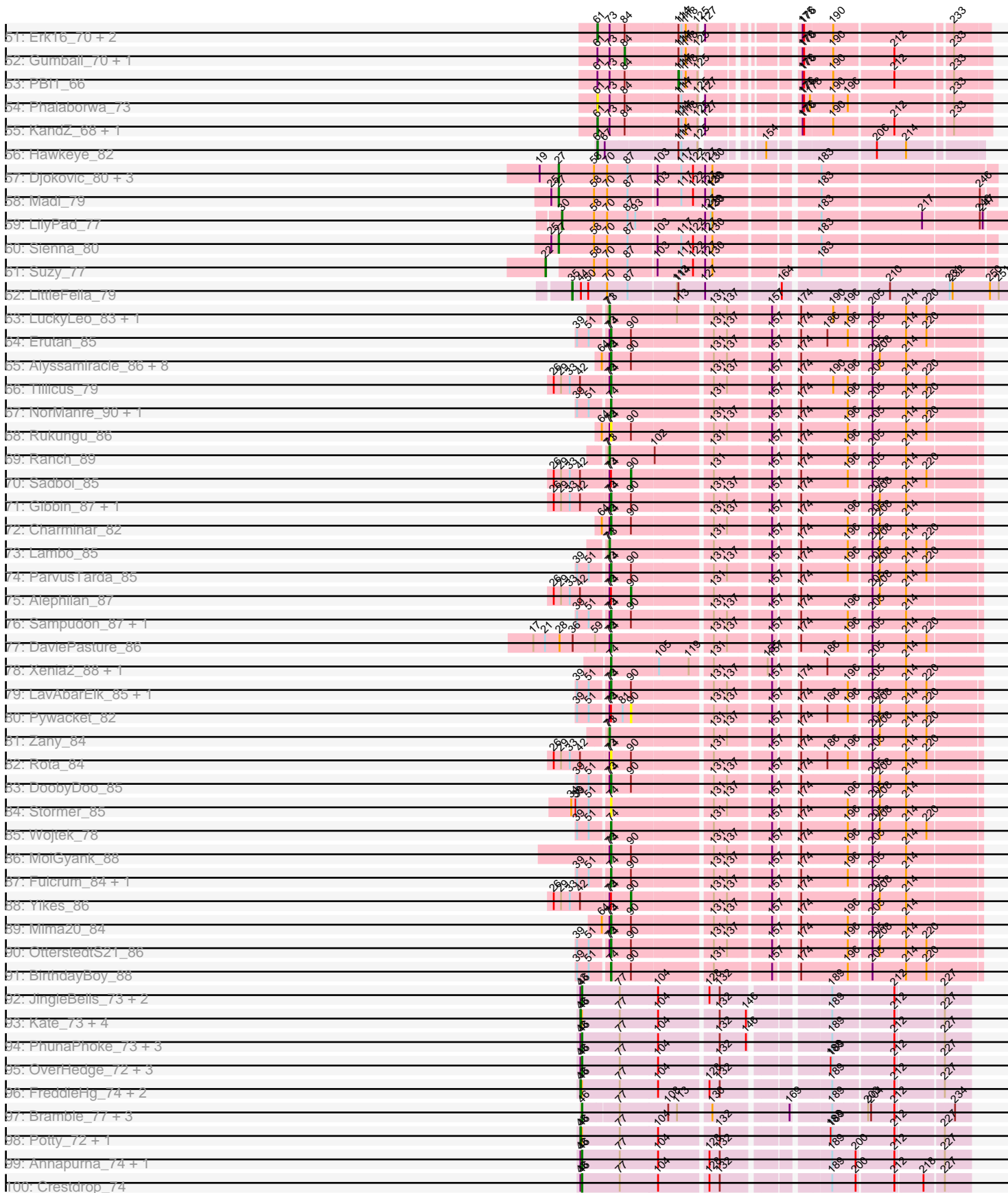


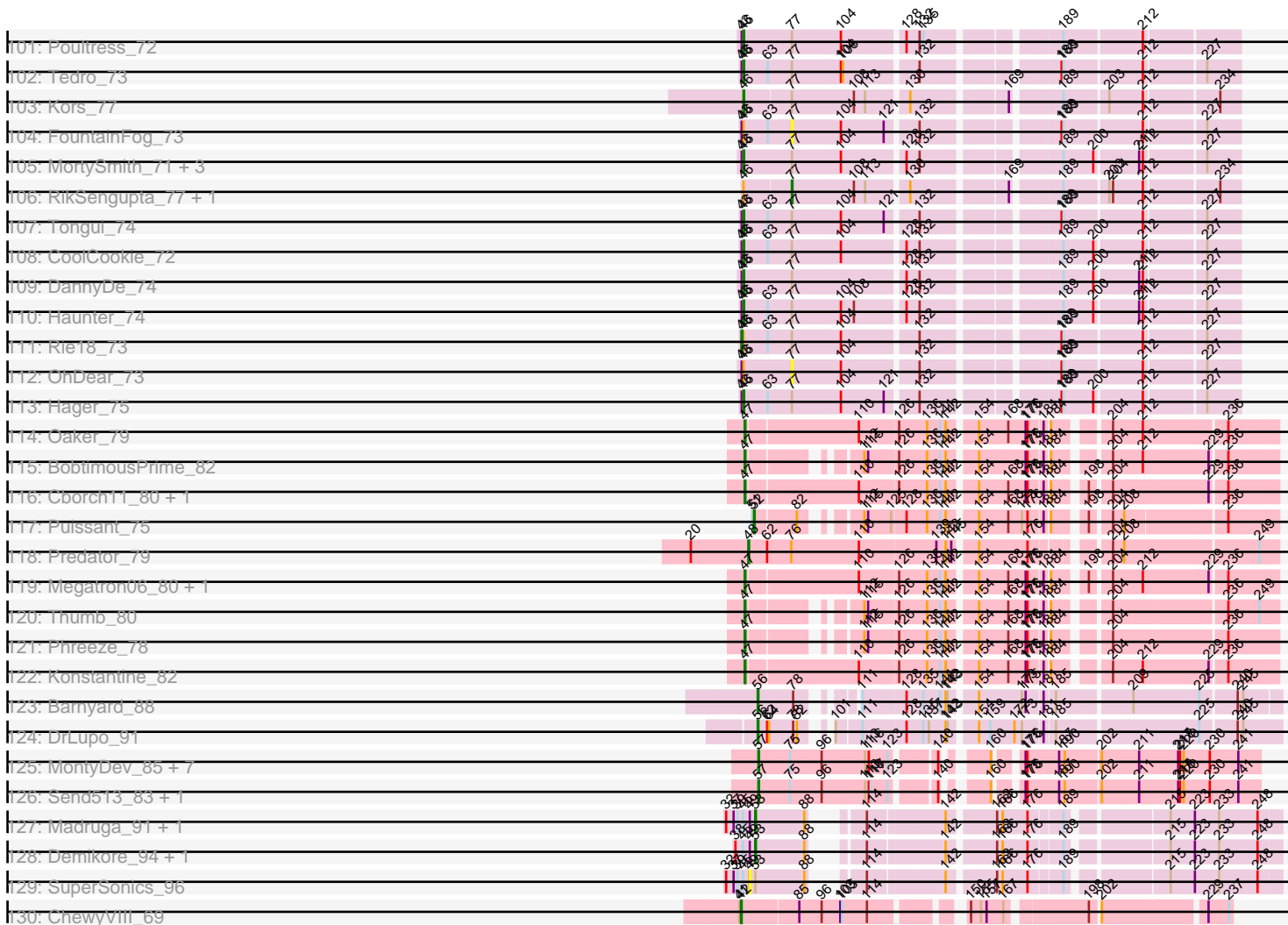
Pham 304705



Pham 304705



Pham 304705



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 304705 Report

This analysis was run 06/08/26 on database version 649.

Pham number 304705 has 223 members, 19 are drafts.

Phages represented in each track:

- Track 1 : Fowlmouth_91
- Track 2 : MrMiyagi_90
- Track 3 : Cuke_93
- Track 4 : Indlulamithi_82
- Track 5 : Aikoy_88
- Track 6 : Leopard_87, Onyinye_87
- Track 7 : Gibson_36, Rooney_36, Virizion_40
- Track 8 : SassyC_39
- Track 9 : Greenbelt_36
- Track 10 : Wilkos_37
- Track 11 : Dryad_40
- Track 12 : Wentworth_37
- Track 13 : PHTown_36, Lizz_36, ShakeNBake_36
- Track 14 : Yara_34
- Track 15 : Dalilpop_62
- Track 16 : GTE5_48
- Track 17 : GRU1_47
- Track 18 : Turuncu_62
- Track 19 : Flapper_62
- Track 20 : Outis_59, StarStruck_59
- Track 21 : GrootJr_59, NovumRegina_57, NatB6_57, Foxboro_58
- Track 22 : Kabluna_61, Bonum_61
- Track 23 : Kurt_57, KidneyBean_57, Jifall16_56, Emianna_57, Phomeo_56
- Track 24 : NosilaM_61
- Track 25 : MerCougar_59
- Track 26 : Commandaria_58
- Track 27 : Wheezy_57, Tracker_57
- Track 28 : GTE8_46
- Track 29 : SuperSulley_59, Buggaboo_59
- Track 30 : Arti_57
- Track 31 : Lollipop1437_62
- Track 32 : Skysand_60
- Track 33 : Float294_59
- Track 34 : Patio_61
- Track 35 : Ennea_64
- Track 36 : RedRaider_65
- Track 37 : BiPauneto_59, Sukkupi_58, Yndexa_58

- Track 38 : Pemberton_60
- Track 39 : WhoseManz_58
- Track 40 : IDyn_58
- Track 41 : Marietta_59
- Track 42 : NadineRae_57
- Track 43 : HubbaBubba_54
- Track 44 : Scuba_66, Fury_65, Pleakley_65
- Track 45 : HomeFry_62
- Track 46 : Braxoaddie_58, Polyuyuki_58, Maselop_58, CoffeeBean_58
- Track 47 : Gagieri_57
- Track 48 : Apiary_58
- Track 49 : MacGully_65
- Track 50 : Giuseppe_72, Mopey_72, Visconti_71, Adjutor_68, Nova_70, Helpful_73, SuperheroCarly_70, Bitterscotch_68, Thoth_70, SirHarley_72, Delton_70, BigMama_68, Penelope2018_70, Prager_71
- Track 51 : Erk16_70, WaldoWhy_72, Chill_72
- Track 52 : Gumball_70, Troll4_70
- Track 53 : PBI1_66
- Track 54 : Phalaborwa_73
- Track 55 : KandZ_68, PLOT_70
- Track 56 : Hawkeye_82
- Track 57 : Djokovic_80, Terapin_81, BiteSize_80, Beyoncage_80
- Track 58 : Madi_79
- Track 59 : LilyPad_77
- Track 60 : Sienna_80
- Track 61 : Suzy_77
- Track 62 : LittleFella_79
- Track 63 : LuckyLeo_83, Apeppi_81
- Track 64 : Erutan_85
- Track 65 : Alyssamiracle_86, Avian_81, Genamy16_86, Rumi_84, Riduram_82, RazorC_83, NovaSharks_85, Jamemuya19_81, Astralis_83
- Track 66 : Tillicus_79
- Track 67 : NorManre_90, Patos_90
- Track 68 : Rukungu_86
- Track 69 : Ranch_89
- Track 70 : Sadboi_85
- Track 71 : Gibbin_87, GretelLyn_85
- Track 72 : Charminar_82
- Track 73 : Lambo_85
- Track 74 : ParvusTarda_85
- Track 75 : Alephilan_87
- Track 76 : Sampudon_87, Jalebi_85
- Track 77 : DaviePasture_86
- Track 78 : Xenia2_88, DumpTruck_88
- Track 79 : LavAbarElk_85, Lila22_86
- Track 80 : Pywacket_82
- Track 81 : Zany_84
- Track 82 : Rota_84
- Track 83 : DoobyDoo_85
- Track 84 : Stormer_85
- Track 85 : Wojtek_78
- Track 86 : MoiGyank_88
- Track 87 : Fulcrum_84, GOATification_84

- Track 88 : Yikes_86
- Track 89 : Mima20_84
- Track 90 : OtterstedtS21_86
- Track 91 : BirthdayBoy_88
- Track 92 : JingleBells_73, JDawG_72, SilentWarrior_74
- Track 93 : Kate_73, AnnaSerena_73, Krampus_73, NarutoRun_73, Anakin_73
- Track 94 : PhunaPhoke_73, Gilda_73, Karate_72, Rachella_73
- Track 95 : OverHedge_72, Artiphact_73, Cybele_73, Pharpay_72
- Track 96 : FreddieHg_74, Chivey_74, Hiddenleaf_74
- Track 97 : Bramble_77, LordBart_77, TinyMiny_77, Ajin_77
- Track 98 : Potty_72, Neptune_73
- Track 99 : Annapurna_74, Aesir_72
- Track 100 : Crestdrop_74
- Track 101 : Poultruss_72
- Track 102 : Tedro_73
- Track 103 : Kors_77
- Track 104 : FountainFog_73
- Track 105 : MortySmith_71, Dauntless_72, Erudite_72, Snakehole_74
- Track 106 : RikSengupta_77, Sparcetus_77
- Track 107 : Tongui_74
- Track 108 : CoolCookie_72
- Track 109 : DannyDe_74
- Track 110 : Haunter_74
- Track 111 : Rie18_73
- Track 112 : OhDear_73
- Track 113 : Hager_75
- Track 114 : Oaker_79
- Track 115 : BobtimousPrime_82
- Track 116 : Cborch11_80, Damien_79
- Track 117 : Puissant_75
- Track 118 : Predator_79
- Track 119 : Megatron06_80, Beckerton_78
- Track 120 : Thumb_80
- Track 121 : Phreeze_78
- Track 122 : Konstantine_82
- Track 123 : Barnyard_88
- Track 124 : DrLupo_91
- Track 125 : MontyDev_85, Nilo_86, Riparian_85, Candle_81, Weiss13_83, Zenon_85, Yelo_82, Papyrus_82
- Track 126 : Send513_83, Rope_83
- Track 127 : Madruga_91, Patience_93
- Track 128 : Demikore_94, Labelle_92
- Track 129 : SuperSonics_96
- Track 130 : ChewyVIII_69

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

The start number called the most often in the published annotations is 42, it was called in 46 of the 204 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Apiary_58, Arti_57, BiPauneto_59, Bonum_61, Braxoaddie_58, Buggaboo_59, ChewyVIII_69, CoffeeBean_58, Commandaria_58, Emianna_57, Ennea_64, Float294_59, Foxboro_58, Fury_65, GRU1_47, GTE8_46, Gagieri_57, GrootJr_59, HomeFry_62, HubbaBubba_54, IDyn_58, Jifall16_56, Kabluna_61, KidneyBean_57, Kurt_57, Lollipop1437_62, MacGully_65, Marietta_59, Maselop_58, MerCougar_59, NadineRae_57, NatB6_57, NosilaM_61, NovumRegina_57, Outis_59, Patio_61, Pemberton_60, Phomeo_56, Pleakley_65, Polyyuki_58, RedRaider_65, Scuba_66, Skysand_60, StarStruck_59, Sukkupi_58, SuperSulley_59, Tracker_57, Wheezy_57, WhoseManz_58, Yndexa_58,

