 42277), (330, 42175), (332, 42169),

Gene: DD5_9 Start: 4751, Stop: 5332, Start Num: 135

Candidate Starts for DD5_9:

(Start: 135 @4751 has 22 MA's), (191, 4853), (208, 4874), (230, 4922), (309, 5201),

Gene: Daikon_37 Start: 33801, Stop: 33280, Start Num: 107

Candidate Starts for Daikon_37:

(66, 33867), (Start: 107 @33801 has 7 MA's), (Start: 124 @33759 has 1 MA's), (174, 33672), (228, 33594), (229, 33591), (237, 33555),

Gene: DalanDe_1 Start: 1, Stop: 522, Start Num: 81

Candidate Starts for DalanDe_1:

(Start: 81 @1 has 1 MA's), (Start: 89 @16 has 4 MA's), (125, 76), (Start: 132 @94 has 1 MA's), (136, 100), (181, 154), (201, 175), (229, 226), (246, 271), (252, 301), (256, 313), (264, 364), (285, 430), (290, 442),

Gene: Dallas_113 Start: 64402, Stop: 64944, Start Num: 101

Candidate Starts for Dallas_113:

(35, 64240), (40, 64264), (Start: 79 @64369 has 1 MA's), (Start: 101 @64402 has 24 MA's), (Start: 112 @64420 has 1 MA's), (134, 64477), (174, 64540), (187, 64555), (197, 64573), (229, 64630), (231, 64636), (251, 64696), (271, 64789),

Gene: Daredevil_91 Start: 63069, Stop: 63638, Start Num: 103

Candidate Starts for Daredevil_91:

(21, 62760), (29, 62871), (Start: 103 @63069 has 11 MA's), (172, 63186), (202, 63237), (229, 63291), (242, 63336), (278, 63480), (304, 63546),

Gene: Darwin_76 Start: 54919, Stop: 54362, Start Num: 119

Candidate Starts for Darwin_76:

(Start: 119 @54919 has 1 MA's), (170, 54829), (205, 54778), (238, 54700), (326, 54418), (333, 54370),

Gene: Darwin_14 Start: 7286, Stop: 7858, Start Num: 120

Candidate Starts for Darwin_14:

(Start: 120 @7286 has 1 MA's), (225, 7448), (230, 7466), (231, 7469), (303, 7727), (316, 7763), (332, 7832),

Gene: Darwin_11 Start: 6015, Stop: 6593, Start Num: 105

Candidate Starts for Darwin_11:

(Start: 105 @6015 has 4 MA's), (159, 6126), (164, 6132), (241, 6267), (248, 6282), (262, 6351), (268, 6372), (323, 6534), (331, 6579),

Gene: DatBoi_98 Start: 66730, Stop: 67308, Start Num: 103

Candidate Starts for DatBoi_98:

(Start: 103 @66730 has 11 MA's), (Start: 124 @66778 has 1 MA's), (142, 66814), (165, 66838), (172, 66847), (254, 67036), (307, 67228),

Gene: DmpstrDiver_113 Start: 63822, Stop: 64364, Start Num: 101

Candidate Starts for DmpstrDiver_113:

(35, 63660), (40, 63684), (Start: 79 @63789 has 1 MA's), (Start: 101 @63822 has 24 MA's), (Start: 112 @63840 has 1 MA's), (134, 63897), (174, 63960), (187, 63975), (197, 63993), (229, 64050), (231, 64056), (251, 64116), (271, 64209),

Gene: DonTron_22 Start: 10785, Stop: 11264, Start Num: 69

Candidate Starts for DonTron_22:

(69, 10785), (Start: 137 @10896 has 1 MA's), (214, 10980), (226, 10998), (229, 11010), (259, 11124),

Gene: Dori_69 Start: 53193, Stop: 53732, Start Num: 102

Candidate Starts for Dori_69:

(56, 53091), (68, 53133), (Start: 93 @53184 has 18 MA's), (Start: 102 @53193 has 5 MA's), (Start: 114 @53214 has 4 MA's), (154, 53301), (171, 53322), (227, 53409), (229, 53415), (242, 53454), (262, 53541), (282, 53619),

Gene: Dove_135 Start: 75231, Stop: 75830, Start Num: 98

Candidate Starts for Dove_135:

(Start: 98 @75231 has 13 MA's), (148, 75333), (160, 75354), (163, 75357), (202, 75420), (221, 75450), (226, 75459), (234, 75492), (250, 75537), (267, 75624), (285, 75684), (299, 75720), (329, 75816),

Gene: DrDrey_39 Start: 34621, Stop: 34034, Start Num: 65

Candidate Starts for DrDrey_39:

(Start: 65 @34621 has 7 MA's), (Start: 107 @34555 has 7 MA's), (Start: 124 @34513 has 1 MA's), (174, 34426), (228, 34348), (229, 34345), (237, 34309),

Gene: Duke13_146 Start: 77046, Stop: 77648, Start Num: 95

Candidate Starts for Duke13_146:

(62, 76977), (Start: 95 @77046 has 14 MA's), (148, 77151), (160, 77172), (163, 77175), (180, 77199), (181, 77202), (184, 77208), (234, 77310), (246, 77337), (250, 77355), (267, 77442), (329, 77634),

Gene: Dusk_37 Start: 33781, Stop: 33194, Start Num: 65

Candidate Starts for Dusk_37:

(Start: 65 @33781 has 7 MA's), (Start: 107 @33715 has 7 MA's), (Start: 124 @33673 has 1 MA's), (174, 33586), (228, 33508), (229, 33505), (237, 33469),

Gene: Edtherson_9 Start: 4530, Stop: 5108, Start Num: 135

Candidate Starts for Edtherson_9:

(Start: 135 @4530 has 22 MA's), (211, 4656), (309, 4989),

Gene: Enceladus_63 Start: 44580, Stop: 45038, Start Num: 99

Candidate Starts for Enceladus_63:

(Start: 99 @44580 has 10 MA's), (Start: 137 @44652 has 1 MA's), (207, 44742), (218, 44754), (229, 44775), (249, 44838), (256, 44865),

Gene: EricMillard_142 Start: 78398, Stop: 79000, Start Num: 95

Candidate Starts for EricMillard_142:

(62, 78329), (Start: 95 @78398 has 14 MA's), (148, 78503), (160, 78524), (163, 78527), (180, 78551), (181, 78554), (184, 78560), (234, 78662), (246, 78689), (250, 78707), (267, 78794), (329, 78986),

Gene: EricMillard_105 Start: 63462, Stop: 64004, Start Num: 101

Candidate Starts for EricMillard_105:

(35, 63300), (40, 63324), (Start: 79 @63429 has 1 MA's), (Start: 101 @63462 has 24 MA's), (Start: 112 @63480 has 1 MA's), (134, 63537), (174, 63600), (187, 63615), (197, 63633), (229, 63690), (231, 63696), (251, 63756), (271, 63849),

Gene: Eureka_37 Start: 33608, Stop: 33108, Start Num: 90

Candidate Starts for Eureka_37:

(Start: 90 @33608 has 3 MA's), (Start: 124 @33551 has 1 MA's), (142, 33515),

Gene: Filch_113 Start: 63036, Stop: 63536, Start Num: 93

Candidate Starts for Filch_113:

(67, 62982), (Start: 93 @63036 has 18 MA's), (Start: 124 @63090 has 1 MA's), (180, 63171), (181, 63174), (195, 63198), (220, 63231), (236, 63288), (280, 63450),

Gene: Finch_186 Start: 111122, Stop: 111628, Start Num: 99

Candidate Starts for Finch_186:

(Start: 99 @111122 has 10 MA's), (171, 111254), (221, 111326), (227, 111341), (230, 111350),

Gene: Fosterous_34 Start: 32991, Stop: 32518, Start Num: 87

Candidate Starts for Fosterous_34:

(32, 33129), (Start: 51 @33075 has 4 MA's), (Start: 58 @33066 has 1 MA's), (74, 33018), (Start: 87 @32991 has 21 MA's), (167, 32892), (197, 32850), (200, 32847), (226, 32811), (244, 32754), (252, 32721), (261, 32673),

Gene: Francesca_39 Start: 21303, Stop: 21839, Start Num: 103

Candidate Starts for Francesca_39:

(Start: 103 @21303 has 11 MA's), (228, 21498), (229, 21501), (259, 21618), (322, 21804), (328, 21822),

Gene: Frankie_34 Start: 27904, Stop: 27416, Start Num: 99

Candidate Starts for Frankie_34:

(Start: 99 @27904 has 10 MA's), (Start: 137 @27829 has 1 MA's), (165, 27787), (174, 27775), (186, 27757), (195, 27739), (221, 27712), (276, 27517), (291, 27478),