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

- Alephilan_87, Gibbin_87, GretelLyn_85, Rota_84, Sadboi_85, Tillicus_79, Yikes_86,

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

- Adjutor_68, Aesir_72, Aikoy_88, Ajin_77, Alyssamiracle_86, Anakin_73, AnnaSerena_73, Annapurna_74, Apeppi_81, Artiphact_73, Astralis_83, Avian_81, Barnyard_88, Beckerton_78, Beyoncage_80, BigMama_68, BirthdayBoy_88, BiteSize_80, BobtimousPrime_82, Bramble_77, Butterscotch_68, Candle_81, Cborch11_80, Charminar_82, Chill_72, Chivey_74, CoolCookie_72, Crestdrop_74, Cuke_93, Cybele_73, Dalilpop_62, Damien_79, DannyDe_74, Dauntless_72, DaviePasture_86, Delton_70, Demikore_94, Djokovic_80, DoobyDoo_85, DrLupo_91, Dryad_40, DumpTruck_88, Erk16_70, Erudite_72, Erutan_85, Flapper_62, FountainFog_73, Fowlmouth_91, FreddieHg_74, Fulcrum_84, GOATification_84, GTE5_48, Genamy16_86, Gibson_36, Gilda_73, Giuseppe_72, Greenbelt_36, Gumball_70, Hager_75, Haunter_74, Hawkeye_82, Helpful_73, Hiddenleaf_74, Indlulamithi_82, JDawG_72, Jalebi_85, Jamemuya19_81, JingleBells_73, KandZ_68, Karate_72, Kate_73, Konstantine_82, Kors_77, Krampus_73, Labelle_92, Lambo_85, LavAbarElk_85, Leopard_87, Lila22_86, LilyPad_77, LittleFella_79, Lizz_36, LordBart_77, LuckyLeo_83, Madi_79, Madruga_91, Megatron06_80, Mima20_84, MoiGyank_88, MontyDev_85, Mopey_72, MortySmith_71, MrMiyagi_90, NarutoRun_73, Neptune_73, Nilo_86, NorManre_90, NovaSharks_85, Nova_70, Oaker_79, OhDear_73, Onyinye_87, OtterstedtS21_86, OverHedge_72, PBI1_66, PHTown_36, PLOT_70, Papyrus_82, ParvusTarda_85, Patience_93, Patos_90, Penelope2018_70, Phalaborwa_73, Pharpay_72, Phreeze_78, PhunaPhoke_73, Potty_72, Poultruss_72, Prager_71, Predator_79, Puissant_75, Pywacket_82, Rachella_73, Ranch_89, RazorC_83, Riduram_82, Rie18_73, RikSengupta_77, Riparian_85, Rooney_36, Rope_83, Rukungu_86, Rumi_84, Sampudon_87, SassyC_39, Send513_83, ShakeNBake_36, Sienna_80, SilentWarrior_74, SirHarley_72, Snakehole_74, Sparcetus_77, Stormer_85, SuperSonics_96, SuperheroCarly_70, Suzy_77, Tedro_73, Terapin_81, Thoth_70, Thumb_80, TinyMiny_77, Tongui_74, Troll4_70, Turuncu_62, Virizion_40, Visconti_71, WaldoWhy_72, Weiss13_83, Wentworth_37, Wilkos_37, Wojtek_78, Xenia2_88, Yara_34, Yelo_82, Zany_84, Zenon_85,

Summary by start number:

Start 9:

- Found in 2 of 223 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GTE5_48 (CR1), Turuncu_62 (CR1),

Start 10:

- Found in 2 of 223 (0.9%) of genes in pham
- Manual Annotations of this start: 2 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dalilpop_62 (CR1), Flapper_62 (CR1),

Start 22:

- Found in 1 of 223 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Suzy_77 (DG1),

Start 27:

- Found in 6 of 223 (2.7%) of genes in pham
- Manual Annotations of this start: 6 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beyoncage_80 (DG1), BiteSize_80 (DG1), Djokovic_80 (DG1), Madi_79 (DG1), Sienna_80 (DG1), Terapin_81 (DG1),

Start 30:

- Found in 1 of 223 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LilyPad_77 (DG1),

Start 35:

- Found in 1 of 223 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleFella_79 (DG2),

Start 41:

- Found in 4 of 223 (1.8%) of genes in pham
- Manual Annotations of this start: 1 of 204
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Aikoy_88 (AE),

Start 42:

- Found in 57 of 223 (25.6%) of genes in pham
- Manual Annotations of this start: 46 of 204
- Called 87.7% of time when present
- Phage (with cluster) where this start called: Apiary_58 (CR6), Arti_57 (CR2), BiPauneto_59 (CR4), Bonum_61 (CR2), Braxoaddie_58 (CR6), Buggaboo_59 (CR2), ChewyVIII_69 (singleton), CoffeeBean_58 (CR6), Commandaria_58 (CR2), Emianna_57 (CR2), Ennea_64 (CR3), Float294_59 (CR3), Foxboro_58 (CR2), Fury_65 (CR5), GRU1_47 (CR1), GTE8_46 (CR2), Gagieri_57 (CR6), GrootJr_59 (CR2), HomeFry_62 (CR5), HubbaBubba_54 (CR4), IDyn_58 (CR4), Jifall16_56 (CR2), Kabluna_61 (CR2), KidneyBean_57 (CR2), Kurt_57 (CR2), Lollipop1437_62 (CR3), MacGully_65 (CR7), Marietta_59 (CR4), Maselop_58 (CR6), MerCougar_59 (CR2), NadineRae_57 (CR4), NatB6_57 (CR2), NosilaM_61 (CR2), NovumRegina_57 (CR2), Outis_59 (CR2), Patio_61 (CR3), Pemberton_60 (CR4), Phomeo_56 (CR2), Pleakley_65 (CR5), Polyuyuki_58 (CR6), RedRaider_65 (CR3), Scuba_66 (CR5), Skysand_60 (CR3), StarStruck_59 (CR2), Sukkupi_58 (CR4),

SuperSulley_59 (CR2), Tracker_57 (CR2), Wheezy_57 (CR2), WhoseManz_58 (CR4), Yndexa_58 (CR4),

Start 43:

- Found in 38 of 223 (17.0%) of genes in pham
- Manual Annotations of this start: 11 of 204
- Called 28.9% of time when present
- Phage (with cluster) where this start called: Anakin_73 (EF), AnnaSerena_73 (EF), Chivey_74 (EF), FreddieHg_74 (EF), Hiddenleaf_74 (EF), Kate_73 (EF), Krampus_73 (EF), NarutoRun_73 (EF), Neptune_73 (EF), Potty_72 (EF), Rie18_73 (EF),

Start 46:

- Found in 45 of 223 (20.2%) of genes in pham
- Manual Annotations of this start: 29 of 204
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Aesir_72 (EF), Ajin_77 (EF), Annapurna_74 (EF), Artiphact_73 (EF), Bramble_77 (EF), CoolCookie_72 (EF), Crestdrop_74 (EF), Cybele_73 (EF), DannyDe_74 (EF), Dauntless_72 (EF), Erudite_72 (EF), Gilda_73 (EF), Hager_75 (EF), Haunter_74 (EF), JDawG_72 (EF), JingleBells_73 (EF), Karate_72 (EF), Kors_77 (EF), LordBart_77 (EF), MortySmith_71 (EF), OverHedge_72 (EF), Pharpay_72 (EF), PhunaPhoke_73 (EF), Poultruss_72 (EF), Rachella_73 (EF), SilentWarrior_74 (EF), Snakehole_74 (EF), Tedro_73 (EF), TinyMiny_77 (EF), Tongui_74 (EF),

Start 47:

- Found in 9 of 223 (4.0%) of genes in pham
- Manual Annotations of this start: 9 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beckerton_78 (H1), BobtimousPrime_82 (H1), Cborch11_80 (H1), Damien_79 (H1), Konstantine_82 (H1), Megatron06_80 (H1), Oaker_79 (H1), Phreeze_78 (H1), Thumb_80 (H1),

Start 48:

- Found in 1 of 223 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Predator_79 (H1),

Start 49:

- Found in 5 of 223 (2.2%) of genes in pham
- No Manual Annotations of this start.
- Called 20.0% of time when present
- Phage (with cluster) where this start called: SuperSonics_96 (U),

Start 52:

- Found in 1 of 223 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Puissant_75 (H1),

Start 53:

- Found in 5 of 223 (2.2%) of genes in pham
- Manual Annotations of this start: 3 of 204

- Called 80.0% of time when present
- Phage (with cluster) where this start called: Demikore_94 (U), Labelle_92 (U), Madrugua_91 (U), Patience_93 (U),

Start 56:

- Found in 2 of 223 (0.9%) of genes in pham
- Manual Annotations of this start: 2 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard_88 (H2), DrLupo_91 (H2),

Start 57:

- Found in 11 of 223 (4.9%) of genes in pham
- Manual Annotations of this start: 10 of 204
- Called 90.9% of time when present
- Phage (with cluster) where this start called: Candle_81 (R), MontyDev_85 (R), Nilo_86 (R), Papyrus_82 (R), Riparian_85 (R), Rope_83 (R), Send513_83 (R), Weiss13_83 (R), Yelo_82 (R), Zenon_85 (R),

Start 61:

- Found in 28 of 223 (12.6%) of genes in pham
- Manual Annotations of this start: 22 of 204
- Called 82.1% of time when present
- Phage (with cluster) where this start called: Adjutor_68 (D1), BigMama_68 (D1), Butterscotch_68 (D1), Chill_72 (D1), Delton_70 (D1), Erk16_70 (D1), Giuseppe_72 (D1), Hawkeye_82 (D2), Helpful_73 (D1), KandZ_68 (D1), Leopard_87 (AE), Mopey_72 (D1), Nova_70 (D1), Onyinye_87 (AE), PLOT_70 (D1), Penelope2018_70 (D1), Phalaborwa_73 (D1), Prager_71 (D1), SirHarley_72 (D1), SuperheroCarly_70 (D1), Thoth_70 (D1), Visconti_71 (D1), WaldoWhy_72 (D1),

Start 67:

- Found in 2 of 223 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 204
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Yara_34 (BN),

Start 68:

- Found in 1 of 223 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 204
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Greenbelt_36 (BN),

Start 69:

- Found in 4 of 223 (1.8%) of genes in pham
- Manual Annotations of this start: 3 of 204
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Cuke_93 (AC), Fowlmouth_91 (AC), MrMiyagi_90 (AC),

Start 71:

- Found in 16 of 223 (7.2%) of genes in pham
- Manual Annotations of this start: 7 of 204
- Called 62.5% of time when present

- Phage (with cluster) where this start called: Dryad_40 (BN), Gibson_36 (BN), Lizz_36 (BN), PHTown_36 (BN), Rooney_36 (BN), SassyC_39 (BN), ShakeNBake_36 (BN), Virizion_40 (BN), Wentworth_37 (BN), Wilkos_37 (BN),

Start 73:

- Found in 59 of 223 (26.5%) of genes in pham
- Manual Annotations of this start: 6 of 204
- Called 10.2% of time when present
- Phage (with cluster) where this start called: Apeppi_81 (DV), Indlulamithi_82 (AC), Lambo_85 (DV), LuckyLeo_83 (DV), Ranch_89 (DV), Zany_84 (DV),

Start 74:

- Found in 39 of 223 (17.5%) of genes in pham
- Manual Annotations of this start: 31 of 204
- Called 89.7% of time when present
- Phage (with cluster) where this start called: Alyssamiracle_86 (DV), Astralis_83 (DV), Avian_81 (DV), BirthdayBoy_88 (DV), Charminar_82 (DV), DaviePasture_86 (DV), DoobyDoo_85 (DV), DumpTruck_88 (DV), Erutan_85 (DV), Fulcrum_84 (DV), GOATification_84 (DV), Genamy16_86 (DV), Gibbin_87 (DV), Gretellyn_85 (DV), Jalebi_85 (DV), Jamemuya19_81 (DV), LavAbarElk_85 (DV), Lila22_86 (DV), Mima20_84 (DV), MoiGyank_88 (DV), NorManre_90 (DV), NovaSharks_85 (DV), OtterstedtS21_86 (DV), ParvusTarda_85 (DV), Patos_90 (DV), RazorC_83 (DV), Riduram_82 (DV), Rota_84 (DV), Rukungu_86 (DV), Rumi_84 (DV), Sampudon_87 (DV), Stormer_85 (DV), Tillicus_79 (DV), Wojtek_78 (DV), Xenia2_88 (DV),

Start 77:

- Found in 45 of 223 (20.2%) of genes in pham
- Manual Annotations of this start: 2 of 204
- Called 8.9% of time when present
- Phage (with cluster) where this start called: FountainFog_73 (EF), OhDear_73 (EF), RikSengupta_77 (EF), Sparcetus_77 (EF),

Start 84:

- Found in 23 of 223 (10.3%) of genes in pham
- Manual Annotations of this start: 2 of 204
- Called 8.7% of time when present
- Phage (with cluster) where this start called: Gumball_70 (D1), Troll4_70 (D1),

Start 90:

- Found in 31 of 223 (13.9%) of genes in pham
- Manual Annotations of this start: 3 of 204
- Called 12.9% of time when present
- Phage (with cluster) where this start called: Alephilan_87 (DV), Pywacket_82 (DV), Sadboi_85 (DV), Yikes_86 (DV),

Start 114:

- Found in 81 of 223 (36.3%) of genes in pham
- Manual Annotations of this start: 1 of 204
- Called 1.2% of time when present
- Phage (with cluster) where this start called: PBI1_66 (D1),

Summary by clusters:

There are 21 clusters represented in this pham: CR2, CR3, AC, H1, CR6, CR7, CR4, CR5, H2, BN, EF, singleton, CR1, DG2, DG1, U, DV, AE, R, D2, D1,

Info for manual annotations of cluster AC:

- Start number 69 was manually annotated 3 times for cluster AC.
- Start number 73 was manually annotated 1 time for cluster AC.

Info for manual annotations of cluster AE:

- Start number 41 was manually annotated 1 time for cluster AE.
- Start number 61 was manually annotated 2 times for cluster AE.

Info for manual annotations of cluster BN:

- Start number 67 was manually annotated 1 time for cluster BN.
- Start number 68 was manually annotated 1 time for cluster BN.
- Start number 71 was manually annotated 7 times for cluster BN.

Info for manual annotations of cluster CR1:

- Start number 9 was manually annotated 1 time for cluster CR1.
- Start number 10 was manually annotated 2 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 42 was manually annotated 21 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 42 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 42 was manually annotated 8 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 42 was manually annotated 3 times for cluster CR5.

Info for manual annotations of cluster CR6:

- Start number 42 was manually annotated 6 times for cluster CR6.

Info for manual annotations of cluster CR7:

- Start number 42 was manually annotated 1 time for cluster CR7.

Info for manual annotations of cluster D1:

- Start number 61 was manually annotated 19 times for cluster D1.
- Start number 84 was manually annotated 2 times for cluster D1.
- Start number 114 was manually annotated 1 time for cluster D1.

Info for manual annotations of cluster D2:

- Start number 61 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DG1:

- Start number 22 was manually annotated 1 time for cluster DG1.
- Start number 27 was manually annotated 6 times for cluster DG1.
- Start number 30 was manually annotated 1 time for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 35 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:

- Start number 73 was manually annotated 5 times for cluster DV.
- Start number 74 was manually annotated 31 times for cluster DV.
- Start number 90 was manually annotated 3 times for cluster DV.

Info for manual annotations of cluster EF:

- Start number 43 was manually annotated 11 times for cluster EF.
- Start number 46 was manually annotated 29 times for cluster EF.
- Start number 77 was manually annotated 2 times for cluster EF.

Info for manual annotations of cluster H1:

- Start number 47 was manually annotated 9 times for cluster H1.
- Start number 48 was manually annotated 1 time for cluster H1.
- Start number 52 was manually annotated 1 time for cluster H1.

Info for manual annotations of cluster H2:

- Start number 56 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster R:

- Start number 57 was manually annotated 10 times for cluster R.

Info for manual annotations of cluster U:

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

Gene Information:

Gene: Adjutor_68 Start: 54806, Stop: 55477, Start Num: 61

Candidate Starts for Adjutor_68:

(Start: 61 @54806 has 22 MA's), (Start: 73 @54827 has 6 MA's), (Start: 84 @54857 has 2 MA's), (Start: 114 @54959 has 1 MA's), (117, 54965), (118, 54974), (125, 54998), (175, 55133), (176, 55136), (190, 55190), (212, 55307), (233, 55406),

Gene: Aesir_72 Start: 51638, Stop: 52348, Start Num: 46

Candidate Starts for Aesir_72:

(Start: 43 @51635 has 11 MA's), (Start: 46 @51638 has 29 MA's), (Start: 77 @51716 has 2 MA's), (104, 51794), (128, 51887), (132, 51908), (189, 52091), (200, 52139), (212, 52211), (227, 52298),

Gene: Aikoy_88 Start: 61398, Stop: 62117, Start Num: 41

Candidate Starts for Aikoy_88:

(Start: 41 @61398 has 1 MA's), (60, 61434), (Start: 61 @61437 has 22 MA's), (72, 61455), (80, 61479), (155, 61746), (183, 61827), (191, 61857), (209, 61953), (212, 61968), (220, 62031), (243, 62100),

Gene: Ajin_77 Start: 52086, Stop: 52784, Start Num: 46

Candidate Starts for Ajin_77:

(Start: 46 @52086 has 29 MA's), (Start: 77 @52158 has 2 MA's), (108, 52257), (113, 52275), (130, 52335), (169, 52467), (189, 52533), (203, 52596), (204, 52602), (212, 52650), (234, 52752),

Gene: Alephilan_87 Start: 58613, Stop: 59248, Start Num: 90

Candidate Starts for Alephilan_87:

(26, 58460), (29, 58475), (33, 58493), (Start: 42 @58514 has 46 MA's), (Start: 73 @58571 has 6 MA's), (Start: 74 @58574 has 31 MA's), (Start: 90 @58613 has 3 MA's), (131, 58766), (157, 58874), (174, 58910), (205, 59042), (208, 59057), (214, 59108),

Gene: Alyssamiracle_86 Start: 56530, Stop: 57204, Start Num: 74

Candidate Starts for Alyssamiracle_86:

(64, 56515), (Start: 73 @56527 has 6 MA's), (Start: 74 @56530 has 31 MA's), (Start: 90 @56569 has 3 MA's), (131, 56722), (137, 56749), (157, 56830), (174, 56866), (205, 56998), (208, 57013), (214, 57064),

Gene: Anakin_73 Start: 51949, Stop: 52662, Start Num: 43

Candidate Starts for Anakin_73:

(Start: 43 @51949 has 11 MA's), (Start: 46 @51952 has 29 MA's), (Start: 77 @52030 has 2 MA's), (104, 52108), (132, 52222), (146, 52273), (189, 52405), (212, 52525), (227, 52612),

Gene: AnnaSerena_73 Start: 51983, Stop: 52696, Start Num: 43

Candidate Starts for AnnaSerena_73:

(Start: 43 @51983 has 11 MA's), (Start: 46 @51986 has 29 MA's), (Start: 77 @52064 has 2 MA's), (104, 52142), (132, 52256), (146, 52307), (189, 52439), (212, 52559), (227, 52646),

Gene: Annapurna_74 Start: 51541, Stop: 52251, Start Num: 46

Candidate Starts for Annapurna_74:

(Start: 43 @51538 has 11 MA's), (Start: 46 @51541 has 29 MA's), (Start: 77 @51619 has 2 MA's), (104, 51697), (128, 51790), (132, 51811), (189, 51994), (200, 52042), (212, 52114), (227, 52201),

Gene: Apeppi_81 Start: 57772, Stop: 58446, Start Num: 73

Candidate Starts for Apeppi_81:

(Start: 71 @57769 has 7 MA's), (Start: 73 @57772 has 6 MA's), (113, 57901), (131, 57964), (137, 57991), (157, 58072), (174, 58108), (190, 58168), (196, 58198), (205, 58240), (214, 58306), (220, 58348),

Gene: Apiary_58 Start: 42343, Stop: 41603, Start Num: 42

Candidate Starts for Apiary_58:

(31, 42370), (Start: 42 @42343 has 46 MA's), (55, 42319), (91, 42244), (103, 42202), (113, 42163), (Start: 114 @42160 has 1 MA's), (116, 42157), (135, 42082), (175, 41926), (183, 41893), (191, 41863), (192, 41860), (193, 41851), (202, 41815), (212, 41749), (239, 41611), (242, 41608),

Gene: Arti_57 Start: 44353, Stop: 43622, Start Num: 42

Candidate Starts for Arti_57:

(Start: 42 @44353 has 46 MA's), (66, 44305), (91, 44263), (Start: 114 @44176 has 1 MA's), (141, 44071), (157, 44005), (159, 43999), (161, 43996), (170, 43966), (174, 43951), (175, 43948), (221, 43702), (227, 43681), (244, 43627),

Gene: Artiphact_73 Start: 51976, Stop: 52686, Start Num: 46

Candidate Starts for Artiphact_73:

(Start: 43 @51973 has 11 MA's), (Start: 46 @51976 has 29 MA's), (Start: 77 @52054 has 2 MA's), (104, 52132), (132, 52246), (188, 52426), (189, 52429), (212, 52549), (227, 52636),

Gene: Astralis_83 Start: 56109, Stop: 56783, Start Num: 74

Candidate Starts for Astralis_83:

(64, 56094), (Start: 73 @56106 has 6 MA's), (Start: 74 @56109 has 31 MA's), (Start: 90 @56148 has 3 MA's), (131, 56301), (137, 56328), (157, 56409), (174, 56445), (205, 56577), (208, 56592), (214, 56643),

Gene: Avian_81 Start: 56261, Stop: 56935, Start Num: 74

Candidate Starts for Avian_81:

(64, 56246), (Start: 73 @56258 has 6 MA's), (Start: 74 @56261 has 31 MA's), (Start: 90 @56300 has 3 MA's), (131, 56453), (137, 56480), (157, 56561), (174, 56597), (205, 56729), (208, 56744), (214, 56795),

Gene: Barnyard_88 Start: 60764, Stop: 61486, Start Num: 56

Candidate Starts for Barnyard_88:

(Start: 56 @60764 has 2 MA's), (78, 60818), (111, 60872), (128, 60935), (135, 60962), (141, 60989), (142, 60998), (143, 61001), (154, 61037), (173, 61103), (175, 61109), (181, 61133), (185, 61148), (209, 61262), (225, 61367), (240, 61421), (245, 61430),

Gene: Beckerton_78 Start: 59931, Stop: 60683, Start Num: 47

Candidate Starts for Beckerton_78:

(Start: 47 @59931 has 9 MA's), (110, 60102), (126, 60159), (136, 60204), (141, 60225), (142, 60234), (154, 60273), (168, 60315), (175, 60339), (176, 60342), (181, 60363), (184, 60369), (198, 60408), (204, 60435), (212, 60483), (229, 60582), (236, 60606),

Gene: Beyoncage_80 Start: 55697, Stop: 56518, Start Num: 27

Candidate Starts for Beyoncage_80:

(19, 55658), (Start: 27 @55697 has 6 MA's), (58, 55769), (70, 55793), (87, 55835), (103, 55889), (117, 55937), (122, 55961), (127, 55985), (130, 56000), (183, 56186),

Gene: BiPauneto_59 Start: 43866, Stop: 43126, Start Num: 42

Candidate Starts for BiPauneto_59:

(13, 43998), (14, 43974), (23, 43929), (Start: 42 @43866 has 46 MA's), (65, 43821), (Start: 114 @43689 has 1 MA's), (138, 43596), (159, 43503), (161, 43500), (165, 43488), (175, 43452), (195, 43368), (221, 43206), (238, 43152), (244, 43131),

Gene: BigMama_68 Start: 54879, Stop: 55550, Start Num: 61

Candidate Starts for BigMama_68:

(Start: 61 @54879 has 22 MA's), (Start: 73 @54900 has 6 MA's), (Start: 84 @54930 has 2 MA's), (Start: 114 @55032 has 1 MA's), (117, 55038), (118, 55047), (125, 55071), (175, 55206), (176, 55209), (190, 55263), (212, 55380), (233, 55479),

Gene: BirthdayBoy_88 Start: 58563, Stop: 59237, Start Num: 74

Candidate Starts for BirthdayBoy_88:

(39, 58503), (51, 58527), (Start: 74 @58563 has 31 MA's), (Start: 90 @58602 has 3 MA's), (131, 58755), (157, 58863), (174, 58899), (196, 58989), (205, 59031), (214, 59097), (220, 59139),

Gene: BiteSize_80 Start: 55783, Stop: 56604, Start Num: 27

Candidate Starts for BiteSize_80:

(19, 55744), (Start: 27 @55783 has 6 MA's), (58, 55855), (70, 55879), (87, 55921), (103, 55975), (117, 56023), (122, 56047), (127, 56071), (130, 56086), (183, 56272),

Gene: BobtimousPrime_82 Start: 60220, Stop: 60924, Start Num: 47

Candidate Starts for BobtimousPrime_82:

(Start: 47 @60220 has 9 MA's), (112, 60352), (115, 60358), (126, 60400), (136, 60445), (141, 60466), (142, 60475), (154, 60514), (175, 60580), (176, 60583), (181, 60604), (184, 60610), (204, 60676), (212, 60724), (229, 60823), (236, 60847),

Gene: Bonum_61 Start: 45017, Stop: 44271, Start Num: 42

Candidate Starts for Bonum_61:

(Start: 42 @45017 has 46 MA's), (91, 44915), (Start: 114 @44828 has 1 MA's), (129, 44774), (157, 44657), (163, 44639), (167, 44630), (173, 44606), (195, 44516), (208, 44447), (227, 44330), (238, 44297), (244, 44276),

Gene: Bramble_77 Start: 52053, Stop: 52751, Start Num: 46

Candidate Starts for Bramble_77:

(Start: 46 @52053 has 29 MA's), (Start: 77 @52125 has 2 MA's), (108, 52224), (113, 52242), (130, 52302), (169, 52434), (189, 52500), (203, 52563), (204, 52569), (212, 52617), (234, 52719),

Gene: Braxoaddie_58 Start: 42332, Stop: 41592, Start Num: 42

Candidate Starts for Braxoaddie_58:

(31, 42359), (Start: 42 @42332 has 46 MA's), (55, 42308), (91, 42233), (103, 42191), (113, 42152), (Start: 114 @42149 has 1 MA's), (116, 42146), (135, 42071), (159, 41972), (175, 41915), (183, 41882), (190, 41858), (202, 41804), (212, 41738), (239, 41600), (242, 41597),

Gene: Buggaboo_59 Start: 45496, Stop: 44750, Start Num: 42

Candidate Starts for Buggaboo_59:

(Start: 42 @45496 has 46 MA's), (91, 45394), (105, 45346), (Start: 114 @45307 has 1 MA's), (129, 45253), (157, 45136), (163, 45118), (167, 45109), (195, 44995), (208, 44926), (227, 44809), (238, 44776), (244, 44755),

Gene: Butterscotch_68 Start: 54857, Stop: 55528, Start Num: 61

Candidate Starts for Butterscotch_68:

(Start: 61 @54857 has 22 MA's), (Start: 73 @54878 has 6 MA's), (Start: 84 @54908 has 2 MA's), (Start: 114 @55010 has 1 MA's), (117, 55016), (118, 55025), (125, 55049), (175, 55184), (176, 55187), (190, 55241), (212, 55358), (233, 55457),

Gene: Candle_81 Start: 62723, Stop: 63430, Start Num: 57

Candidate Starts for Candle_81:

(Start: 57 @62723 has 10 MA's), (75, 62774), (96, 62825), (113, 62894), (116, 62900), (123, 62930), (140, 62990), (160, 63038), (175, 63068), (176, 63071), (187, 63122), (190, 63131), (202, 63185), (211, 63242), (217, 63302), (218, 63305), (220, 63311), (230, 63353), (241, 63395),

Gene: Cborch11_80 Start: 59117, Stop: 59869, Start Num: 47

Candidate Starts for Cborch11_80:

(Start: 47 @59117 has 9 MA's), (110, 59288), (126, 59345), (136, 59390), (141, 59411), (142, 59420), (154, 59459), (168, 59501), (175, 59525), (176, 59528), (181, 59549), (184, 59555), (198, 59594), (204, 59621), (229, 59768), (236, 59792),

Gene: Charminar_82 Start: 55769, Stop: 56443, Start Num: 74

Candidate Starts for Charminar_82:

(64, 55754), (Start: 73 @55766 has 6 MA's), (Start: 74 @55769 has 31 MA's), (Start: 90 @55808 has 3 MA's), (131, 55961), (137, 55988), (157, 56069), (174, 56105), (196, 56195), (205, 56237), (208, 56252), (214, 56303),

Gene: ChewyVIII_69 Start: 49815, Stop: 49147, Start Num: 42

Candidate Starts for ChewyVIII_69:

(Start: 41 @49818 has 1 MA's), (Start: 42 @49815 has 46 MA's), (85, 49728), (96, 49692), (103, 49665), (105, 49662), (Start: 114 @49623 has 1 MA's), (150, 49506), (155, 49491), (157, 49482), (167, 49458), (198, 49344), (202, 49332), (229, 49182), (237, 49152),

Gene: Chill_72 Start: 54894, Stop: 55562, Start Num: 61

Candidate Starts for Chill_72:

(Start: 61 @54894 has 22 MA's), (Start: 73 @54915 has 6 MA's), (Start: 84 @54945 has 2 MA's), (Start: 114 @55047 has 1 MA's), (117, 55053), (118, 55062), (125, 55086), (127, 55089), (175, 55221), (176, 55224), (190, 55278), (233, 55494),

Gene: Chivey_74 Start: 51437, Stop: 52150, Start Num: 43

Candidate Starts for Chivey_74:

(Start: 43 @51437 has 11 MA's), (Start: 46 @51440 has 29 MA's), (Start: 77 @51518 has 2 MA's), (104, 51596), (128, 51689), (132, 51710), (189, 51893), (212, 52013), (227, 52100),

Gene: CoffeeBean_58 Start: 42290, Stop: 41550, Start Num: 42

Candidate Starts for CoffeeBean_58:

(31, 42317), (Start: 42 @42290 has 46 MA's), (55, 42266), (91, 42191), (103, 42149), (113, 42110), (Start: 114 @42107 has 1 MA's), (116, 42104), (135, 42029), (159, 41930), (175, 41873), (183, 41840), (190, 41816), (202, 41762), (212, 41696), (239, 41558), (242, 41555),

Gene: Commandaria_58 Start: 45467, Stop: 44736, Start Num: 42

Candidate Starts for Commandaria_58:

(Start: 42 @45467 has 46 MA's), (66, 45419), (86, 45386), (103, 45332), (Start: 114 @45290 has 1 MA's), (120, 45266), (128, 45239), (143, 45173), (149, 45146), (161, 45110), (170, 45080), (174, 45065), (175, 45062), (190, 45005), (195, 44978), (199, 44960), (208, 44912), (227, 44795), (234, 44777), (238, 44762), (244, 44741),

Gene: CoolCookie_72 Start: 52040, Stop: 52750, Start Num: 46

Candidate Starts for CoolCookie_72:

(Start: 43 @52037 has 11 MA's), (Start: 46 @52040 has 29 MA's), (63, 52079), (Start: 77 @52118 has 2 MA's), (104, 52196), (128, 52289), (132, 52310), (189, 52493), (200, 52541), (212, 52613), (227, 52700),

Gene: Crestdrop_74 Start: 51864, Stop: 52574, Start Num: 46

Candidate Starts for Crestdrop_74:

(Start: 43 @51861 has 11 MA's), (Start: 46 @51864 has 29 MA's), (Start: 77 @51942 has 2 MA's), (104, 52020), (128, 52113), (132, 52134), (189, 52317), (200, 52365), (212, 52437), (218, 52488), (227, 52524),

Gene: Cuke_93 Start: 54589, Stop: 55197, Start Num: 69

Candidate Starts for Cuke_93:

(Start: 57 @54562 has 10 MA's), (Start: 69 @54589 has 3 MA's), (83, 54625), (89, 54637), (92, 54646), (Start: 114 @54724 has 1 MA's), (116, 54727), (121, 54751), (130, 54781), (140, 54817), (151, 54838), (152, 54844), (153, 54847), (156, 54853), (158, 54865), (175, 54895), (180, 54913), (187, 54934), (197, 54979), (203, 55009), (205, 55018), (208, 55030), (214, 55081), (216, 55111), (218, 55117), (222, 55135), (231, 55162),

Gene: Cybele_73 Start: 51982, Stop: 52692, Start Num: 46

Candidate Starts for Cybele_73:

(Start: 43 @51979 has 11 MA's), (Start: 46 @51982 has 29 MA's), (Start: 77 @52060 has 2 MA's), (104, 52138), (132, 52252), (188, 52432), (189, 52435), (212, 52555), (227, 52642),

Gene: Dalilpop_62 Start: 46648, Stop: 45902, Start Num: 10

Candidate Starts for Dalilpop_62:

(Start: 10 @46648 has 2 MA's), (94, 46537), (98, 46522), (102, 46510), (105, 46501), (113, 46465), (128, 46411), (165, 46276), (171, 46255), (175, 46240), (190, 46183), (201, 46135), (212, 46057), (213, 46051), (221, 45991), (239, 45925), (244, 45916),

Gene: Damien_79 Start: 59427, Stop: 60179, Start Num: 47

Candidate Starts for Damien_79:

(Start: 47 @59427 has 9 MA's), (110, 59598), (126, 59655), (136, 59700), (141, 59721), (142, 59730), (154, 59769), (168, 59811), (175, 59835), (176, 59838), (181, 59859), (184, 59865), (198, 59904), (204, 59931), (229, 60078), (236, 60102),

Gene: DannyDe_74 Start: 51442, Stop: 52152, Start Num: 46

Candidate Starts for DannyDe_74:

(Start: 43 @51439 has 11 MA's), (Start: 46 @51442 has 29 MA's), (Start: 77 @51520 has 2 MA's), (128, 51691), (132, 51712), (189, 51895), (200, 51943), (211, 52009), (212, 52015), (227, 52102),

Gene: Dauntless_72 Start: 51573, Stop: 52283, Start Num: 46

Candidate Starts for Dauntless_72:

(Start: 43 @51570 has 11 MA's), (Start: 46 @51573 has 29 MA's), (Start: 77 @51651 has 2 MA's), (104, 51729), (128, 51822), (132, 51843), (189, 52026), (200, 52074), (211, 52140), (212, 52146), (227, 52233),

Gene: DaviePasture_86 Start: 58094, Stop: 58768, Start Num: 74

Candidate Starts for DaviePasture_86:

(17, 57935), (21, 57959), (28, 57989), (36, 58016), (59, 58061), (Start: 73 @58091 has 6 MA's), (Start: 74 @58094 has 31 MA's), (131, 58286), (137, 58313), (157, 58394), (174, 58430), (196, 58520), (205, 58562), (214, 58628), (220, 58670),

Gene: Delton_70 Start: 55255, Stop: 55926, Start Num: 61

Candidate Starts for Delton_70:

(Start: 61 @55255 has 22 MA's), (Start: 73 @55276 has 6 MA's), (Start: 84 @55306 has 2 MA's), (Start: 114 @55408 has 1 MA's), (117, 55414), (118, 55423), (125, 55447), (175, 55582), (176, 55585), (190, 55639), (212, 55756), (233, 55855),

Gene: Demikore_94 Start: 61253, Stop: 61951, Start Num: 53

Candidate Starts for Demikore_94:

(38, 61226), (45, 61238), (49, 61244), (Start: 53 @61253 has 3 MA's), (88, 61331), (Start: 114 @61367 has 1 MA's), (142, 61481), (162, 61544), (166, 61553), (176, 61592), (189, 61640), (215, 61778), (223, 61817), (233, 61856), (248, 61916),

Gene: Djokovic_80 Start: 55696, Stop: 56517, Start Num: 27

Candidate Starts for Djokovic_80:

(19, 55657), (Start: 27 @55696 has 6 MA's), (58, 55768), (70, 55792), (87, 55834), (103, 55888), (117, 55936), (122, 55960), (127, 55984), (130, 55999), (183, 56185),

Gene: DoobyDoo_85 Start: 56890, Stop: 57564, Start Num: 74

Candidate Starts for DoobyDoo_85:

(39, 56830), (51, 56854), (Start: 73 @56887 has 6 MA's), (Start: 74 @56890 has 31 MA's), (Start: 90 @56929 has 3 MA's), (131, 57082), (137, 57109), (157, 57190), (174, 57226), (205, 57358), (208, 57373), (214, 57424),

Gene: DrLupo_91 Start: 60981, Stop: 61727, Start Num: 56

Candidate Starts for DrLupo_91:

(Start: 56 @60981 has 2 MA's), (62, 60996), (64, 60999), (78, 61038), (82, 61044), (101, 61068), (111, 61104), (128, 61170), (135, 61197), (137, 61206), (142, 61233), (143, 61236), (154, 61272), (159, 61290), (172, 61326), (173, 61338), (181, 61368), (185, 61383), (225, 61602), (240, 61656), (245, 61665),

Gene: Dryad_40 Start: 31376, Stop: 30774, Start Num: 71

Candidate Starts for Dryad_40:

(Start: 71 @31376 has 7 MA's), (107, 31265), (127, 31190), (130, 31175), (159, 31073), (185, 30995), (207, 30902), (208, 30899), (211, 30875), (212, 30869), (218, 30818),

Gene: DumpTruck_88 Start: 58077, Stop: 58757, Start Num: 74

Candidate Starts for DumpTruck_88:

(Start: 74 @58077 has 31 MA's), (105, 58170), (119, 58230), (131, 58269), (155, 58368), (157, 58377), (186, 58461), (205, 58545), (214, 58611),

Gene: Emianna_57 Start: 45345, Stop: 44614, Start Num: 42

Candidate Starts for Emianna_57:

(Start: 42 @45345 has 46 MA's), (66, 45297), (91, 45255), (Start: 114 @45168 has 1 MA's), (141, 45063), (157, 44997), (159, 44991), (161, 44988), (170, 44958), (174, 44943), (175, 44940), (221, 44694), (227, 44673), (244, 44619),

Gene: Ennea_64 Start: 46346, Stop: 45609, Start Num: 42

Candidate Starts for Ennea_64:

(Start: 42 @46346 has 46 MA's), (102, 46211), (105, 46202), (Start: 114 @46163 has 1 MA's), (124, 46127), (159, 45992), (167, 45971), (174, 45944), (175, 45941), (190, 45884), (202, 45830), (212, 45764), (239, 45632), (244, 45623),

Gene: Erk16_70 Start: 54972, Stop: 55640, Start Num: 61

Candidate Starts for Erk16_70:

(Start: 61 @54972 has 22 MA's), (Start: 73 @54993 has 6 MA's), (Start: 84 @55023 has 2 MA's), (Start: 114 @55125 has 1 MA's), (117, 55131), (118, 55140), (125, 55164), (127, 55167), (175, 55299), (176, 55302), (190, 55356), (233, 55572),

Gene: Erudite_72 Start: 51573, Stop: 52283, Start Num: 46

Candidate Starts for Erudite_72:

(Start: 43 @51570 has 11 MA's), (Start: 46 @51573 has 29 MA's), (Start: 77 @51651 has 2 MA's), (104, 51729), (128, 51822), (132, 51843), (189, 52026), (200, 52074), (211, 52140), (212, 52146), (227, 52233),

Gene: Erutan_85 Start: 58028, Stop: 58702, Start Num: 74

Candidate Starts for Erutan_85:

(39, 57968), (51, 57992), (Start: 73 @58025 has 6 MA's), (Start: 74 @58028 has 31 MA's), (Start: 90 @58067 has 3 MA's), (131, 58220), (137, 58247), (157, 58328), (174, 58364), (186, 58412), (196, 58454), (205, 58496), (214, 58562), (220, 58604),

Gene: Flapper_62 Start: 46080, Stop: 45334, Start Num: 10

Candidate Starts for Flapper_62:

(Start: 10 @46080 has 2 MA's), (94, 45969), (98, 45954), (102, 45942), (105, 45933), (113, 45897), (124, 45858), (175, 45672), (190, 45615), (212, 45489), (213, 45483), (221, 45423), (239, 45357), (244, 45348),

Gene: Float294_59 Start: 45788, Stop: 45051, Start Num: 42

Candidate Starts for Float294_59:

(Start: 42 @45788 has 46 MA's), (102, 45653), (105, 45644), (Start: 114 @45605 has 1 MA's), (124, 45569), (159, 45434), (174, 45386), (175, 45383), (190, 45326), (202, 45272), (212, 45206), (239, 45074), (244, 45065),

Gene: FountainFog_73 Start: 51494, Stop: 52126, Start Num: 77

Candidate Starts for FountainFog_73:

(Start: 43 @51413 has 11 MA's), (Start: 46 @51416 has 29 MA's), (63, 51455), (Start: 77 @51494 has 2 MA's), (104, 51572), (121, 51641), (132, 51686), (188, 51866), (189, 51869), (212, 51989), (227, 52076),

Gene: Fowlmouth_91 Start: 56536, Stop: 57147, Start Num: 69

Candidate Starts for Fowlmouth_91:

(Start: 69 @56536 has 3 MA's), (83, 56572), (103, 56629), (147, 56776), (156, 56803), (158, 56815), (180, 56863), (187, 56884), (197, 56929), (203, 56959), (205, 56968), (208, 56980), (214, 57031), (218, 57067), (222, 57085), (231, 57112),

Gene: Foxboro_58 Start: 45851, Stop: 45120, Start Num: 42

Candidate Starts for Foxboro_58:

(Start: 42 @45851 has 46 MA's), (66, 45803), (91, 45761), (Start: 114 @45674 has 1 MA's), (141, 45569), (157, 45503), (159, 45497), (161, 45494), (170, 45464), (174, 45449), (175, 45446), (221, 45200), (227, 45179), (244, 45125),

Gene: FreddieHg_74 Start: 51454, Stop: 52167, Start Num: 43

Candidate Starts for FreddieHg_74:

(Start: 43 @51454 has 11 MA's), (Start: 46 @51457 has 29 MA's), (Start: 77 @51535 has 2 MA's), (104, 51613), (128, 51706), (132, 51727), (189, 51910), (212, 52030), (227, 52117),

Gene: Fulcrum_84 Start: 57717, Stop: 58391, Start Num: 74

Candidate Starts for Fulcrum_84:

(39, 57657), (51, 57681), (Start: 74 @57717 has 31 MA's), (Start: 90 @57756 has 3 MA's), (131, 57909), (137, 57936), (157, 58017), (174, 58053), (196, 58143), (205, 58185), (214, 58251),

Gene: Fury_65 Start: 44523, Stop: 43777, Start Num: 42

Candidate Starts for Fury_65:

(8, 44583), (Start: 42 @44523 has 46 MA's), (81, 44442), (102, 44385), (103, 44379), (Start: 114 @44337 has 1 MA's), (128, 44286), (138, 44244), (157, 44166), (175, 44109), (179, 44091), (195, 44025), (218, 43881), (235, 43824), (239, 43800), (244, 43791),

Gene: GOATification_84 Start: 57717, Stop: 58391, Start Num: 74

Candidate Starts for GOATification_84:

(39, 57657), (51, 57681), (Start: 74 @57717 has 31 MA's), (Start: 90 @57756 has 3 MA's), (131, 57909), (137, 57936), (157, 58017), (174, 58053), (196, 58143), (205, 58185), (214, 58251),

Gene: GRU1_47 Start: 37626, Stop: 36880, Start Num: 42

Candidate Starts for GRU1_47:

(24, 37686), (Start: 42 @37626 has 46 MA's), (94, 37515), (98, 37500), (102, 37488), (105, 37479), (175, 37218), (190, 37161), (212, 37035), (213, 37029), (221, 36969), (239, 36903), (244, 36894),

Gene: GTE5_48 Start: 38936, Stop: 38190, Start Num: 9

Candidate Starts for GTE5_48:

(Start: 9 @38936 has 1 MA's), (94, 38825), (98, 38810), (102, 38798), (105, 38789), (113, 38753), (128, 38699), (175, 38528), (190, 38471), (212, 38345), (213, 38339), (221, 38279), (239, 38213), (244, 38204),

Gene: GTE8_46 Start: 38609, Stop: 37878, Start Num: 42

Candidate Starts for GTE8_46:

(23, 38672), (Start: 42 @38609 has 46 MA's), (66, 38561), (91, 38519), (Start: 114 @38432 has 1 MA's), (157, 38261), (159, 38255), (161, 38252), (174, 38207), (190, 38147), (195, 38120), (197, 38111), (221, 37958), (244, 37883),

Gene: Gagieri_57 Start: 42526, Stop: 41783, Start Num: 42

Candidate Starts for Gagieri_57:

(31, 42553), (Start: 42 @42526 has 46 MA's), (Start: 114 @42340 has 1 MA's), (116, 42337), (120, 42316), (128, 42289), (159, 42163), (175, 42106), (183, 42073), (187, 42058), (190, 42049), (212, 41929), (239, 41791), (242, 41788),

Gene: Genamy16_86 Start: 56519, Stop: 57193, Start Num: 74

Candidate Starts for Genamy16_86:

(64, 56504), (Start: 73 @56516 has 6 MA's), (Start: 74 @56519 has 31 MA's), (Start: 90 @56558 has 3 MA's), (131, 56711), (137, 56738), (157, 56819), (174, 56855), (205, 56987), (208, 57002), (214, 57053),

Gene: Gibbin_87 Start: 58357, Stop: 59031, Start Num: 74

Candidate Starts for Gibbin_87:

(26, 58243), (29, 58258), (33, 58276), (Start: 42 @58297 has 46 MA's), (Start: 73 @58354 has 6 MA's), (Start: 74 @58357 has 31 MA's), (Start: 90 @58396 has 3 MA's), (131, 58549), (137, 58576), (157, 58657), (174, 58693), (205, 58825), (208, 58840), (214, 58891),

Gene: Gibson_36 Start: 30882, Stop: 30280, Start Num: 71

Candidate Starts for Gibson_36:

(Start: 71 @30882 has 7 MA's), (99, 30798), (127, 30696), (159, 30579), (185, 30501), (194, 30471), (208, 30405), (211, 30381), (212, 30375), (218, 30324),

Gene: Gilda_73 Start: 51974, Stop: 52684, Start Num: 46

Candidate Starts for Gilda_73:

(Start: 43 @51971 has 11 MA's), (Start: 46 @51974 has 29 MA's), (Start: 77 @52052 has 2 MA's), (104, 52130), (132, 52244), (146, 52295), (189, 52427), (212, 52547), (227, 52634),

Gene: Giuseppe_72 Start: 54784, Stop: 55455, Start Num: 61

Candidate Starts for Giuseppe_72:

(Start: 61 @54784 has 22 MA's), (Start: 73 @54805 has 6 MA's), (Start: 84 @54835 has 2 MA's), (Start: 114 @54937 has 1 MA's), (117, 54943), (118, 54952), (125, 54976), (175, 55111), (176, 55114), (190, 55168), (212, 55285), (233, 55384),

Gene: Greenbelt_36 Start: 27579, Stop: 26983, Start Num: 68

Candidate Starts for Greenbelt_36:

(11, 27780), (15, 27741), (Start: 68 @27579 has 1 MA's), (75, 27558), (129, 27381), (130, 27378), (157, 27288), (177, 27234), (208, 27108), (212, 27078), (224, 27006),

Gene: Gretellyn_85 Start: 58084, Stop: 58758, Start Num: 74

Candidate Starts for Gretellyn_85:

(26, 57970), (29, 57985), (33, 58003), (Start: 42 @58024 has 46 MA's), (Start: 73 @58081 has 6 MA's), (Start: 74 @58084 has 31 MA's), (Start: 90 @58123 has 3 MA's), (131, 58276), (137, 58303), (157, 58384), (174, 58420), (205, 58552), (208, 58567), (214, 58618),

Gene: GrootJr_59 Start: 44727, Stop: 43996, Start Num: 42

Candidate Starts for GrootJr_59:

(Start: 42 @44727 has 46 MA's), (66, 44679), (91, 44637), (Start: 114 @44550 has 1 MA's), (141, 44445), (157, 44379), (159, 44373), (161, 44370), (170, 44340), (174, 44325), (175, 44322), (221,

44076), (227, 44055), (244, 44001),

Gene: Gumball_70 Start: 55377, Stop: 55997, Start Num: 84

Candidate Starts for Gumball_70:

(Start: 61 @55326 has 22 MA's), (Start: 73 @55347 has 6 MA's), (Start: 84 @55377 has 2 MA's),
(Start: 114 @55479 has 1 MA's), (117, 55485), (118, 55494), (125, 55518), (175, 55653), (176, 55656),
(190, 55710), (212, 55827), (233, 55926),

Gene: Hager_75 Start: 51440, Stop: 52150, Start Num: 46

Candidate Starts for Hager_75:

(Start: 43 @51437 has 11 MA's), (Start: 46 @51440 has 29 MA's), (63, 51479), (Start: 77 @51518 has
2 MA's), (104, 51596), (121, 51665), (132, 51710), (188, 51890), (189, 51893), (200, 51941), (212,
52013), (227, 52100),

Gene: Haunter_74 Start: 51350, Stop: 52060, Start Num: 46

Candidate Starts for Haunter_74:

(Start: 43 @51347 has 11 MA's), (Start: 46 @51350 has 29 MA's), (63, 51389), (Start: 77 @51428 has
2 MA's), (104, 51506), (108, 51527), (128, 51599), (132, 51620), (189, 51803), (200, 51851), (211,
51917), (212, 51923), (227, 52010),

Gene: Hawkeye_82 Start: 56674, Stop: 57330, Start Num: 61

Candidate Starts for Hawkeye_82:

(Start: 61 @56674 has 22 MA's), (Start: 67 @56686 has 1 MA's), (Start: 114 @56824 has 1 MA's),
(117, 56830), (125, 56863), (154, 56950), (206, 57136), (214, 57193),

Gene: Helpful_73 Start: 55172, Stop: 55843, Start Num: 61

Candidate Starts for Helpful_73:

(Start: 61 @55172 has 22 MA's), (Start: 73 @55193 has 6 MA's), (Start: 84 @55223 has 2 MA's),
(Start: 114 @55325 has 1 MA's), (117, 55331), (118, 55340), (125, 55364), (175, 55499), (176, 55502),
(190, 55556), (212, 55673), (233, 55772),

Gene: Hiddenleaf_74 Start: 51437, Stop: 52150, Start Num: 43

Candidate Starts for Hiddenleaf_74:

(Start: 43 @51437 has 11 MA's), (Start: 46 @51440 has 29 MA's), (Start: 77 @51518 has 2 MA's),
(104, 51596), (128, 51689), (132, 51710), (189, 51893), (212, 52013), (227, 52100),

Gene: HomeFry_62 Start: 43222, Stop: 42476, Start Num: 42

Candidate Starts for HomeFry_62:

(Start: 42 @43222 has 46 MA's), (102, 43084), (103, 43078), (Start: 114 @43036 has 1 MA's), (128,
42985), (138, 42943), (174, 42811), (195, 42724), (239, 42499), (244, 42490),

Gene: HubbaBubba_54 Start: 40875, Stop: 40135, Start Num: 42

Candidate Starts for HubbaBubba_54:

(Start: 42 @40875 has 46 MA's), (65, 40830), (85, 40797), (Start: 114 @40698 has 1 MA's), (138,
40605), (159, 40512), (161, 40509), (165, 40497), (195, 40377), (221, 40215), (238, 40161), (244,
40140),

Gene: IDyn_58 Start: 42307, Stop: 41567, Start Num: 42

Candidate Starts for IDyn_58:

(1, 43456), (2, 43183), (3, 42949), (4, 42643), (12, 42445), (Start: 42 @42307 has 46 MA's), (65,
42262), (85, 42229), (Start: 114 @42130 has 1 MA's), (138, 42037), (159, 41944), (161, 41941), (165,
41929), (195, 41809), (221, 41647), (238, 41593), (244, 41572),

Gene: Indlulamithi_82 Start: 58260, Stop: 58847, Start Num: 73

Candidate Starts for Indlulamithi_82:

(Start: 69 @58254 has 3 MA's), (Start: 73 @58260 has 6 MA's), (95, 58323), (103, 58344), (109, 58368), (116, 58389), (117, 58392), (134, 58452), (148, 58485), (205, 58674), (209, 58701), (211, 58710), (214, 58737), (218, 58773), (219, 58776), (222, 58791), (231, 58806),

Gene: JDawG_72 Start: 51633, Stop: 52343, Start Num: 46

Candidate Starts for JDawG_72:

(Start: 43 @51630 has 11 MA's), (Start: 46 @51633 has 29 MA's), (Start: 77 @51711 has 2 MA's), (104, 51789), (128, 51882), (132, 51903), (189, 52086), (212, 52206), (227, 52293),

Gene: Jalebi_85 Start: 59002, Stop: 59676, Start Num: 74

Candidate Starts for Jalebi_85:

(39, 58942), (51, 58966), (Start: 73 @58999 has 6 MA's), (Start: 74 @59002 has 31 MA's), (Start: 90 @59041 has 3 MA's), (131, 59194), (137, 59221), (157, 59302), (174, 59338), (196, 59428), (205, 59470), (214, 59536),

Gene: Jamemuya19_81 Start: 56124, Stop: 56798, Start Num: 74

Candidate Starts for Jamemuya19_81:

(64, 56109), (Start: 73 @56121 has 6 MA's), (Start: 74 @56124 has 31 MA's), (Start: 90 @56163 has 3 MA's), (131, 56316), (137, 56343), (157, 56424), (174, 56460), (205, 56592), (208, 56607), (214, 56658),

Gene: Jifall16_56 Start: 44999, Stop: 44268, Start Num: 42

Candidate Starts for Jifall16_56:

(Start: 42 @44999 has 46 MA's), (66, 44951), (91, 44909), (Start: 114 @44822 has 1 MA's), (141, 44717), (157, 44651), (159, 44645), (161, 44642), (170, 44612), (174, 44597), (175, 44594), (221, 44348), (227, 44327), (244, 44273),

Gene: JingleBells_73 Start: 51545, Stop: 52255, Start Num: 46

Candidate Starts for JingleBells_73:

(Start: 43 @51542 has 11 MA's), (Start: 46 @51545 has 29 MA's), (Start: 77 @51623 has 2 MA's), (104, 51701), (128, 51794), (132, 51815), (189, 51998), (212, 52118), (227, 52205),

Gene: Kabluna_61 Start: 44432, Stop: 43686, Start Num: 42

Candidate Starts for Kabluna_61:

(Start: 42 @44432 has 46 MA's), (91, 44330), (Start: 114 @44243 has 1 MA's), (129, 44189), (157, 44072), (163, 44054), (167, 44045), (173, 44021), (195, 43931), (208, 43862), (227, 43745), (238, 43712), (244, 43691),

Gene: KandZ_68 Start: 55001, Stop: 55672, Start Num: 61

Candidate Starts for KandZ_68:

(Start: 61 @55001 has 22 MA's), (Start: 73 @55022 has 6 MA's), (Start: 84 @55052 has 2 MA's), (Start: 114 @55154 has 1 MA's), (117, 55160), (118, 55169), (125, 55193), (127, 55196), (175, 55328), (176, 55331), (190, 55385), (212, 55502), (233, 55601),

Gene: Karate_72 Start: 51686, Stop: 52396, Start Num: 46

Candidate Starts for Karate_72:

(Start: 43 @51683 has 11 MA's), (Start: 46 @51686 has 29 MA's), (Start: 77 @51764 has 2 MA's), (104, 51842), (132, 51956), (146, 52007), (189, 52139), (212, 52259), (227, 52346),

Gene: Kate_73 Start: 51888, Stop: 52601, Start Num: 43

Candidate Starts for Kate_73:

(Start: 43 @51888 has 11 MA's), (Start: 46 @51891 has 29 MA's), (Start: 77 @51969 has 2 MA's), (104, 52047), (132, 52161), (146, 52212), (189, 52344), (212, 52464), (227, 52551),

Gene: KidneyBean_57 Start: 45123, Stop: 44392, Start Num: 42

Candidate Starts for KidneyBean_57:

(Start: 42 @45123 has 46 MA's), (66, 45075), (91, 45033), (Start: 114 @44946 has 1 MA's), (141, 44841), (157, 44775), (159, 44769), (161, 44766), (170, 44736), (174, 44721), (175, 44718), (221, 44472), (227, 44451), (244, 44397),

Gene: Konstantine_82 Start: 59921, Stop: 60673, Start Num: 47

Candidate Starts for Konstantine_82:

(Start: 47 @59921 has 9 MA's), (110, 60092), (126, 60149), (136, 60194), (141, 60215), (142, 60224), (154, 60263), (168, 60305), (175, 60329), (176, 60332), (181, 60353), (184, 60359), (204, 60425), (212, 60473), (229, 60572), (236, 60596),

Gene: Kors_77 Start: 52158, Stop: 52856, Start Num: 46

Candidate Starts for Kors_77:

(Start: 46 @52158 has 29 MA's), (Start: 77 @52230 has 2 MA's), (108, 52329), (113, 52347), (130, 52407), (169, 52539), (189, 52605), (203, 52668), (212, 52722), (234, 52824),

Gene: Krampus_73 Start: 51984, Stop: 52697, Start Num: 43

Candidate Starts for Krampus_73:

(Start: 43 @51984 has 11 MA's), (Start: 46 @51987 has 29 MA's), (Start: 77 @52065 has 2 MA's), (104, 52143), (132, 52257), (146, 52308), (189, 52440), (212, 52560), (227, 52647),

Gene: Kurt_57 Start: 45360, Stop: 44629, Start Num: 42

Candidate Starts for Kurt_57:

(Start: 42 @45360 has 46 MA's), (66, 45312), (91, 45270), (Start: 114 @45183 has 1 MA's), (141, 45078), (157, 45012), (159, 45006), (161, 45003), (170, 44973), (174, 44958), (175, 44955), (221, 44709), (227, 44688), (244, 44634),

Gene: Labelle_92 Start: 61441, Stop: 62139, Start Num: 53

Candidate Starts for Labelle_92:

(38, 61414), (45, 61426), (49, 61432), (Start: 53 @61441 has 3 MA's), (88, 61519), (Start: 114 @61555 has 1 MA's), (142, 61669), (162, 61732), (166, 61741), (176, 61780), (189, 61828), (215, 61966), (223, 62005), (233, 62044), (248, 62104),

Gene: Lambo_85 Start: 58114, Stop: 58788, Start Num: 73

Candidate Starts for Lambo_85:

(Start: 71 @58111 has 7 MA's), (Start: 73 @58114 has 6 MA's), (131, 58306), (157, 58414), (174, 58450), (196, 58540), (205, 58582), (208, 58597), (214, 58648), (220, 58690),

Gene: LavAbarElk_85 Start: 57175, Stop: 57849, Start Num: 74

Candidate Starts for LavAbarElk_85:

(39, 57115), (51, 57139), (Start: 73 @57172 has 6 MA's), (Start: 74 @57175 has 31 MA's), (Start: 90 @57214 has 3 MA's), (131, 57367), (137, 57394), (157, 57475), (174, 57511), (196, 57601), (205, 57643), (214, 57709), (220, 57751),

Gene: Leopard_87 Start: 61735, Stop: 62415, Start Num: 61

Candidate Starts for Leopard_87:

(Start: 41 @61696 has 1 MA's), (60, 61732), (Start: 61 @61735 has 22 MA's), (72, 61753), (80, 61777), (135, 61966), (141, 61993), (155, 62044), (183, 62125), (191, 62155), (209, 62251), (212, 62266), (220, 62329), (243, 62398),