Gene: FugateOSU_60 Start: 53224, Stop: 52700, Start Num: 106

Candidate Starts for FugateOSU_60:

(66, 53293), (94, 53239), (Start: 106 @53224 has 5 MA's), (Start: 111 @53215 has 6 MA's), (140, 53149), (166, 53104), (182, 53080), (201, 53044), (206, 53038), (226, 53005), (243, 52951), (245, 52948), (274, 52831), (277, 52810), (302, 52735),

Gene: GAL1_27 Start: 22156, Stop: 22695, Start Num: 91

Candidate Starts for GAL1_27:

(Start: 91 @22156 has 7 MA's), (Start: 132 @22234 has 1 MA's), (174, 22300), (175, 22303), (203, 22348), (217, 22366), (219, 22372), (221, 22375), (228, 22390), (229, 22393), (230, 22396), (233, 22408), (260, 22510), (262, 22519),

Gene: GMA1_68 Start: 40382, Stop: 40945, Start Num: 72

Candidate Starts for GMA1_68:

(19, 40088), (22, 40115), (25, 40187), (37, 40280), (72, 40382), (Start: 87 @40412 has 21 MA's), (Start: 124 @40481 has 1 MA's), (147, 40520), (208, 40598), (226, 40628), (233, 40655), (236, 40676), (254, 40718), (259, 40754), (262, 40766), (281, 40838),

Gene: GMA1_47 Start: 30722, Stop: 31246, Start Num: 87

Candidate Starts for GMA1_47:

(16, 30347), (24, 30500), (47, 30635), (Start: 58 @30653 has 1 MA's), (71, 30698), (78, 30707), (Start: 87 @30722 has 21 MA's), (Start: 124 @30779 has 1 MA's), (236, 30986), (256, 31037), (267, 31097), (284, 31154),

Gene: GMA3_25 Start: 35593, Stop: 36075, Start Num: 123

Candidate Starts for GMA3_25:

(123, 35593), (154, 35656), (196, 35722), (216, 35743), (228, 35764), (231, 35773), (241, 35809), (306, 36034),

Gene: GMA4_67 Start: 43840, Stop: 44490, Start Num: 82

Candidate Starts for GMA4_67:

(82, 43840), (109, 43870), (217, 44059), (219, 44065), (236, 44122), (287, 44284),

Gene: Galactic_32 Start: 27751, Stop: 28350, Start Num: 48

Candidate Starts for Galactic_32:

(Start: 48 @27751 has 4 MA's), (Start: 91 @27853 has 7 MA's), (229, 28075), (236, 28111), (283, 28276), (300, 28321),

Gene: Galadriel_36 Start: 33480, Stop: 33007, Start Num: 87

Candidate Starts for Galadriel_36:

(32, 33618), (Start: 51 @33564 has 4 MA's), (Start: 58 @33555 has 1 MA's), (74, 33507), (Start: 87 @33480 has 21 MA's), (167, 33381), (197, 33339), (200, 33336), (226, 33300), (244, 33243), (252, 33210), (261, 33162),

Gene: Gator_36 Start: 33782, Stop: 33150, Start Num: 51

Candidate Starts for Gator_36:

(Start: 51 @33782 has 4 MA's), (Start: 64 @33743 has 1 MA's), (66, 33737), (Start: 107 @33671 has 7 MA's), (Start: 124 @33629 has 1 MA's), (174, 33542), (228, 33464), (229, 33461), (237, 33425),

Gene: Geodirt_33 Start: 32468, Stop: 31986, Start Num: 87

Candidate Starts for Geodirt_33:

(32, 32606), (Start: 51 @32552 has 4 MA's), (53, 32549), (74, 32495), (Start: 87 @32468 has 21 MA's), (226, 32285), (229, 32273), (273, 32111), (284, 32066),

Gene: Gizmo_126 Start: 66298, Stop: 65843, Start Num: 126

Candidate Starts for Gizmo_126:

(Start: 126 @66298 has 1 MA's), (176, 66211), (207, 66175), (228, 66139), (237, 66100), (256, 66049),

Gene: Glexan_36 Start: 33731, Stop: 33138, Start Num: 64

Candidate Starts for Glexan_36:

(Start: 51 @33770 has 4 MA's), (Start: 64 @33731 has 1 MA's), (66, 33725), (Start: 107 @33659 has 7 MA's), (Start: 124 @33617 has 1 MA's), (174, 33530), (228, 33452), (229, 33449), (237, 33413),

Gene: Globfish_58 Start: 33707, Stop: 34201, Start Num: 102

Candidate Starts for Globfish_58:

(55, 33614), (63, 33644), (86, 33692), (Start: 99 @33704 has 10 MA's), (Start: 102 @33707 has 5 MA's), (142, 33788), (168, 33818), (193, 33851), (222, 33896), (230, 33917), (247, 33965), (266, 34058),

Gene: Globfish_83 Start: 46529, Stop: 47017, Start Num: 117

Candidate Starts for Globfish_83:

(104, 46508), (Start: 117 @46529 has 1 MA's), (141, 46586), (149, 46604), (180, 46646), (226, 46721), (312, 47006),

Gene: Goku_110 Start: 63579, Stop: 64079, Start Num: 93

Candidate Starts for Goku_110:

(67, 63525), (Start: 93 @63579 has 18 MA's), (Start: 124 @63633 has 1 MA's), (180, 63714), (181, 63717), (195, 63741), (220, 63774), (236, 63831), (280, 63993),

Gene: Goku_37 Start: 33337, Stop: 32837, Start Num: 90

Candidate Starts for Goku_37:

(Start: 90 @33337 has 3 MA's), (Start: 124 @33280 has 1 MA's), (142, 33244),

Gene: Goldilocks_114 Start: 63260, Stop: 63760, Start Num: 93

Candidate Starts for Goldilocks_114:

(67, 63206), (Start: 93 @63260 has 18 MA's), (Start: 124 @63314 has 1 MA's), (180, 63395), (181, 63398), (195, 63422), (220, 63455), (236, 63512), (280, 63674),

Gene: Gonephishing_141 Start: 75522, Stop: 76124, Start Num: 95

Candidate Starts for Gonephishing_141:

(62, 75453), (Start: 95 @75522 has 14 MA's), (148, 75627), (160, 75648), (163, 75651), (180, 75675), (181, 75678), (184, 75684), (234, 75786), (246, 75813), (250, 75831), (267, 75918), (329, 76110),

Gene: Graduation_10 Start: 4816, Stop: 5397, Start Num: 135

Candidate Starts for Graduation_10:

(Start: 135 @4816 has 22 MA's), (191, 4918), (208, 4939), (230, 4987), (309, 5266),

Gene: Gspu1_40 Start: 30337, Stop: 30849, Start Num: 84

Candidate Starts for Gspu1_40:

(27, 30127), (29, 30154), (36, 30202), (49, 30250), (61, 30277), (Start: 84 @30337 has 1 MA's), (Start: 89 @30346 has 4 MA's), (Start: 114 @30382 has 4 MA's), (145, 30451), (162, 30475), (210, 30523),

(224, 30550), (233, 30580), (236, 30601), (242, 30604), (247, 30616), (295, 30802),

Gene: Gwendoluna_9 Start: 4700, Stop: 5281, Start Num: 135

Candidate Starts for Gwendoluna_9:

(Start: 135 @4700 has 22 MA's), (191, 4802), (208, 4823), (230, 4871), (309, 5150),

Gene: HUHilltop_45 Start: 31495, Stop: 31986, Start Num: 96

Candidate Starts for HUHilltop_45:

(73, 31456), (75, 31459), (Start: 93 @31492 has 18 MA's), (Start: 96 @31495 has 9 MA's), (Start: 112 @31513 has 1 MA's), (116, 31522), (217, 31687), (221, 31696), (226, 31702), (229, 31714), (236, 31750), (256, 31801), (262, 31840),

Gene: Hank144_56 Start: 39762, Stop: 39295, Start Num: 135

Candidate Starts for Hank144_56:

(Start: 135 @39762 has 22 MA's), (177, 39693), (223, 39615), (226, 39609), (236, 39561), (242, 39558), (251, 39531), (318, 39306),

Gene: Hannaconda_43 Start: 36122, Stop: 36664, Start Num: 91

Candidate Starts for Hannaconda_43:

(Start: 58 @36035 has 1 MA's), (Start: 91 @36122 has 7 MA's), (Start: 124 @36185 has 1 MA's), (158, 36251), (175, 36275), (195, 36308), (219, 36341), (229, 36362), (230, 36365), (236, 36398), (259, 36476), (293, 36587), (309, 36635),

Gene: Hannaconda_141 Start: 76044, Stop: 76646, Start Num: 95

Candidate Starts for Hannaconda_141:

(Start: 95 @76044 has 14 MA's), (148, 76149), (160, 76170), (163, 76173), (180, 76197), (181, 76200), (184, 76206), (221, 76266), (246, 76335), (250, 76353), (259, 76404), (267, 76440), (299, 76536), (329, 76632),

Gene: Harella_37 Start: 34175, Stop: 33654, Start Num: 107

Candidate Starts for Harella_37:

(Start: 51 @34286 has 4 MA's), (Start: 64 @34247 has 1 MA's), (66, 34241), (Start: 107 @34175 has 7 MA's), (Start: 124 @34133 has 1 MA's), (174, 34046), (228, 33968), (229, 33965), (237, 33929),

Gene: Henry_39 Start: 34174, Stop: 33542, Start Num: 51

Candidate Starts for Henry_39:

(Start: 51 @34174 has 4 MA's), (Start: 64 @34135 has 1 MA's), (66, 34129), (Start: 107 @34063 has 7 MA's), (Start: 124 @34021 has 1 MA's), (174, 33934), (228, 33856), (229, 33853), (237, 33817),

Gene: Hermia_10 Start: 4783, Stop: 5361, Start Num: 135

Candidate Starts for Hermia_10:

(Start: 135 @4783 has 22 MA's), (211, 4909), (309, 5242),

Gene: Hlubikazi_31 Start: 27761, Stop: 28381, Start Num: 60

Candidate Starts for Hlubikazi_31:

(34, 27677), (Start: 48 @27734 has 4 MA's), (Start: 60 @27761 has 3 MA's), (Start: 91 @27836 has 7 MA's), (229, 28058), (236, 28094), (283, 28259), (300, 28304),

Gene: HokkenD_142 Start: 79202, Stop: 79804, Start Num: 95

Candidate Starts for HokkenD_142:

(62, 79133), (Start: 95 @79202 has 14 MA's), (148, 79307), (160, 79328), (163, 79331), (180, 79355), (181, 79358), (184, 79364), (234, 79466), (246, 79493), (250, 79511), (267, 79598), (329, 79790),

Gene: Holt_116 Start: 63658, Stop: 64158, Start Num: 93

Candidate Starts for Holt_116:

(67, 63604), (Start: 93 @63658 has 18 MA's), (Start: 124 @63712 has 1 MA's), (180, 63793), (181, 63796), (195, 63820), (220, 63853), (236, 63910), (280, 64072),

Gene: Hortense_58 Start: 41496, Stop: 42002, Start Num: 101

Candidate Starts for Hortense_58:

(28, 41271), (30, 41301), (Start: 101 @41496 has 24 MA's), (Start: 137 @41571 has 1 MA's), (144, 41583), (171, 41625), (229, 41712), (241, 41751),

Gene: Howe_58 Start: 41496, Stop: 42002, Start Num: 101

Candidate Starts for Howe_58:

(28, 41271), (30, 41301), (Start: 101 @41496 has 24 MA's), (Start: 137 @41571 has 1 MA's), (144, 41583), (171, 41625), (229, 41712), (241, 41751),

Gene: Hughesyang_148 Start: 79867, Stop: 80466, Start Num: 98

Candidate Starts for Hughesyang_148:

(Start: 98 @79867 has 13 MA's), (148, 79969), (160, 79990), (163, 79993), (202, 80056), (221, 80086), (226, 80095), (234, 80128), (250, 80173), (267, 80260), (285, 80320), (299, 80356), (329, 80452),

Gene: Hughesyang_111 Start: 64353, Stop: 64895, Start Num: 101

Candidate Starts for Hughesyang_111:

(35, 64191), (40, 64215), (Start: 79 @64320 has 1 MA's), (Start: 101 @64353 has 24 MA's), (Start: 112 @64371 has 1 MA's), (134, 64428), (174, 64491), (187, 64506), (197, 64524), (229, 64581), (231, 64587), (251, 64647), (271, 64740),

Gene: Icee_112 Start: 62768, Stop: 63268, Start Num: 93

Candidate Starts for Icee_112:

(67, 62714), (Start: 93 @62768 has 18 MA's), (Start: 124 @62822 has 1 MA's), (180, 62903), (181, 62906), (195, 62930), (220, 62963), (236, 63020), (280, 63182),

Gene: Island3_46 Start: 33137, Stop: 33628, Start Num: 96

Candidate Starts for Island3_46:

(57, 33044), (73, 33098), (75, 33101), (Start: 93 @33134 has 18 MA's), (Start: 96 @33137 has 9 MA's), (Start: 112 @33155 has 1 MA's), (116, 33164), (217, 33329), (221, 33338), (226, 33344), (229, 33356), (236, 33392), (256, 33443), (262, 33482),

Gene: JalFarm20_33 Start: 27847, Stop: 27341, Start Num: 99

Candidate Starts for JalFarm20_33:

(Start: 99 @27847 has 10 MA's), (Start: 112 @27832 has 1 MA's), (Start: 132 @27781 has 1 MA's), (Start: 137 @27772 has 1 MA's), (165, 27730), (175, 27715), (183, 27703), (186, 27700), (197, 27679), (229, 27640), (236, 27604), (262, 27514), (279, 27448), (291, 27418),

Gene: JeTaime_109 Start: 62868, Stop: 63383, Start Num: 93

Candidate Starts for JeTaime_109:

(67, 62814), (Start: 93 @62868 has 18 MA's), (Start: 124 @62922 has 1 MA's), (180, 63003), (181, 63006), (195, 63030), (220, 63063), (236, 63120), (280, 63282),

Gene: JoeDirt_64 Start: 45013, Stop: 45471, Start Num: 99

Candidate Starts for JoeDirt_64:

(Start: 99 @45013 has 10 MA's), (Start: 137 @45085 has 1 MA's), (207, 45175), (218, 45187), (229, 45208), (249, 45271), (256, 45298),

Gene: JonJames_26 Start: 9049, Stop: 9558, Start Num: 96

Candidate Starts for JonJames_26:

(Start: 96 @9049 has 9 MA's), (Start: 124 @9103 has 1 MA's), (152, 9160), (169, 9181), (171, 9184), (226, 9256), (229, 9268), (236, 9304), (260, 9385), (262, 9394), (286, 9472), (311, 9544),

Gene: KBG_9 Start: 4959, Stop: 5540, Start Num: 135

Candidate Starts for KBG_9:

(Start: 135 @4959 has 22 MA's), (191, 5061), (208, 5082), (230, 5130), (309, 5409),

Gene: Kabocha_97 Start: 70776, Stop: 71294, Start Num: 89

Candidate Starts for Kabocha_97:

(70, 70734), (76, 70749), (Start: 89 @70776 has 4 MA's), (162, 70899), (169, 70908), (199, 70932), (262, 71112),

Gene: Kalah2_105 Start: 63688, Stop: 64230, Start Num: 101

Candidate Starts for Kalah2_105:

(35, 63526), (40, 63550), (Start: 79 @63655 has 1 MA's), (Start: 101 @63688 has 24 MA's), (Start: 112 @63706 has 1 MA's), (134, 63763), (174, 63826), (187, 63841), (197, 63859), (229, 63916), (231, 63922), (251, 63982), (271, 64075),

Gene: Kalah2_140 Start: 78988, Stop: 79587, Start Num: 98

Candidate Starts for Kalah2_140:

(Start: 98 @78988 has 13 MA's), (148, 79090), (160, 79111), (163, 79114), (202, 79177), (221, 79207), (226, 79216), (234, 79249), (250, 79294), (267, 79381), (285, 79441), (299, 79477), (329, 79573),

Gene: KashFlow_40 Start: 35743, Stop: 36285, Start Num: 91

Candidate Starts for KashFlow_40:

(Start: 58 @35656 has 1 MA's), (Start: 91 @35743 has 7 MA's), (Start: 124 @35806 has 1 MA's), (158, 35872), (175, 35896), (195, 35929), (219, 35962), (229, 35983), (230, 35986), (236, 36019), (259, 36097), (293, 36208), (309, 36256),

Gene: KashFlow_148 Start: 78305, Stop: 78904, Start Num: 101

Candidate Starts for KashFlow_148:

(Start: 101 @78305 has 24 MA's), (144, 78395), (202, 78491), (227, 78536), (234, 78563), (250, 78608), (258, 78650), (259, 78659), (304, 78806), (307, 78821), (329, 78890),

Gene: Keitabear_36 Start: 34510, Stop: 33947, Start Num: 51

Candidate Starts for Keitabear_36:

(32, 34564), (Start: 51 @34510 has 4 MA's), (Start: 58 @34501 has 1 MA's), (74, 34453), (Start: 87 @34426 has 21 MA's), (181, 34306), (226, 34243), (229, 34231), (284, 34024),

Gene: Kenmech_10 Start: 4617, Stop: 5195, Start Num: 135

Candidate Starts for Kenmech_10:

(Start: 135 @4617 has 22 MA's), (211, 4743), (309, 5076),

Gene: Kimchi_115 Start: 63385, Stop: 63885, Start Num: 93

Candidate Starts for Kimchi_115:

(67, 63331), (Start: 93 @63385 has 18 MA's), (Start: 124 @63439 has 1 MA's), (180, 63520), (181, 63523), (195, 63547), (220, 63580), (236, 63637), (280, 63799),

Gene: KingMidas_32 Start: 28828, Stop: 29370, Start Num: 91

Candidate Starts for KingMidas_32:

(Start: 91 @28828 has 7 MA's), (154, 28942), (236, 29095), (259, 29173), (262, 29185),

Gene: KingTut_52 Start: 48894, Stop: 48379, Start Num: 111

Candidate Starts for KingTut_52:

(66, 48972), (94, 48918), (Start: 106 @48903 has 5 MA's), (Start: 111 @48894 has 6 MA's), (140, 48828), (166, 48783), (182, 48759), (201, 48723), (206, 48717), (226, 48684), (243, 48630), (245, 48627), (274, 48510), (277, 48489), (302, 48414),

Gene: Klein_147 Start: 77536, Stop: 78138, Start Num: 95

Candidate Starts for Klein_147:

(62, 77467), (Start: 95 @77536 has 14 MA's), (148, 77641), (160, 77662), (163, 77665), (180, 77689), (181, 77692), (184, 77698), (234, 77800), (246, 77827), (250, 77845), (267, 77932), (329, 78124),

Gene: Kuwabara_68 Start: 41993, Stop: 42493, Start Num: 117

Candidate Starts for Kuwabara_68:

(Start: 117 @41993 has 1 MA's), (185, 42122), (236, 42230), (270, 42350),

Gene: LeeroyJenkins_114 Start: 56842, Stop: 56381, Start Num: 114

Candidate Starts for LeeroyJenkins_114:

(Start: 114 @56842 has 4 MA's), (194, 56713), (252, 56590),

Gene: LeeroyJenkins_94 Start: 49860, Stop: 49351, Start Num: 101

Candidate Starts for LeeroyJenkins_94:

(Start: 101 @49860 has 24 MA's), (199, 49689), (204, 49683), (225, 49653), (240, 49599), (256, 49551),

Gene: LeiMonet_62 Start: 52626, Stop: 52111, Start Num: 111

Candidate Starts for LeiMonet_62:

(66, 52704), (94, 52650), (Start: 106 @52635 has 5 MA's), (Start: 111 @52626 has 6 MA's), (140, 52560), (166, 52515), (182, 52491), (201, 52455), (206, 52449), (226, 52416), (243, 52362), (245, 52359), (274, 52242), (277, 52221), (302, 52146),

Gene: Lennon_36 Start: 34213, Stop: 33740, Start Num: 87

Candidate Starts for Lennon_36:

(32, 34351), (Start: 51 @34297 has 4 MA's), (74, 34240), (Start: 87 @34213 has 21 MA's), (167, 34114), (197, 34072), (200, 34069), (226, 34033), (244, 33976), (251, 33952), (261, 33895),

Gene: Leozinho_32 Start: 27392, Stop: 27934, Start Num: 91

Candidate Starts for Leozinho_32:

(Start: 91 @27392 has 7 MA's), (154, 27506), (236, 27659), (259, 27737), (262, 27749),

Gene: LilBib_8 Start: 4381, Stop: 4959, Start Num: 135

Candidate Starts for LilBib_8:

(Start: 135 @4381 has 22 MA's), (211, 4507), (309, 4840),

Gene: LilSpotty_83 Start: 48505, Stop: 49212, Start Num: 41

Candidate Starts for LilSpotty_83:

(Start: 41 @48505 has 1 MA's), (115, 48661), (149, 48739), (161, 48757), (178, 48781), (226, 48865), (229, 48877), (232, 48886), (244, 48922), (269, 49051), (314, 49180),

Gene: LittleE_112 Start: 62894, Stop: 63436, Start Num: 101

Candidate Starts for LittleE_112:

(Start: 101 @62894 has 24 MA's), (Start: 112 @62912 has 1 MA's), (174, 63032), (187, 63047), (197, 63065), (229, 63122), (231, 63128), (251, 63188), (271, 63281), (321, 63422),

Gene: LittleE_150 Start: 78544, Stop: 79146, Start Num: 95

Candidate Starts for LittleE_150:

(Start: 95 @78544 has 14 MA's), (172, 78682), (180, 78694), (202, 78736), (223, 78769), (234, 78808), (242, 78829), (259, 78904), (266, 78934), (329, 79132),

Gene: Lopsy_58 Start: 51828, Stop: 51313, Start Num: 111

Candidate Starts for Lopsy_58:

(66, 51906), (94, 51852), (Start: 106 @51837 has 5 MA's), (Start: 111 @51828 has 6 MA's), (140, 51762), (166, 51717), (182, 51693), (201, 51657), (206, 51651), (226, 51618), (243, 51564), (245, 51561), (274, 51444), (277, 51423), (302, 51348),

Gene: LostAndPhound_60 Start: 52723, Stop: 52199, Start Num: 106

Candidate Starts for LostAndPhound_60:

(66, 52792), (94, 52738), (Start: 106 @52723 has 5 MA's), (Start: 111 @52714 has 6 MA's), (140, 52648), (166, 52603), (182, 52579), (201, 52543), (206, 52537), (226, 52504), (243, 52450), (245, 52447), (274, 52330), (277, 52309), (302, 52234),

Gene: Love_39 Start: 33996, Stop: 33523, Start Num: 87

Candidate Starts for Love_39:

(32, 34134), (Start: 51 @34080 has 4 MA's), (Start: 58 @34071 has 1 MA's), (74, 34023), (Start: 87 @33996 has 21 MA's), (167, 33897), (197, 33855), (200, 33852), (226, 33816), (244, 33759), (252, 33726), (261, 33678),

Gene: LunaBlu_33 Start: 28027, Stop: 28524, Start Num: 91

Candidate Starts for LunaBlu_33:

(Start: 48 @27925 has 4 MA's), (Start: 91 @28027 has 7 MA's), (229, 28249), (236, 28285), (283, 28450), (300, 28495),

Gene: Lysidious_60 Start: 40309, Stop: 40836, Start Num: 101

Candidate Starts for Lysidious_60:

(Start: 101 @40309 has 24 MA's), (Start: 114 @40330 has 4 MA's), (221, 40510),

Gene: Lysidious_17 Start: 10274, Stop: 10777, Start Num: 97

Candidate Starts for Lysidious_17:

(Start: 97 @10274 has 1 MA's), (144, 10364), (158, 10388), (228, 10493), (230, 10499), (236, 10532), (242, 10538), (267, 10643),

Gene: Mandlovu_31 Start: 27703, Stop: 28323, Start Num: 60

Candidate Starts for Mandlovu_31:

(34, 27619), (Start: 48 @27676 has 4 MA's), (Start: 60 @27703 has 3 MA's), (Start: 91 @27778 has 7 MA's), (229, 28000), (236, 28036), (283, 28201), (300, 28246),

Gene: Maravista_65 Start: 42918, Stop: 43388, Start Num: 121

Candidate Starts for Maravista_65:

(Start: 121 @42918 has 2 MA's), (185, 43035), (236, 43143), (270, 43263),

Gene: Marshmallow_38 Start: 34061, Stop: 33540, Start Num: 107

Candidate Starts for Marshmallow_38:

(Start: 65 @34127 has 7 MA's), (Start: 107 @34061 has 7 MA's), (Start: 124 @34019 has 1 MA's), (174, 33932), (228, 33854), (229, 33851), (237, 33815),

Gene: Marshmallow_109 Start: 63582, Stop: 64082, Start Num: 93

Candidate Starts for Marshmallow_109:

(Start: 93 @63582 has 18 MA's), (Start: 124 @63636 has 1 MA's), (180, 63717), (181, 63720), (195, 63744), (220, 63777), (236, 63834), (280, 63996),

Gene: Matalotodo_59 Start: 52707, Stop: 52192, Start Num: 111

Candidate Starts for Matalotodo_59:

(66, 52785), (94, 52731), (Start: 106 @52716 has 5 MA's), (Start: 111 @52707 has 6 MA's), (140, 52641), (166, 52596), (182, 52572), (201, 52536), (206, 52530), (226, 52497), (243, 52443), (245, 52440), (274, 52323), (277, 52302), (302, 52227),

Gene: McKinley_38 Start: 34022, Stop: 33549, Start Num: 87

Candidate Starts for McKinley_38:

(32, 34160), (Start: 51 @34106 has 4 MA's), (Start: 58 @34097 has 1 MA's), (74, 34049), (Start: 87 @34022 has 21 MA's), (167, 33923), (197, 33881), (200, 33878), (226, 33842), (244, 33785), (261, 33704),

Gene: Mellie_57 Start: 38319, Stop: 38846, Start Num: 101

Candidate Starts for Mellie_57:

(Start: 101 @38319 has 24 MA's), (Start: 114 @38340 has 4 MA's), (221, 38520), (297, 38784),

Gene: Minerva_162 Start: 85665, Stop: 86177, Start Num: 91

Candidate Starts for Minerva_162:

(Start: 91 @85665 has 7 MA's), (Start: 92 @85668 has 1 MA's), (116, 85701), (Start: 137 @85752 has 1 MA's), (156, 85788), (220, 85878), (226, 85887), (229, 85899), (230, 85902), (239, 85935), (251, 85965), (267, 86046), (296, 86139), (305, 86163),

Gene: Minerva_148 Start: 78849, Stop: 79448, Start Num: 98

Candidate Starts for Minerva_148:

(Start: 98 @78849 has 13 MA's), (148, 78951), (160, 78972), (163, 78975), (202, 79038), (221, 79068), (226, 79077), (234, 79110), (250, 79155), (267, 79242), (285, 79302), (299, 79338), (329, 79434),

Gene: MinionDave_33 Start: 28083, Stop: 28682, Start Num: 48

Candidate Starts for MinionDave_33:

(Start: 48 @28083 has 4 MA's), (Start: 91 @28185 has 7 MA's), (229, 28407), (236, 28443), (283, 28608), (300, 28653),

Gene: ModicumRichard_20 Start: 18713, Stop: 18225, Start Num: 87

Candidate Starts for ModicumRichard_20:

(4, 19316), (7, 19235), (9, 19211), (12, 19175), (14, 19145), (15, 19130), (23, 18977), (33, 18863), (46, 18806), (50, 18797), (52, 18794), (Start: 87 @18713 has 21 MA's), (Start: 137 @18629 has 1 MA's), (174, 18605), (207, 18560), (226, 18533), (229, 18521), (231, 18515), (261, 18395),

Gene: Mollymur_102 Start: 68397, Stop: 68978, Start Num: 103

Candidate Starts for Mollymur_102:

(21, 68076), (31, 68211), (Start: 103 @68397 has 11 MA's), (172, 68514), (188, 68541), (202, 68565), (235, 68646), (263, 68757), (304, 68886), (315, 68916), (319, 68922),

Gene: Monet_9 Start: 4498, Stop: 5076, Start Num: 135

Candidate Starts for Monet_9:

(Start: 135 @4498 has 22 MA's), (211, 4624), (309, 4957),

Gene: Morrissey_46 Start: 35134, Stop: 34631, Start Num: 113

Candidate Starts for Morrissey_46:

(5, 35755), (6, 35731), (7, 35701), (11, 35656), (14, 35611), (20, 35482), (38, 35293), (108, 35143), (Start: 113 @35134 has 1 MA's), (128, 35095), (130, 35086), (151, 35047), (212, 34954), (226, 34927), (228, 34918), (229, 34915), (230, 34912), (236, 34879),

Gene: Mova_51 Start: 35948, Stop: 36499, Start Num: 88

Candidate Starts for Mova_51:

(Start: 88 @35948 has 3 MA's), (Start: 91 @35951 has 7 MA's), (144, 36041), (171, 36083), (215, 36143), (236, 36209), (254, 36251), (262, 36299),

Gene: Mozy_32 Start: 27800, Stop: 28405, Start Num: 137

Candidate Starts for Mozy_32:

(Start: 91 @27716 has 7 MA's), (Start: 137 @27800 has 1 MA's), (189, 27872), (210, 27896), (213, 27902), (227, 27932), (233, 27953), (236, 27974), (261, 28061),

Gene: MulchSalad_28 Start: 23891, Stop: 24409, Start Num: 83

Candidate Starts for MulchSalad_28:

(83, 23891), (Start: 132 @23975 has 1 MA's), (193, 24071), (197, 24077), (229, 24119), (231, 24125), (236, 24155),

Gene: Mutaforma13_54 Start: 38739, Stop: 39290, Start Num: 88

Candidate Starts for Mutaforma13_54:

(Start: 88 @38739 has 3 MA's), (Start: 91 @38742 has 7 MA's), (144, 38832), (171, 38874), (215, 38934), (236, 39000), (254, 39042), (262, 39090),

Gene: Myrale_38 Start: 33992, Stop: 33405, Start Num: 65

Candidate Starts for Myrale_38:

(Start: 65 @33992 has 7 MA's), (Start: 107 @33926 has 7 MA's), (Start: 124 @33884 has 1 MA's), (174, 33797), (228, 33719), (229, 33716), (237, 33680),

Gene: Nerujay_9 Start: 4453, Stop: 5034, Start Num: 135

Candidate Starts for Nerujay_9:

(Start: 135 @4453 has 22 MA's), (191, 4555), (208, 4576), (230, 4624), (309, 4903),

Gene: Nimrod_111 Start: 63730, Stop: 64230, Start Num: 93

Candidate Starts for Nimrod_111:

(67, 63676), (Start: 93 @63730 has 18 MA's), (Start: 124 @63784 has 1 MA's), (180, 63865), (181, 63868), (195, 63892), (220, 63925), (236, 63982), (280, 64144),

Gene: Nordenberg_30 Start: 32192, Stop: 31719, Start Num: 87

Candidate Starts for Nordenberg_30:

(32, 32330), (Start: 51 @32276 has 4 MA's), (Start: 58 @32267 has 1 MA's), (74, 32219), (Start: 87 @32192 has 21 MA's), (167, 32093), (197, 32051), (200, 32048), (226, 32012), (244, 31955), (252, 31922), (261, 31874),

Gene: Norz_9 Start: 4534, Stop: 5112, Start Num: 135

Candidate Starts for Norz_9:

(Start: 135 @4534 has 22 MA's), (211, 4660), (309, 4993),

Gene: ObLaDi_20 Start: 18692, Stop: 18204, Start Num: 87

Candidate Starts for ObLaDi_20:

(1, 19712), (2, 19706), (3, 19688), (4, 19295), (7, 19214), (9, 19190), (12, 19154), (14, 19124), (15, 19109), (23, 18956), (33, 18842), (46, 18785), (50, 18776), (52, 18773), (Start: 87 @18692 has 21 MA's), (Start: 137 @18608 has 1 MA's), (174, 18584), (207, 18539), (226, 18512), (229, 18500), (231, 18494), (261, 18374),

Gene: Omega_117 Start: 63909, Stop: 64451, Start Num: 101

Candidate Starts for Omega_117:

(Start: 79 @63876 has 1 MA's), (Start: 101 @63909 has 24 MA's), (Start: 112 @63927 has 1 MA's), (174, 64047), (187, 64062), (197, 64080), (229, 64137), (231, 64143), (251, 64203), (271, 64296), (321, 64437),

Gene: Omega_154 Start: 79628, Stop: 80230, Start Num: 95

Candidate Starts for Omega_154:

(Start: 95 @79628 has 14 MA's), (172, 79766), (180, 79778), (202, 79820), (223, 79853), (234, 79892), (242, 79913), (259, 79988), (266, 80018), (329, 80216),

Gene: Omega_51 Start: 42659, Stop: 43288, Start Num: 58

Candidate Starts for Omega_51:

(Start: 58 @42659 has 1 MA's), (Start: 91 @42746 has 7 MA's), (Start: 124 @42809 has 1 MA's), (158, 42875), (175, 42899), (195, 42932), (219, 42965), (229, 42986), (230, 42989), (236, 43022), (259, 43100), (293, 43211), (309, 43259),

Gene: Optimus_141 Start: 76720, Stop: 77322, Start Num: 95

Candidate Starts for Optimus_141:

(62, 76651), (Start: 95 @76720 has 14 MA's), (148, 76825), (160, 76846), (163, 76849), (180, 76873), (181, 76876), (184, 76882), (234, 76984), (246, 77011), (250, 77029), (267, 77116), (329, 77308),

Gene: Orfeu_58 Start: 52711, Stop: 52187, Start Num: 106

Candidate Starts for Orfeu_58:

(66, 52780), (94, 52726), (Start: 106 @52711 has 5 MA's), (Start: 111 @52702 has 6 MA's), (140, 52636), (166, 52591), (182, 52567), (201, 52531), (206, 52525), (226, 52492), (243, 52438), (245, 52435), (274, 52318), (277, 52297), (302, 52222),

Gene: Papez_9 Start: 5271, Stop: 5849, Start Num: 135

Candidate Starts for Papez_9:

(Start: 135 @5271 has 22 MA's), (211, 5397), (309, 5730),

Gene: Paries_38 Start: 33658, Stop: 33185, Start Num: 87

Candidate Starts for Paries_38:

(29, 33820), (32, 33796), (Start: 51 @33742 has 4 MA's), (Start: 58 @33733 has 1 MA's), (74, 33685), (Start: 87 @33658 has 21 MA's), (167, 33559), (197, 33517), (200, 33514), (226, 33478), (244, 33421), (252, 33388), (261, 33340),

Gene: Peregrin_232 Start: 114891, Stop: 115472, Start Num: 101

Candidate Starts for Peregrin_232:

(Start: 101 @114891 has 24 MA's), (Start: 124 @114942 has 1 MA's), (143, 114978), (157, 115002), (174, 115023), (202, 115062), (256, 115197), (286, 115323), (289, 115329),

Gene: Peregrin_178 Start: 94313, Stop: 94846, Start Num: 100

Candidate Starts for Peregrin_178:

(Start: 100 @94313 has 1 MA's), (139, 94391), (205, 94499), (231, 94553), (257, 94640), (259, 94661), (294, 94781),

Gene: Phineas_45 Start: 31827, Stop: 32321, Start Num: 93

Candidate Starts for Phineas_45:

(73, 31791), (75, 31794), (Start: 93 @31827 has 18 MA's), (Start: 96 @31830 has 9 MA's), (Start: 112 @31848 has 1 MA's), (116, 31857), (217, 32022), (221, 32031), (226, 32037), (229, 32049), (236, 32085), (256, 32136), (262, 32175),

Gene: Phoebus_113 Start: 65664, Stop: 66206, Start Num: 101

Candidate Starts for Phoebus_113:

(35, 65502), (40, 65526), (Start: 79 @65631 has 1 MA's), (Start: 101 @65664 has 24 MA's), (Start: 112 @65682 has 1 MA's), (134, 65739), (174, 65802), (187, 65817), (197, 65835), (229, 65892), (231, 65898), (251, 65958), (271, 66051),

Gene: Phoebus_149 Start: 81221, Stop: 81820, Start Num: 98

Candidate Starts for Phoebus_149:

(Start: 98 @81221 has 13 MA's), (148, 81323), (160, 81344), (163, 81347), (202, 81410), (221, 81440), (226, 81449), (234, 81482), (250, 81527), (267, 81614), (285, 81674), (299, 81710), (329, 81806),

Gene: Pipefish_29 Start: 27509, Stop: 27015, Start Num: 103

Candidate Starts for Pipefish_29:

(Start: 103 @27509 has 11 MA's), (203, 27344), (226, 27311), (242, 27260),

Gene: Pippy_62 Start: 40280, Stop: 40750, Start Num: 121

Candidate Starts for Pippy_62:

(Start: 121 @40280 has 2 MA's), (185, 40397), (236, 40505), (270, 40625),

Gene: Placalicious_60 Start: 53221, Stop: 52697, Start Num: 106

Candidate Starts for Placalicious_60:

(66, 53290), (94, 53236), (Start: 106 @53221 has 5 MA's), (Start: 111 @53212 has 6 MA's), (140, 53146), (166, 53101), (182, 53077), (201, 53041), (206, 53035), (226, 53002), (243, 52948), (245, 52945), (274, 52828), (277, 52807), (302, 52732),

Gene: Podrick_58 Start: 51964, Stop: 51449, Start Num: 111

Candidate Starts for Podrick_58:

(66, 52042), (94, 51988), (Start: 106 @51973 has 5 MA's), (Start: 111 @51964 has 6 MA's), (140, 51898), (166, 51853), (182, 51829), (201, 51793), (206, 51787), (226, 51754), (243, 51700), (245, 51697), (274, 51580), (277, 51559), (302, 51484),

Gene: Porcelain_108 Start: 60257, Stop: 60832, Start Num: 79

Candidate Starts for Porcelain_108:

(Start: 79 @60257 has 1 MA's), (Start: 101 @60290 has 24 MA's), (Start: 112 @60308 has 1 MA's), (134, 60365), (174, 60428), (187, 60443), (197, 60461), (229, 60518), (231, 60524), (251, 60584), (271, 60677),

Gene: Porky_109 Start: 62562, Stop: 63008, Start Num: 124

Candidate Starts for Porky_109:

(67, 62454), (Start: 93 @62508 has 18 MA's), (Start: 124 @62562 has 1 MA's), (180, 62643), (181, 62646), (195, 62670), (220, 62703), (236, 62760), (280, 62922),

Gene: Pound_50 Start: 43906, Stop: 44415, Start Num: 114

Candidate Starts for Pound_50:

(59, 43795), (85, 43864), (Start: 99 @43882 has 10 MA's), (Start: 114 @43906 has 4 MA's), (144, 43972), (179, 44026), (204, 44071), (236, 44158), (259, 44236), (262, 44248), (317, 44401),

Gene: Pumpkin_40 Start: 34140, Stop: 33619, Start Num: 107

Candidate Starts for Pumpkin_40:

(Start: 65 @34206 has 7 MA's), (Start: 107 @34140 has 7 MA's), (Start: 124 @34098 has 1 MA's), (174, 34011), (228, 33933), (229, 33930), (237, 33894),

Gene: Pygmy_47 Start: 33294, Stop: 33785, Start Num: 96

Candidate Starts for Pygmy_47:

(73, 33255), (75, 33258), (Start: 93 @33291 has 18 MA's), (Start: 96 @33294 has 9 MA's), (Start: 112 @33312 has 1 MA's), (116, 33321), (217, 33486), (221, 33495), (226, 33501), (229, 33513), (236, 33549), (256, 33600), (262, 33639),

Gene: QTRlifeCrisis_8 Start: 4494, Stop: 5075, Start Num: 135

Candidate Starts for QTRlifeCrisis_8:

(Start: 135 @4494 has 22 MA's), (191, 4596), (208, 4617), (230, 4665), (309, 4944),

Gene: Ramsey_33 Start: 27746, Stop: 28345, Start Num: 48

Candidate Starts for Ramsey_33:

(Start: 48 @27746 has 4 MA's), (Start: 91 @27848 has 7 MA's), (229, 28070), (236, 28106), (283, 28271), (300, 28316),

Gene: RedWattleHog_22 Start: 25760, Stop: 26308, Start Num: 96

Candidate Starts for RedWattleHog_22:

(83, 25739), (Start: 96 @25760 has 9 MA's), (174, 25880), (254, 26048), (256, 26057), (260, 26087), (262, 26096), (298, 26222),

Gene: RedWattleHog_85 Start: 77917, Stop: 78504, Start Num: 98

Candidate Starts for RedWattleHog_85:

(Start: 98 @77917 has 13 MA's), (133, 77989), (159, 78037), (164, 78043), (192, 78091), (198, 78100), (201, 78103), (208, 78112), (225, 78142), (230, 78160), (236, 78193), (255, 78238), (261, 78280), (277, 78340), (326, 78484),

Gene: RedWattleHog_100 Start: 85618, Stop: 86124, Start Num: 87

Candidate Starts for RedWattleHog_100:

(77, 85600), (Start: 87 @85618 has 21 MA's), (Start: 124 @85687 has 1 MA's), (142, 85723), (144, 85726), (146, 85729), (171, 85768), (227, 85846), (229, 85852), (262, 85981), (282, 86056),

Gene: Rofo_36 Start: 33056, Stop: 32583, Start Num: 87

Candidate Starts for Rofo_36:

(32, 33194), (Start: 51 @33140 has 4 MA's), (Start: 58 @33131 has 1 MA's), (74, 33083), (Start: 87 @33056 has 21 MA's), (167, 32957), (197, 32915), (200, 32912), (226, 32876), (244, 32819), (252, 32786), (261, 32738),

Gene: Rose5_65 Start: 45033, Stop: 45491, Start Num: 99

Candidate Starts for Rose5_65:

(Start: 99 @45033 has 10 MA's), (Start: 137 @45105 has 1 MA's), (207, 45195), (218, 45207), (229, 45228), (249, 45291), (256, 45318),

Gene: Saguaro_52 Start: 46118, Stop: 45648, Start Num: 98

Candidate Starts for Saguaro_52:

(70, 46169), (Start: 98 @46118 has 13 MA's), (Start: 114 @46097 has 4 MA's), (Start: 124 @46070 has 1 MA's), (Start: 132 @46052 has 1 MA's), (Start: 137 @46043 has 1 MA's), (144, 46031), (178, 45992), (229, 45905), (259, 45791), (272, 45746),

Gene: Sarge_39 Start: 25703, Stop: 26194, Start Num: 102

Candidate Starts for Sarge_39:

(18, 25388), (55, 25622), (86, 25688), (Start: 102 @25703 has 5 MA's), (209, 25868), (228, 25904), (230, 25910), (264, 26045), (287, 26117), (310, 26183),

Gene: Sassafras_31 Start: 27690, Stop: 28187, Start Num: 91

Candidate Starts for Sassafras_31:

(Start: 48 @27588 has 4 MA's), (Start: 91 @27690 has 7 MA's), (229, 27912), (236, 27948), (283, 28113), (300, 28158),

Gene: Schomber_94 Start: 69164, Stop: 69682, Start Num: 89

Candidate Starts for Schomber_94:

(70, 69122), (76, 69137), (Start: 89 @69164 has 4 MA's), (162, 69287), (169, 69296), (199, 69320), (262, 69500),

Gene: ScoobyDoobyDoo_184 Start: 103006, Stop: 103509, Start Num: 132

Candidate Starts for ScoobyDoobyDoo_184:

(110, 102958), (118, 102973), (122, 102985), (127, 102991), (Start: 132 @103006 has 1 MA's), (201, 103123), (229, 103174), (233, 103189), (262, 103300), (273, 103333), (275, 103342), (277, 103357), (292, 103399), (313, 103462), (324, 103489),

Gene: Sedona_36 Start: 34162, Stop: 33689, Start Num: 87

Candidate Starts for Sedona_36:

(32, 34300), (Start: 51 @34246 has 4 MA's), (Start: 58 @34237 has 1 MA's), (74, 34189), (Start: 87 @34162 has 21 MA's), (167, 34063), (197, 34021), (200, 34018), (226, 33982), (244, 33925), (252, 33892), (261, 33844),

Gene: ShamWow_38 Start: 34129, Stop: 33542, Start Num: 65

Candidate Starts for ShamWow_38:

(Start: 65 @34129 has 7 MA's), (Start: 107 @34063 has 7 MA's), (Start: 124 @34021 has 1 MA's), (174, 33934), (228, 33856), (229, 33853), (237, 33817),

Gene: Shipwreck_47 Start: 33269, Stop: 33760, Start Num: 96

Candidate Starts for Shipwreck_47:

(73, 33230), (75, 33233), (Start: 93 @33266 has 18 MA's), (Start: 96 @33269 has 9 MA's), (Start: 112 @33287 has 1 MA's), (116, 33296), (217, 33461), (221, 33470), (226, 33476), (229, 33488), (236, 33524), (256, 33575), (262, 33614),

Gene: Shlim410_56 Start: 41496, Stop: 42002, Start Num: 101

Candidate Starts for Shlim410_56:

(28, 41271), (30, 41301), (Start: 101 @41496 has 24 MA's), (Start: 137 @41571 has 1 MA's), (144, 41583), (171, 41625), (229, 41712), (241, 41751),

Gene: Shoya_45 Start: 27671, Stop: 28162, Start Num: 102

Candidate Starts for Shoya_45:

(55, 27590), (86, 27656), (Start: 102 @27671 has 5 MA's), (209, 27836), (228, 27872), (230, 27878), (264, 28013), (287, 28085), (310, 28151),

Gene: Sitar_36 Start: 34297, Stop: 33740, Start Num: 51

Candidate Starts for Sitar_36:

(32, 34351), (Start: 51 @34297 has 4 MA's), (74, 34240), (Start: 87 @34213 has 21 MA's), (167, 34114), (197, 34072), (200, 34069), (226, 34033), (244, 33976), (251, 33952), (261, 33895),

Gene: Solon_8 Start: 4653, Stop: 5234, Start Num: 135

Candidate Starts for Solon_8:

(Start: 135 @4653 has 22 MA's), (191, 4755), (208, 4776), (230, 4824), (309, 5103),

Gene: SpeedDemon_1040 Start: 70108, Stop: 70686, Start Num: 103

Candidate Starts for SpeedDemon_1040:

(21, 69790), (42, 69976), (Start: 103 @70108 has 11 MA's), (Start: 124 @70156 has 1 MA's), (Start: 132 @70174 has 1 MA's), (142, 70192), (172, 70225), (229, 70327), (246, 70378), (270, 70480), (307, 70606),

Gene: SpikeBT_9 Start: 4433, Stop: 5011, Start Num: 135

Candidate Starts for SpikeBT_9:

(Start: 135 @4433 has 22 MA's), (211, 4559), (309, 4892),

Gene: Squee_8 Start: 4160, Stop: 4741, Start Num: 135

Candidate Starts for Squee_8:

(Start: 135 @4160 has 22 MA's), (191, 4262), (208, 4283), (230, 4331), (309, 4610),

Gene: Stank_113 Start: 63457, Stop: 63957, Start Num: 93

Candidate Starts for Stank_113:

(67, 63403), (Start: 93 @63457 has 18 MA's), (Start: 124 @63511 has 1 MA's), (180, 63592), (181, 63595), (195, 63619), (220, 63652), (236, 63709), (280, 63871),

Gene: Starcevich_34 Start: 27605, Stop: 27099, Start Num: 99

Candidate Starts for Starcevich_34:

(Start: 99 @27605 has 10 MA's), (Start: 112 @27590 has 1 MA's), (Start: 132 @27539 has 1 MA's), (Start: 137 @27530 has 1 MA's), (165, 27488), (175, 27473), (183, 27461), (186, 27458), (197, 27437), (229, 27398), (236, 27362), (262, 27272), (279, 27206), (291, 27176),

Gene: Stickynote_47 Start: 43021, Stop: 42431, Start Num: 105

Candidate Starts for Stickynote_47:

(44, 43153), (45, 43150), (Start: 105 @43021 has 4 MA's), (123, 42973), (142, 42934), (153, 42910), (155, 42907), (238, 42763), (259, 42685), (268, 42652), (301, 42544), (331, 42439),

Gene: Stormageddon_82 Start: 77898, Stop: 78485, Start Num: 98

Candidate Starts for Stormageddon_82:

(Start: 98 @77898 has 13 MA's), (133, 77970), (159, 78018), (164, 78024), (192, 78072), (198, 78081), (201, 78084), (208, 78093), (225, 78123), (230, 78141), (236, 78174), (255, 78219), (261, 78261), (277, 78321), (326, 78465),

Gene: Strokeseat_31 Start: 27760, Stop: 28380, Start Num: 60

Candidate Starts for Strokeseat_31:

(34, 27676), (Start: 48 @27733 has 4 MA's), (Start: 60 @27760 has 3 MA's), (Start: 91 @27835 has 7 MA's), (229, 28057), (236, 28093), (283, 28258), (300, 28303),

Gene: Superphikiman_145 Start: 75577, Stop: 76179, Start Num: 95

Candidate Starts for Superphikiman_145:

(Start: 95 @75577 has 14 MA's), (148, 75682), (160, 75703), (163, 75706), (180, 75730), (181, 75733), (184, 75739), (221, 75799), (246, 75868), (250, 75886), (259, 75937), (267, 75973), (299, 76069), (329, 76165),

Gene: TBrady12_114 Start: 62894, Stop: 63394, Start Num: 93

Candidate Starts for TBrady12_114:

(67, 62840), (Start: 93 @62894 has 18 MA's), (Start: 124 @62948 has 1 MA's), (180, 63029), (181, 63032), (195, 63056), (220, 63089), (236, 63146), (280, 63308),

Gene: Tangent_36 Start: 32578, Stop: 32105, Start Num: 87

Candidate Starts for Tangent_36:

(32, 32716), (Start: 51 @32662 has 4 MA's), (Start: 58 @32653 has 1 MA's), (74, 32605), (Start: 87 @32578 has 21 MA's), (167, 32479), (197, 32437), (200, 32434), (226, 32398), (244, 32341), (252, 32308), (261, 32260),

Gene: Teaspoon_111 Start: 63442, Stop: 63942, Start Num: 93

Candidate Starts for Teaspoon_111:

(67, 63388), (Start: 93 @63442 has 18 MA's), (Start: 124 @63496 has 1 MA's), (180, 63577), (181, 63580), (195, 63604), (220, 63637), (236, 63694), (280, 63856),

Gene: Teaspoon_39 Start: 34016, Stop: 33495, Start Num: 107

Candidate Starts for Teaspoon_39:

(Start: 65 @34082 has 7 MA's), (Start: 107 @34016 has 7 MA's), (Start: 124 @33974 has 1 MA's), (174, 33887), (228, 33809), (229, 33806), (237, 33770),

Gene: TheloniousMonk_9 Start: 4484, Stop: 5062, Start Num: 135

Candidate Starts for TheloniousMonk_9:

(Start: 135 @4484 has 22 MA's), (211, 4610), (309, 4943),

Gene: Thibault_95 Start: 58448, Stop: 58990, Start Num: 101

Candidate Starts for Thibault_95:

(Start: 101 @58448 has 24 MA's), (Start: 112 @58466 has 1 MA's), (174, 58586), (187, 58601), (197, 58619), (223, 58658), (229, 58676), (231, 58682), (251, 58742), (271, 58835), (321, 58976),

Gene: Thibault_132 Start: 76186, Stop: 76788, Start Num: 95

Candidate Starts for Thibault_132:

(Start: 95 @76186 has 14 MA's), (172, 76324), (180, 76336), (202, 76378), (227, 76423), (229, 76429), (242, 76471), (259, 76546), (266, 76576), (329, 76774),

Gene: ThreeRngTarjay_109 Start: 64920, Stop: 65462, Start Num: 101

Candidate Starts for ThreeRngTarjay_109:

(35, 64758), (40, 64782), (Start: 79 @64887 has 1 MA's), (Start: 101 @64920 has 24 MA's), (Start: 112 @64938 has 1 MA's), (134, 64995), (174, 65058), (187, 65073), (197, 65091), (229, 65148), (231, 65154), (251, 65214), (271, 65307),

Gene: ThreeRngTarjay_144 Start: 79812, Stop: 80411, Start Num: 98

Candidate Starts for ThreeRngTarjay_144:

(Start: 98 @79812 has 13 MA's), (148, 79914), (160, 79935), (163, 79938), (202, 80001), (221, 80031), (226, 80040), (234, 80073), (250, 80118), (267, 80205), (285, 80265), (299, 80301), (329, 80397),

Gene: Toni_59 Start: 52612, Stop: 52088, Start Num: 106

Candidate Starts for Toni_59:

(66, 52681), (94, 52627), (Start: 106 @52612 has 5 MA's), (Start: 111 @52603 has 6 MA's), (140, 52537), (166, 52492), (182, 52468), (201, 52432), (206, 52426), (226, 52393), (243, 52339), (245, 52336), (274, 52219), (277, 52198), (302, 52123),

Gene: Toto_38 Start: 34063, Stop: 33542, Start Num: 107

Candidate Starts for Toto_38:

(Start: 65 @34129 has 7 MA's), (Start: 107 @34063 has 7 MA's), (Start: 124 @34021 has 1 MA's), (174, 33934), (228, 33856), (229, 33853), (237, 33817),

Gene: Treddle_9 Start: 4499, Stop: 5077, Start Num: 135

Candidate Starts for Treddle_9:

(Start: 135 @4499 has 22 MA's), (211, 4625), (309, 4958),

Gene: Tuco_39 Start: 34637, Stop: 34050, Start Num: 65

Candidate Starts for Tuco_39:

(Start: 65 @34637 has 7 MA's), (Start: 107 @34571 has 7 MA's), (Start: 124 @34529 has 1 MA's), (174, 34442), (228, 34364), (229, 34361), (237, 34325),

Gene: Twinkle_57 Start: 42555, Stop: 43061, Start Num: 101

Candidate Starts for Twinkle_57:

(28, 42330), (30, 42360), (Start: 101 @42555 has 24 MA's), (Start: 137 @42630 has 1 MA's), (144, 42642), (171, 42684), (229, 42771), (241, 42810),

Gene: Twister6_58 Start: 42736, Stop: 43260, Start Num: 101

Candidate Starts for Twister6_58:

(Start: 101 @42736 has 24 MA's), (Start: 124 @42787 has 1 MA's), (131, 42805), (179, 42883), (226, 42964), (228, 42973), (265, 43114),

Gene: UBSmoodge_128 Start: 91385, Stop: 91951, Start Num: 84

Candidate Starts for UBSmoodge_128:

(Start: 84 @91385 has 1 MA's), (138, 91484), (150, 91508), (173, 91541), (190, 91571), (199, 91583), (220, 91616), (229, 91637), (230, 91640), (260, 91754), (262, 91763), (303, 91889),

Gene: UPIE_65 Start: 44559, Stop: 45017, Start Num: 99

Candidate Starts for UPIE_65:

(Start: 99 @44559 has 10 MA's), (Start: 137 @44631 has 1 MA's), (207, 44721), (218, 44733), (229, 44754), (249, 44817), (256, 44844),

Gene: Vivi2_38 Start: 33736, Stop: 33263, Start Num: 87

Candidate Starts for Vivi2_38:

(32, 33874), (Start: 51 @33820 has 4 MA's), (Start: 58 @33811 has 1 MA's), (74, 33763), (Start: 87 @33736 has 21 MA's), (167, 33637), (197, 33595), (200, 33592), (226, 33556), (244, 33499), (252, 33466), (261, 33418),

Gene: Wamburgexpress_65 Start: 44589, Stop: 45047, Start Num: 99

Candidate Starts for Wamburgexpress_65:

(Start: 99 @44589 has 10 MA's), (Start: 137 @44661 has 1 MA's), (207, 44751), (218, 44763), (229, 44784), (249, 44847), (256, 44874),

Gene: Wanda_148 Start: 77329, Stop: 77928, Start Num: 98

Candidate Starts for Wanda_148:

(Start: 98 @77329 has 13 MA's), (148, 77431), (160, 77452), (163, 77455), (202, 77518), (221, 77548), (226, 77557), (234, 77590), (250, 77635), (267, 77722), (285, 77782), (299, 77818), (329, 77914),

Gene: Wiggin_113 Start: 62887, Stop: 63387, Start Num: 93

Candidate Starts for Wiggin_113:

(Start: 93 @62887 has 18 MA's), (Start: 124 @62941 has 1 MA's), (180, 63022), (181, 63025), (195, 63049), (220, 63082), (236, 63139), (280, 63301),

Gene: WilliamBoone_144 Start: 75606, Stop: 76268, Start Num: 54

Candidate Starts for WilliamBoone_144:

(42, 75582), (Start: 54 @75606 has 1 MA's), (144, 75792), (191, 75861), (202, 75876), (226, 75918), (304, 76194), (327, 76260),

Gene: Xandras_110 Start: 62710, Stop: 63210, Start Num: 93

Candidate Starts for Xandras_110:

(67, 62656), (Start: 93 @62710 has 18 MA's), (Start: 124 @62764 has 1 MA's), (180, 62845), (181, 62848), (195, 62872), (220, 62905), (236, 62962), (280, 63124),

Gene: Xavia_53 Start: 39307, Stop: 39837, Start Num: 102

Candidate Starts for Xavia_53:

(Start: 102 @39307 has 5 MA's), (129, 39364), (Start: 132 @39373 has 1 MA's), (171, 39436), (173, 39439), (195, 39475), (197, 39478), (205, 39487), (208, 39490), (229, 39532), (256, 39619), (297, 39781),

Gene: Zelink_108 Start: 64885, Stop: 65409, Start Num: 112

Candidate Starts for Zelink_108:

(35, 64705), (40, 64729), (Start: 79 @64834 has 1 MA's), (Start: 101 @64867 has 24 MA's), (Start: 112 @64885 has 1 MA's), (134, 64942), (174, 65005), (187, 65020), (197, 65038), (229, 65095), (231, 65101), (251, 65161), (271, 65254),

Gene: Zelink_143 Start: 80141, Stop: 80740, Start Num: 98

Candidate Starts for Zelink_143:

(Start: 98 @80141 has 13 MA's), (148, 80243), (160, 80264), (163, 80267), (202, 80330), (221, 80360), (226, 80369), (234, 80402), (250, 80447), (267, 80534), (285, 80594), (299, 80630), (329, 80726),

Gene: Zeuska_8 Start: 4378, Stop: 4959, Start Num: 135

Candidate Starts for Zeuska_8:

(Start: 135 @4378 has 22 MA's), (191, 4480), (208, 4501), (230, 4549), (309, 4828),

Gene: Zucker_50 Start: 32261, Stop: 32884, Start Num: 43

Candidate Starts for Zucker_50:

(8, 31859), (10, 31883), (13, 31901), (26, 32147), (39, 32249), (Start: 43 @32261 has 1 MA's), (80, 32354), (Start: 124 @32432 has 1 MA's), (171, 32501), (226, 32579), (228, 32588), (230, 32594), (231, 32597), (244, 32633), (260, 32708),