Gene: Lila22_86 Start: 58477, Stop: 59151, Start Num: 74

Candidate Starts for Lila22_86:

(39, 58417), (51, 58441), (Start: 73 @58474 has 6 MA's), (Start: 74 @58477 has 31 MA's), (Start: 90 @58516 has 3 MA's), (131, 58669), (137, 58696), (157, 58777), (174, 58813), (196, 58903), (205, 58945), (214, 59011), (220, 59053),

Gene: LilyPad_77 Start: 54664, Stop: 55503, Start Num: 30

Candidate Starts for LilyPad_77:

(Start: 30 @54664 has 1 MA's), (58, 54727), (70, 54751), (87, 54793), (93, 54808), (127, 54943), (129, 54955), (130, 54958), (183, 55144), (217, 55339), (246, 55447), (247, 55453),

Gene: LittleFella_79 Start: 55168, Stop: 56049, Start Num: 35

Candidate Starts for LittleFella_79:

(Start: 35 @55168 has 1 MA's), (44, 55186), (50, 55201), (70, 55237), (87, 55279), (113, 55369), (Start: 114 @55372 has 1 MA's), (127, 55426), (164, 55561), (210, 55759), (231, 55870), (232, 55876), (250, 55951), (251, 55969),

Gene: Lizz_36 Start: 30696, Stop: 30094, Start Num: 71

Candidate Starts for Lizz_36:

(Start: 71 @30696 has 7 MA's), (99, 30612), (119, 30531), (142, 30447), (159, 30393), (161, 30390), (185, 30315), (189, 30303), (208, 30219), (211, 30195), (212, 30189), (218, 30138),

Gene: Lollipop1437_62 Start: 46334, Stop: 45597, Start Num: 42

Candidate Starts for Lollipop1437_62:

(Start: 42 @46334 has 46 MA's), (102, 46199), (105, 46190), (Start: 114 @46151 has 1 MA's), (124, 46115), (159, 45980), (174, 45932), (190, 45872), (202, 45818), (212, 45752), (239, 45620), (244, 45611),

Gene: LordBart_77 Start: 52068, Stop: 52766, Start Num: 46

Candidate Starts for LordBart_77:

(Start: 46 @52068 has 29 MA's), (Start: 77 @52140 has 2 MA's), (108, 52239), (113, 52257), (130, 52317), (169, 52449), (189, 52515), (203, 52578), (204, 52584), (212, 52632), (234, 52734),

Gene: LuckyLeo_83 Start: 57772, Stop: 58446, Start Num: 73

Candidate Starts for LuckyLeo_83:

(Start: 71 @57769 has 7 MA's), (Start: 73 @57772 has 6 MA's), (113, 57901), (131, 57964), (137, 57991), (157, 58072), (174, 58108), (190, 58168), (196, 58198), (205, 58240), (214, 58306), (220, 58348),

Gene: MacGully_65 Start: 44606, Stop: 43860, Start Num: 42

Candidate Starts for MacGully_65:

(Start: 42 @44606 has 46 MA's), (91, 44507), (103, 44465), (105, 44462), (113, 44426), (Start: 114 @44423 has 1 MA's), (127, 44381), (135, 44345), (174, 44192), (175, 44189), (182, 44156), (208, 44036), (212, 44006), (242, 43865),

Gene: Madi_79 Start: 55533, Stop: 56354, Start Num: 27

Candidate Starts for Madi_79:

(25, 55518), (Start: 27 @55533 has 6 MA's), (58, 55605), (70, 55629), (87, 55671), (103, 55725), (117, 55773), (122, 55797), (127, 55821), (129, 55833), (130, 55836), (183, 56022), (246, 56325),

Gene: Madruga_91 Start: 61056, Stop: 61754, Start Num: 53

Candidate Starts for Madruga_91:

(32, 61014), (37, 61026), (39, 61032), (45, 61041), (49, 61047), (Start: 53 @61056 has 3 MA's), (88, 61134), (Start: 114 @61170 has 1 MA's), (142, 61284), (162, 61347), (166, 61356), (176, 61395), (189, 61443), (215, 61581), (223, 61620), (233, 61659), (248, 61719),

Gene: Marietta_59 Start: 42201, Stop: 41461, Start Num: 42

Candidate Starts for Marietta_59:

(13, 42333), (14, 42309), (16, 42297), (23, 42264), (Start: 42 @42201 has 46 MA's), (65, 42156), (85, 42123), (Start: 114 @42024 has 1 MA's), (138, 41931), (159, 41838), (161, 41835), (165, 41823), (195, 41703), (221, 41541), (238, 41487), (244, 41466),

Gene: Maselop_58 Start: 42366, Stop: 41626, Start Num: 42

Candidate Starts for Maselop_58:

(31, 42393), (Start: 42 @42366 has 46 MA's), (55, 42342), (91, 42267), (103, 42225), (113, 42186), (Start: 114 @42183 has 1 MA's), (116, 42180), (135, 42105), (159, 42006), (175, 41949), (183, 41916), (190, 41892), (202, 41838), (212, 41772), (239, 41634), (242, 41631),

Gene: Megatron06_80 Start: 60012, Stop: 60764, Start Num: 47

Candidate Starts for Megatron06_80:

(Start: 47 @60012 has 9 MA's), (110, 60183), (126, 60240), (136, 60285), (141, 60306), (142, 60315), (154, 60354), (168, 60396), (175, 60420), (176, 60423), (181, 60444), (184, 60450), (198, 60489), (204, 60516), (212, 60564), (229, 60663), (236, 60687),

Gene: MerCougar_59 Start: 45623, Stop: 44877, Start Num: 42

Candidate Starts for MerCougar_59:

(Start: 42 @45623 has 46 MA's), (86, 45530), (91, 45521), (Start: 114 @45434 has 1 MA's), (118, 45419), (129, 45380), (157, 45263), (195, 45122), (218, 44972), (227, 44936), (234, 44918), (238, 44903), (244, 44882),

Gene: Mima20_84 Start: 57809, Stop: 58483, Start Num: 74

Candidate Starts for Mima20_84:

(64, 57794), (Start: 73 @57806 has 6 MA's), (Start: 74 @57809 has 31 MA's), (Start: 90 @57848 has 3 MA's), (131, 58001), (137, 58028), (157, 58109), (174, 58145), (196, 58235), (205, 58277), (214, 58343),

Gene: MoiGyank_88 Start: 58408, Stop: 59082, Start Num: 74

Candidate Starts for MoiGyank_88:

(Start: 73 @58405 has 6 MA's), (Start: 74 @58408 has 31 MA's), (Start: 90 @58447 has 3 MA's), (131, 58600), (137, 58627), (157, 58708), (174, 58744), (196, 58834), (205, 58876), (214, 58942),

Gene: MontyDev_85 Start: 62366, Stop: 63073, Start Num: 57

Candidate Starts for MontyDev_85:

(Start: 57 @62366 has 10 MA's), (75, 62417), (96, 62468), (113, 62537), (116, 62543), (123, 62573), (140, 62633), (160, 62681), (175, 62711), (176, 62714), (187, 62765), (190, 62774), (202, 62828), (211, 62885), (217, 62945), (218, 62948), (220, 62954), (230, 62996), (241, 63038),

Gene: Mopey_72 Start: 54810, Stop: 55481, Start Num: 61

Candidate Starts for Mopey_72:

(Start: 61 @54810 has 22 MA's), (Start: 73 @54831 has 6 MA's), (Start: 84 @54861 has 2 MA's), (Start: 114 @54963 has 1 MA's), (117, 54969), (118, 54978), (125, 55002), (175, 55137), (176, 55140), (190, 55194), (212, 55311), (233, 55410),

Gene: MortySmith_71 Start: 51047, Stop: 51757, Start Num: 46

Candidate Starts for MortySmith_71:

(Start: 43 @51044 has 11 MA's), (Start: 46 @51047 has 29 MA's), (Start: 77 @51125 has 2 MA's), (104, 51203), (128, 51296), (132, 51317), (189, 51500), (200, 51548), (211, 51614), (212, 51620), (227, 51707),

Gene: MrMiyagi_90 Start: 56804, Stop: 57415, Start Num: 69

Candidate Starts for MrMiyagi_90:

(Start: 69 @56804 has 3 MA's), (83, 56840), (103, 56897), (133, 57011), (147, 57044), (156, 57071), (180, 57131), (187, 57152), (197, 57197), (203, 57227), (205, 57236), (208, 57248), (214, 57299), (218, 57335), (222, 57353), (231, 57380),

Gene: NadineRae_57 Start: 41445, Stop: 40705, Start Num: 42

Candidate Starts for NadineRae_57:

(23, 41508), (Start: 42 @41445 has 46 MA's), (65, 41400), (85, 41367), (Start: 114 @41268 has 1 MA's), (138, 41175), (159, 41082), (161, 41079), (165, 41067), (195, 40947), (221, 40785), (238, 40731), (244, 40710),

Gene: NarutoRun_73 Start: 51949, Stop: 52662, Start Num: 43

Candidate Starts for NarutoRun_73:

(Start: 43 @51949 has 11 MA's), (Start: 46 @51952 has 29 MA's), (Start: 77 @52030 has 2 MA's), (104, 52108), (132, 52222), (146, 52273), (189, 52405), (212, 52525), (227, 52612),

Gene: NatB6_57 Start: 44417, Stop: 43686, Start Num: 42

Candidate Starts for NatB6_57:

(Start: 42 @44417 has 46 MA's), (66, 44369), (91, 44327), (Start: 114 @44240 has 1 MA's), (141, 44135), (157, 44069), (159, 44063), (161, 44060), (170, 44030), (174, 44015), (175, 44012), (221, 43766), (227, 43745), (244, 43691),

Gene: Neptune_73 Start: 51979, Stop: 52692, Start Num: 43

Candidate Starts for Neptune_73:

(Start: 43 @51979 has 11 MA's), (Start: 46 @51982 has 29 MA's), (Start: 77 @52060 has 2 MA's), (104, 52138), (132, 52252), (188, 52432), (189, 52435), (212, 52555), (227, 52642),

Gene: Nilo_86 Start: 62725, Stop: 63432, Start Num: 57

Candidate Starts for Nilo_86:

(Start: 57 @62725 has 10 MA's), (75, 62776), (96, 62827), (113, 62896), (116, 62902), (123, 62932), (140, 62992), (160, 63040), (175, 63070), (176, 63073), (187, 63124), (190, 63133), (202, 63187), (211, 63244), (217, 63304), (218, 63307), (220, 63313), (230, 63355), (241, 63397),

Gene: NorManre_90 Start: 59321, Stop: 59995, Start Num: 74

Candidate Starts for NorManre_90:

(39, 59261), (51, 59285), (Start: 74 @59321 has 31 MA's), (131, 59513), (157, 59621), (174, 59657), (196, 59747), (205, 59789), (214, 59855), (220, 59897),

Gene: NosilaM_61 Start: 45330, Stop: 44584, Start Num: 42

Candidate Starts for NosilaM_61:

(40, 45333), (Start: 42 @45330 has 46 MA's), (91, 45228), (Start: 114 @45141 has 1 MA's), (129, 45087), (157, 44970), (167, 44943), (190, 44856), (195, 44829), (196, 44826), (208, 44760), (217, 44682), (227, 44643), (238, 44610), (244, 44589),

Gene: Nova_70 Start: 55349, Stop: 56020, Start Num: 61

Candidate Starts for Nova_70:

(Start: 61 @55349 has 22 MA's), (Start: 73 @55370 has 6 MA's), (Start: 84 @55400 has 2 MA's), (Start: 114 @55502 has 1 MA's), (117, 55508), (118, 55517), (125, 55541), (175, 55676), (176, 55679),

(190, 55733), (212, 55850), (233, 55949),

Gene: NovaSharks_85 Start: 56222, Stop: 56896, Start Num: 74

Candidate Starts for NovaSharks_85:

(64, 56207), (Start: 73 @56219 has 6 MA's), (Start: 74 @56222 has 31 MA's), (Start: 90 @56261 has 3 MA's), (131, 56414), (137, 56441), (157, 56522), (174, 56558), (205, 56690), (208, 56705), (214, 56756),

Gene: NovumRegina_57 Start: 44726, Stop: 43995, Start Num: 42

Candidate Starts for NovumRegina_57:

(Start: 42 @44726 has 46 MA's), (66, 44678), (91, 44636), (Start: 114 @44549 has 1 MA's), (141, 44444), (157, 44378), (159, 44372), (161, 44369), (170, 44339), (174, 44324), (175, 44321), (221, 44075), (227, 44054), (244, 44000),

Gene: Oaker_79 Start: 60029, Stop: 60781, Start Num: 47

Candidate Starts for Oaker_79:

(Start: 47 @60029 has 9 MA's), (110, 60200), (126, 60257), (136, 60302), (141, 60323), (142, 60332), (154, 60371), (168, 60413), (175, 60437), (176, 60440), (181, 60461), (184, 60467), (204, 60533), (212, 60581), (236, 60704),

Gene: OhDear_73 Start: 52028, Stop: 52660, Start Num: 77

Candidate Starts for OhDear_73:

(Start: 43 @51947 has 11 MA's), (Start: 46 @51950 has 29 MA's), (Start: 77 @52028 has 2 MA's), (104, 52106), (132, 52220), (188, 52400), (189, 52403), (212, 52523), (227, 52610),

Gene: Onyinye_87 Start: 61230, Stop: 61910, Start Num: 61

Candidate Starts for Onyinye_87:

(Start: 41 @61191 has 1 MA's), (60, 61227), (Start: 61 @61230 has 22 MA's), (72, 61248), (80, 61272), (135, 61461), (141, 61488), (155, 61539), (183, 61620), (191, 61650), (209, 61746), (212, 61761), (220, 61824), (243, 61893),

Gene: OtterstedtS21_86 Start: 58125, Stop: 58799, Start Num: 74

Candidate Starts for OtterstedtS21_86:

(39, 58068), (51, 58092), (Start: 73 @58122 has 6 MA's), (Start: 74 @58125 has 31 MA's), (Start: 90 @58164 has 3 MA's), (131, 58317), (137, 58344), (157, 58425), (174, 58461), (196, 58551), (205, 58593), (208, 58608), (214, 58659), (220, 58701),

Gene: Outis_59 Start: 45317, Stop: 44571, Start Num: 42

Candidate Starts for Outis_59:

(Start: 42 @45317 has 46 MA's), (86, 45224), (91, 45215), (97, 45194), (Start: 114 @45128 has 1 MA's), (129, 45074), (157, 44957), (170, 44918), (173, 44906), (195, 44816), (218, 44666), (227, 44630), (238, 44597), (244, 44576),

Gene: OverHedge_72 Start: 51848, Stop: 52558, Start Num: 46

Candidate Starts for OverHedge_72:

(Start: 43 @51845 has 11 MA's), (Start: 46 @51848 has 29 MA's), (Start: 77 @51926 has 2 MA's), (104, 52004), (132, 52118), (188, 52298), (189, 52301), (212, 52421), (227, 52508),

Gene: PBI1_66 Start: 54941, Stop: 55459, Start Num: 114

Candidate Starts for PBI1_66:

(Start: 61 @54788 has 22 MA's), (Start: 73 @54809 has 6 MA's), (Start: 84 @54839 has 2 MA's), (Start: 114 @54941 has 1 MA's), (117, 54947), (118, 54956), (125, 54980), (175, 55115), (176, 55118), (190, 55172), (212, 55289), (233, 55388),

Gene: PHTown_36 Start: 30694, Stop: 30092, Start Num: 71

Candidate Starts for PHTown_36:

(Start: 71 @30694 has 7 MA's), (99, 30610), (119, 30529), (142, 30445), (159, 30391), (161, 30388), (185, 30313), (189, 30301), (208, 30217), (211, 30193), (212, 30187), (218, 30136),

Gene: PLOT_70 Start: 54810, Stop: 55481, Start Num: 61

Candidate Starts for PLOT_70:

(Start: 61 @54810 has 22 MA's), (Start: 73 @54831 has 6 MA's), (Start: 84 @54861 has 2 MA's), (Start: 114 @54963 has 1 MA's), (117, 54969), (118, 54978), (125, 55002), (127, 55005), (175, 55137), (176, 55140), (190, 55194), (212, 55311), (233, 55410),

Gene: Papyrus_82 Start: 61384, Stop: 62091, Start Num: 57

Candidate Starts for Papyrus_82:

(Start: 57 @61384 has 10 MA's), (75, 61435), (96, 61486), (113, 61555), (116, 61561), (123, 61591), (140, 61651), (160, 61699), (175, 61729), (176, 61732), (187, 61783), (190, 61792), (202, 61846), (211, 61903), (217, 61963), (218, 61966), (220, 61972), (230, 62014), (241, 62056),

Gene: ParvusTarda_85 Start: 57398, Stop: 58072, Start Num: 74

Candidate Starts for ParvusTarda_85:

(39, 57338), (51, 57362), (Start: 73 @57395 has 6 MA's), (Start: 74 @57398 has 31 MA's), (Start: 90 @57437 has 3 MA's), (131, 57590), (137, 57617), (157, 57698), (174, 57734), (196, 57824), (205, 57866), (208, 57881), (214, 57932), (220, 57974),

Gene: Patience_93 Start: 61969, Stop: 62667, Start Num: 53

Candidate Starts for Patience_93:

(32, 61927), (37, 61939), (39, 61945), (45, 61954), (49, 61960), (Start: 53 @61969 has 3 MA's), (88, 62047), (Start: 114 @62083 has 1 MA's), (142, 62197), (162, 62260), (166, 62269), (176, 62308), (189, 62356), (215, 62494), (223, 62533), (233, 62572), (248, 62632),

Gene: Patio_61 Start: 45570, Stop: 44833, Start Num: 42

Candidate Starts for Patio_61:

(Start: 42 @45570 has 46 MA's), (102, 45435), (105, 45426), (Start: 114 @45387 has 1 MA's), (119, 45366), (159, 45216), (174, 45168), (175, 45165), (190, 45108), (202, 45054), (212, 44988), (239, 44856), (244, 44847),

Gene: Patos_90 Start: 59320, Stop: 59994, Start Num: 74

Candidate Starts for Patos_90:

(39, 59260), (51, 59284), (Start: 74 @59320 has 31 MA's), (131, 59512), (157, 59620), (174, 59656), (196, 59746), (205, 59788), (214, 59854), (220, 59896),

Gene: Pemberton_60 Start: 42183, Stop: 41443, Start Num: 42

Candidate Starts for Pemberton_60:

(16, 42279), (23, 42246), (Start: 42 @42183 has 46 MA's), (65, 42138), (Start: 114 @42006 has 1 MA's), (138, 41913), (161, 41817), (175, 41769), (195, 41685), (221, 41523), (238, 41469), (244, 41448),

Gene: Penelope2018_70 Start: 54844, Stop: 55515, Start Num: 61

Candidate Starts for Penelope2018_70:

(Start: 61 @54844 has 22 MA's), (Start: 73 @54865 has 6 MA's), (Start: 84 @54895 has 2 MA's), (Start: 114 @54997 has 1 MA's), (117, 55003), (118, 55012), (125, 55036), (175, 55171), (176, 55174), (190, 55228), (212, 55345), (233, 55444),

Gene: Phalaborwa_73 Start: 55437, Stop: 56108, Start Num: 61

Candidate Starts for Phalaborwa_73:

(Start: 61 @55437 has 22 MA's), (Start: 73 @55458 has 6 MA's), (Start: 84 @55488 has 2 MA's), (Start: 114 @55590 has 1 MA's), (117, 55596), (125, 55629), (127, 55632), (175, 55764), (176, 55767), (178, 55779), (190, 55821), (196, 55851), (233, 56037),

Gene: Pharpay_72 Start: 51997, Stop: 52707, Start Num: 46

Candidate Starts for Pharpay_72:

(Start: 43 @51994 has 11 MA's), (Start: 46 @51997 has 29 MA's), (Start: 77 @52075 has 2 MA's), (104, 52153), (132, 52267), (188, 52447), (189, 52450), (212, 52570), (227, 52657),

Gene: Phomeo_56 Start: 44995, Stop: 44264, Start Num: 42

Candidate Starts for Phomeo_56:

(Start: 42 @44995 has 46 MA's), (66, 44947), (91, 44905), (Start: 114 @44818 has 1 MA's), (141, 44713), (157, 44647), (159, 44641), (161, 44638), (170, 44608), (174, 44593), (175, 44590), (221, 44344), (227, 44323), (244, 44269),

Gene: Phreeze_78 Start: 58999, Stop: 59703, Start Num: 47

Candidate Starts for Phreeze_78:

(Start: 47 @58999 has 9 MA's), (112, 59131), (115, 59137), (126, 59179), (136, 59224), (141, 59245), (142, 59254), (154, 59293), (168, 59335), (175, 59359), (176, 59362), (181, 59383), (184, 59389), (204, 59455), (236, 59626),

Gene: PhunaPhoke_73 Start: 51967, Stop: 52677, Start Num: 46

Candidate Starts for PhunaPhoke_73:

(Start: 43 @51964 has 11 MA's), (Start: 46 @51967 has 29 MA's), (Start: 77 @52045 has 2 MA's), (104, 52123), (132, 52237), (146, 52288), (189, 52420), (212, 52540), (227, 52627),

Gene: Pleakley_65 Start: 44524, Stop: 43778, Start Num: 42

Candidate Starts for Pleakley_65:

(8, 44584), (Start: 42 @44524 has 46 MA's), (81, 44443), (102, 44386), (103, 44380), (Start: 114 @44338 has 1 MA's), (128, 44287), (138, 44245), (157, 44167), (175, 44110), (179, 44092), (195, 44026), (218, 43882), (235, 43825), (239, 43801), (244, 43792),

Gene: Polyuki_58 Start: 42355, Stop: 41615, Start Num: 42

Candidate Starts for Polyuki_58:

(31, 42382), (Start: 42 @42355 has 46 MA's), (55, 42331), (91, 42256), (103, 42214), (113, 42175), (Start: 114 @42172 has 1 MA's), (116, 42169), (135, 42094), (159, 41995), (175, 41938), (183, 41905), (190, 41881), (202, 41827), (212, 41761), (239, 41623), (242, 41620),

Gene: Potty_72 Start: 51894, Stop: 52607, Start Num: 43

Candidate Starts for Potty_72:

(Start: 43 @51894 has 11 MA's), (Start: 46 @51897 has 29 MA's), (Start: 77 @51975 has 2 MA's), (104, 52053), (132, 52167), (188, 52347), (189, 52350), (212, 52470), (227, 52557),

Gene: Poultriss_72 Start: 52242, Stop: 52952, Start Num: 46

Candidate Starts for Poultriss_72:

(Start: 43 @52239 has 11 MA's), (Start: 46 @52242 has 29 MA's), (Start: 77 @52320 has 2 MA's), (104, 52398), (128, 52491), (132, 52512), (135, 52518), (189, 52695), (212, 52815),

Gene: Prager_71 Start: 54904, Stop: 55575, Start Num: 61

Candidate Starts for Prager_71:

(Start: 61 @54904 has 22 MA's), (Start: 73 @54925 has 6 MA's), (Start: 84 @54955 has 2 MA's),
(Start: 114 @55057 has 1 MA's), (117, 55063), (118, 55072), (125, 55096), (175, 55231), (176, 55234),
(190, 55288), (212, 55405), (233, 55504),

Gene: Predator_79 Start: 59366, Stop: 60121, Start Num: 48

Candidate Starts for Predator_79:

(20, 59273), (Start: 48 @59366 has 1 MA's), (62, 59396), (76, 59435), (110, 59543), (139, 59660),
(142, 59675), (145, 59684), (154, 59714), (176, 59783), (204, 59873), (208, 59891), (249, 60092),

Gene: Puissant_75 Start: 59222, Stop: 59914, Start Num: 52

Candidate Starts for Puissant_75:

(51, 59219), (Start: 52 @59222 has 1 MA's), (82, 59285), (112, 59345), (115, 59351), (125, 59384),
(128, 59405), (136, 59438), (141, 59459), (142, 59468), (154, 59507), (168, 59549), (173, 59567),
(176, 59576), (181, 59597), (184, 59603), (198, 59642), (204, 59669), (208, 59687), (236, 59837),

Gene: Pywacket_82 Start: 58303, Stop: 58938, Start Num: 90

Candidate Starts for Pywacket_82:

(39, 58204), (51, 58228), (Start: 73 @58261 has 6 MA's), (Start: 74 @58264 has 31 MA's), (81, 58288),
(Start: 90 @58303 has 3 MA's), (131, 58456), (137, 58483), (157, 58564), (174, 58600), (186, 58648),
(196, 58690), (205, 58732), (208, 58747), (214, 58798), (220, 58840),

Gene: Rachella_73 Start: 51978, Stop: 52688, Start Num: 46

Candidate Starts for Rachella_73:

(Start: 43 @51975 has 11 MA's), (Start: 46 @51978 has 29 MA's), (Start: 77 @52056 has 2 MA's),
(104, 52134), (132, 52248), (146, 52299), (189, 52431), (212, 52551), (227, 52638),

Gene: Ranch_89 Start: 57797, Stop: 58471, Start Num: 73

Candidate Starts for Ranch_89:

(Start: 71 @57794 has 7 MA's), (Start: 73 @57797 has 6 MA's), (102, 57881), (131, 57989), (157,
58097), (174, 58133), (196, 58223), (205, 58265), (214, 58331),

Gene: RazorC_83 Start: 56264, Stop: 56938, Start Num: 74

Candidate Starts for RazorC_83:

(64, 56249), (Start: 73 @56261 has 6 MA's), (Start: 74 @56264 has 31 MA's), (Start: 90 @56303 has 3
MA's), (131, 56456), (137, 56483), (157, 56564), (174, 56600), (205, 56732), (208, 56747), (214,
56798),

Gene: RedRaider_65 Start: 47592, Stop: 46855, Start Num: 42

Candidate Starts for RedRaider_65:

(Start: 42 @47592 has 46 MA's), (79, 47517), (102, 47457), (105, 47448), (Start: 114 @47409 has 1
MA's), (159, 47238), (174, 47190), (175, 47187), (190, 47130), (202, 47076), (212, 47010), (239,
46878), (244, 46869),

Gene: Riduram_82 Start: 55839, Stop: 56513, Start Num: 74

Candidate Starts for Riduram_82:

(64, 55824), (Start: 73 @55836 has 6 MA's), (Start: 74 @55839 has 31 MA's), (Start: 90 @55878 has 3
MA's), (131, 56031), (137, 56058), (157, 56139), (174, 56175), (205, 56307), (208, 56322), (214,
56373),

Gene: Rie18_73 Start: 51765, Stop: 52478, Start Num: 43

Candidate Starts for Rie18_73:

(Start: 43 @51765 has 11 MA's), (Start: 46 @51768 has 29 MA's), (63, 51807), (Start: 77 @51846 has
2 MA's), (104, 51924), (132, 52038), (188, 52218), (189, 52221), (212, 52341), (227, 52428),

Gene: RikSengupta_77 Start: 52261, Stop: 52887, Start Num: 77

Candidate Starts for RikSengupta_77:

(Start: 46 @52189 has 29 MA's), (Start: 77 @52261 has 2 MA's), (108, 52360), (113, 52378), (130, 52438), (169, 52570), (189, 52636), (203, 52699), (204, 52705), (212, 52753), (234, 52855),

Gene: Riparian_85 Start: 62171, Stop: 62878, Start Num: 57

Candidate Starts for Riparian_85:

(Start: 57 @62171 has 10 MA's), (75, 62222), (96, 62273), (113, 62342), (116, 62348), (123, 62378), (140, 62438), (160, 62486), (175, 62516), (176, 62519), (187, 62570), (190, 62579), (202, 62633), (211, 62690), (217, 62750), (218, 62753), (220, 62759), (230, 62801), (241, 62843),

Gene: Rooney_36 Start: 30879, Stop: 30277, Start Num: 71

Candidate Starts for Rooney_36:

(Start: 71 @30879 has 7 MA's), (99, 30795), (127, 30693), (159, 30576), (185, 30498), (194, 30468), (208, 30402), (211, 30378), (212, 30372), (218, 30321),

Gene: Rope_83 Start: 62330, Stop: 63037, Start Num: 57

Candidate Starts for Rope_83:

(Start: 57 @62330 has 10 MA's), (75, 62381), (96, 62432), (113, 62501), (116, 62507), (117, 62510), (123, 62537), (140, 62597), (160, 62645), (175, 62675), (176, 62678), (187, 62729), (190, 62738), (202, 62792), (211, 62849), (217, 62909), (218, 62912), (220, 62918), (230, 62960), (241, 63002),

Gene: Rota_84 Start: 58231, Stop: 58905, Start Num: 74

Candidate Starts for Rota_84:

(26, 58117), (29, 58132), (33, 58150), (Start: 42 @58171 has 46 MA's), (Start: 73 @58228 has 6 MA's), (Start: 74 @58231 has 31 MA's), (Start: 90 @58270 has 3 MA's), (131, 58423), (157, 58531), (174, 58567), (186, 58615), (196, 58657), (205, 58699), (214, 58765), (220, 58807),

Gene: Rukungu_86 Start: 58585, Stop: 59259, Start Num: 74

Candidate Starts for Rukungu_86:

(64, 58570), (Start: 73 @58582 has 6 MA's), (Start: 74 @58585 has 31 MA's), (Start: 90 @58624 has 3 MA's), (131, 58777), (137, 58804), (157, 58885), (174, 58921), (196, 59011), (205, 59053), (214, 59119), (220, 59161),

Gene: Rumi_84 Start: 55807, Stop: 56481, Start Num: 74

Candidate Starts for Rumi_84:

(64, 55792), (Start: 73 @55804 has 6 MA's), (Start: 74 @55807 has 31 MA's), (Start: 90 @55846 has 3 MA's), (131, 55999), (137, 56026), (157, 56107), (174, 56143), (205, 56275), (208, 56290), (214, 56341),

Gene: Sadboi_85 Start: 58124, Stop: 58759, Start Num: 90

Candidate Starts for Sadboi_85:

(26, 57971), (29, 57986), (33, 58004), (Start: 42 @58025 has 46 MA's), (Start: 73 @58082 has 6 MA's), (Start: 74 @58085 has 31 MA's), (Start: 90 @58124 has 3 MA's), (131, 58277), (157, 58385), (174, 58421), (196, 58511), (205, 58553), (214, 58619), (220, 58661),

Gene: Sampudon_87 Start: 59002, Stop: 59676, Start Num: 74

Candidate Starts for Sampudon_87:

(39, 58942), (51, 58966), (Start: 73 @58999 has 6 MA's), (Start: 74 @59002 has 31 MA's), (Start: 90 @59041 has 3 MA's), (131, 59194), (137, 59221), (157, 59302), (174, 59338), (196, 59428), (205, 59470), (214, 59536),

Gene: SassyC_39 Start: 31477, Stop: 30875, Start Num: 71

Candidate Starts for SassyC_39:

(Start: 71 @31477 has 7 MA's), (127, 31291), (129, 31279), (159, 31174), (161, 31171), (208, 31000), (211, 30976), (212, 30970), (218, 30919),

Gene: Scuba_66 Start: 44598, Stop: 43852, Start Num: 42

Candidate Starts for Scuba_66:

(8, 44658), (Start: 42 @44598 has 46 MA's), (81, 44517), (102, 44460), (103, 44454), (Start: 114 @44412 has 1 MA's), (128, 44361), (138, 44319), (157, 44241), (175, 44184), (179, 44166), (195, 44100), (218, 43956), (235, 43899), (239, 43875), (244, 43866),

Gene: Send513_83 Start: 62707, Stop: 63414, Start Num: 57

Candidate Starts for Send513_83:

(Start: 57 @62707 has 10 MA's), (75, 62758), (96, 62809), (113, 62878), (116, 62884), (117, 62887), (123, 62914), (140, 62974), (160, 63022), (175, 63052), (176, 63055), (187, 63106), (190, 63115), (202, 63169), (211, 63226), (217, 63286), (218, 63289), (220, 63295), (230, 63337), (241, 63379),

Gene: ShakeNBake_36 Start: 30712, Stop: 30110, Start Num: 71

Candidate Starts for ShakeNBake_36:

(Start: 71 @30712 has 7 MA's), (99, 30628), (119, 30547), (142, 30463), (159, 30409), (161, 30406), (185, 30331), (189, 30319), (208, 30235), (211, 30211), (212, 30205), (218, 30154),

Gene: Sienna_80 Start: 55774, Stop: 56595, Start Num: 27

Candidate Starts for Sienna_80:

(25, 55759), (Start: 27 @55774 has 6 MA's), (58, 55846), (70, 55870), (87, 55912), (103, 55966), (117, 56014), (122, 56038), (127, 56062), (130, 56077), (183, 56263),

Gene: SilentWarrior_74 Start: 51406, Stop: 52116, Start Num: 46

Candidate Starts for SilentWarrior_74:

(Start: 43 @51403 has 11 MA's), (Start: 46 @51406 has 29 MA's), (Start: 77 @51484 has 2 MA's), (104, 51562), (128, 51655), (132, 51676), (189, 51859), (212, 51979), (227, 52066),

Gene: SirHarley_72 Start: 55309, Stop: 55980, Start Num: 61

Candidate Starts for SirHarley_72:

(Start: 61 @55309 has 22 MA's), (Start: 73 @55330 has 6 MA's), (Start: 84 @55360 has 2 MA's), (Start: 114 @55462 has 1 MA's), (117, 55468), (118, 55477), (125, 55501), (175, 55636), (176, 55639), (190, 55693), (212, 55810), (233, 55909),

Gene: Skysand_60 Start: 45790, Stop: 45053, Start Num: 42

Candidate Starts for Skysand_60:

(5, 45910), (7, 45898), (Start: 42 @45790 has 46 MA's), (102, 45655), (105, 45646), (Start: 114 @45607 has 1 MA's), (159, 45436), (174, 45388), (175, 45385), (190, 45328), (202, 45274), (212, 45208), (239, 45076), (244, 45067),

Gene: Snakehole_74 Start: 51389, Stop: 52099, Start Num: 46

Candidate Starts for Snakehole_74:

(Start: 43 @51386 has 11 MA's), (Start: 46 @51389 has 29 MA's), (Start: 77 @51467 has 2 MA's), (104, 51545), (128, 51638), (132, 51659), (189, 51842), (200, 51890), (211, 51956), (212, 51962), (227, 52049),

Gene: Sparcetus_77 Start: 52075, Stop: 52701, Start Num: 77

Candidate Starts for Sparcetus_77:

(Start: 46 @52003 has 29 MA's), (Start: 77 @52075 has 2 MA's), (108, 52174), (113, 52192), (130, 52252), (169, 52384), (189, 52450), (203, 52513), (204, 52519), (212, 52567), (234, 52669),

Gene: StarStruck_59 Start: 45317, Stop: 44571, Start Num: 42

Candidate Starts for StarStruck_59:

(Start: 42 @45317 has 46 MA's), (86, 45224), (91, 45215), (97, 45194), (Start: 114 @45128 has 1 MA's), (129, 45074), (157, 44957), (170, 44918), (173, 44906), (195, 44816), (218, 44666), (227, 44630), (238, 44597), (244, 44576),

Gene: Stormer_85 Start: 55949, Stop: 56623, Start Num: 74

Candidate Starts for Stormer_85:

(34, 55877), (38, 55886), (39, 55889), (51, 55913), (Start: 74 @55949 has 31 MA's), (131, 56141), (137, 56168), (157, 56249), (174, 56285), (196, 56375), (205, 56417), (208, 56432), (214, 56483),

Gene: Sukkupi_58 Start: 43757, Stop: 43017, Start Num: 42

Candidate Starts for Sukkupi_58:

(13, 43889), (14, 43865), (23, 43820), (Start: 42 @43757 has 46 MA's), (65, 43712), (Start: 114 @43580 has 1 MA's), (138, 43487), (159, 43394), (161, 43391), (165, 43379), (175, 43343), (195, 43259), (221, 43097), (238, 43043), (244, 43022),

Gene: SuperSonics_96 Start: 61015, Stop: 61722, Start Num: 49

Candidate Starts for SuperSonics_96:

(32, 60982), (37, 60994), (39, 61000), (45, 61009), (49, 61015), (Start: 53 @61024 has 3 MA's), (88, 61102), (Start: 114 @61138 has 1 MA's), (142, 61252), (162, 61315), (166, 61324), (176, 61363), (189, 61411), (215, 61549), (223, 61588), (233, 61627), (248, 61687),

Gene: SuperSulley_59 Start: 45496, Stop: 44750, Start Num: 42

Candidate Starts for SuperSulley_59:

(Start: 42 @45496 has 46 MA's), (91, 45394), (105, 45346), (Start: 114 @45307 has 1 MA's), (129, 45253), (157, 45136), (163, 45118), (167, 45109), (195, 44995), (208, 44926), (227, 44809), (238, 44776), (244, 44755),

Gene: SuperheroCarly_70 Start: 54992, Stop: 55663, Start Num: 61

Candidate Starts for SuperheroCarly_70:

(Start: 61 @54992 has 22 MA's), (Start: 73 @55013 has 6 MA's), (Start: 84 @55043 has 2 MA's), (Start: 114 @55145 has 1 MA's), (117, 55151), (118, 55160), (125, 55184), (175, 55319), (176, 55322), (190, 55376), (212, 55493), (233, 55592),

Gene: Suzy_77 Start: 55845, Stop: 56666, Start Num: 22

Candidate Starts for Suzy_77:

(Start: 22 @55845 has 1 MA's), (58, 55917), (70, 55941), (87, 55983), (103, 56037), (117, 56085), (122, 56109), (127, 56133), (130, 56148), (183, 56334),

Gene: Tedro_73 Start: 51437, Stop: 52147, Start Num: 46

Candidate Starts for Tedro_73:

(Start: 43 @51434 has 11 MA's), (Start: 46 @51437 has 29 MA's), (63, 51476), (Start: 77 @51515 has 2 MA's), (104, 51593), (106, 51596), (132, 51707), (188, 51887), (189, 51890), (212, 52010), (227, 52097),

Gene: Terapin_81 Start: 55698, Stop: 56519, Start Num: 27

Candidate Starts for Terapin_81:

(19, 55659), (Start: 27 @55698 has 6 MA's), (58, 55770), (70, 55794), (87, 55836), (103, 55890), (117, 55938), (122, 55962), (127, 55986), (130, 56001), (183, 56187),

Gene: Thoth_70 Start: 54898, Stop: 55569, Start Num: 61

Candidate Starts for Thoth_70:

(Start: 61 @54898 has 22 MA's), (Start: 73 @54919 has 6 MA's), (Start: 84 @54949 has 2 MA's), (Start: 114 @55051 has 1 MA's), (117, 55057), (118, 55066), (125, 55090), (175, 55225), (176, 55228), (190, 55282), (212, 55399), (233, 55498),

Gene: Thumb_80 Start: 59431, Stop: 60135, Start Num: 47

Candidate Starts for Thumb_80:

(Start: 47 @59431 has 9 MA's), (112, 59563), (115, 59569), (126, 59611), (136, 59656), (141, 59677), (142, 59686), (154, 59725), (168, 59767), (175, 59791), (176, 59794), (181, 59815), (184, 59821), (204, 59887), (236, 60058), (249, 60106),

Gene: Tillicus_79 Start: 57502, Stop: 58176, Start Num: 74

Candidate Starts for Tillicus_79:

(26, 57388), (29, 57403), (33, 57421), (Start: 42 @57442 has 46 MA's), (Start: 73 @57499 has 6 MA's), (Start: 74 @57502 has 31 MA's), (131, 57694), (137, 57721), (157, 57802), (174, 57838), (190, 57898), (196, 57928), (205, 57970), (214, 58036), (220, 58078),

Gene: TinyMiny_77 Start: 52093, Stop: 52791, Start Num: 46

Candidate Starts for TinyMiny_77:

(Start: 46 @52093 has 29 MA's), (Start: 77 @52165 has 2 MA's), (108, 52264), (113, 52282), (130, 52342), (169, 52474), (189, 52540), (203, 52603), (204, 52609), (212, 52657), (234, 52759),

Gene: Tongui_74 Start: 51880, Stop: 52590, Start Num: 46

Candidate Starts for Tongui_74:

(Start: 43 @51877 has 11 MA's), (Start: 46 @51880 has 29 MA's), (63, 51919), (Start: 77 @51958 has 2 MA's), (104, 52036), (121, 52105), (132, 52150), (188, 52330), (189, 52333), (212, 52453), (227, 52540),

Gene: Tracker_57 Start: 44141, Stop: 43410, Start Num: 42

Candidate Starts for Tracker_57:

(23, 44204), (Start: 42 @44141 has 46 MA's), (66, 44093), (91, 44051), (Start: 114 @43964 has 1 MA's), (141, 43859), (157, 43793), (159, 43787), (161, 43784), (170, 43754), (174, 43739), (175, 43736), (221, 43490), (227, 43469), (244, 43415),

Gene: Troll4_70 Start: 55017, Stop: 55637, Start Num: 84

Candidate Starts for Troll4_70:

(Start: 61 @54966 has 22 MA's), (Start: 73 @54987 has 6 MA's), (Start: 84 @55017 has 2 MA's), (Start: 114 @55119 has 1 MA's), (117, 55125), (118, 55134), (125, 55158), (175, 55293), (176, 55296), (190, 55350), (212, 55467), (233, 55566),

Gene: Turuncu_62 Start: 45742, Stop: 44996, Start Num: 9

Candidate Starts for Turuncu_62:

(Start: 9 @45742 has 1 MA's), (94, 45631), (98, 45616), (102, 45604), (105, 45595), (113, 45559), (124, 45520), (128, 45505), (175, 45334), (190, 45277), (212, 45151), (213, 45145), (239, 45019), (244, 45010),

Gene: Virizion_40 Start: 31078, Stop: 30476, Start Num: 71

Candidate Starts for Virizion_40:

(Start: 71 @31078 has 7 MA's), (99, 30994), (127, 30892), (159, 30775), (185, 30697), (194, 30667), (208, 30601), (211, 30577), (212, 30571), (218, 30520),

Gene: Visconti_71 Start: 54874, Stop: 55545, Start Num: 61

Candidate Starts for Visconti_71:

(Start: 61 @54874 has 22 MA's), (Start: 73 @54895 has 6 MA's), (Start: 84 @54925 has 2 MA's),
(Start: 114 @55027 has 1 MA's), (117, 55033), (118, 55042), (125, 55066), (175, 55201), (176, 55204),
(190, 55258), (212, 55375), (233, 55474),

Gene: WaldoWhy_72 Start: 54894, Stop: 55562, Start Num: 61

Candidate Starts for WaldoWhy_72:

(Start: 61 @54894 has 22 MA's), (Start: 73 @54915 has 6 MA's), (Start: 84 @54945 has 2 MA's),
(Start: 114 @55047 has 1 MA's), (117, 55053), (118, 55062), (125, 55086), (127, 55089), (175, 55221),
(176, 55224), (190, 55278), (233, 55494),

Gene: Weiss13_83 Start: 62408, Stop: 63115, Start Num: 57

Candidate Starts for Weiss13_83:

(Start: 57 @62408 has 10 MA's), (75, 62459), (96, 62510), (113, 62579), (116, 62585), (123, 62615),
(140, 62675), (160, 62723), (175, 62753), (176, 62756), (187, 62807), (190, 62816), (202, 62870),
(211, 62927), (217, 62987), (218, 62990), (220, 62996), (230, 63038), (241, 63080),

Gene: Wentworth_37 Start: 31184, Stop: 30582, Start Num: 71

Candidate Starts for Wentworth_37:

(Start: 71 @31184 has 7 MA's), (Start: 114 @31040 has 1 MA's), (127, 30998), (159, 30881), (194,
30773), (208, 30707), (211, 30683), (212, 30677), (218, 30626), (228, 30590),

Gene: Wheezy_57 Start: 44349, Stop: 43618, Start Num: 42

Candidate Starts for Wheezy_57:

(23, 44412), (Start: 42 @44349 has 46 MA's), (66, 44301), (91, 44259), (Start: 114 @44172 has 1
MA's), (141, 44067), (157, 44001), (159, 43995), (161, 43992), (170, 43962), (174, 43947), (175,
43944), (221, 43698), (227, 43677), (244, 43623),

Gene: WhoseManz_58 Start: 41814, Stop: 41074, Start Num: 42

Candidate Starts for WhoseManz_58:

(6, 42120), (13, 41946), (14, 41922), (16, 41910), (23, 41877), (Start: 42 @41814 has 46 MA's), (65,
41769), (85, 41736), (Start: 114 @41637 has 1 MA's), (138, 41544), (159, 41451), (161, 41448), (165,
41436), (195, 41316), (221, 41154), (238, 41100), (244, 41079),

Gene: Wilkos_37 Start: 30999, Stop: 30397, Start Num: 71

Candidate Starts for Wilkos_37:

(Start: 71 @30999 has 7 MA's), (100, 30909), (127, 30813), (129, 30801), (159, 30696), (161, 30693),
(208, 30522), (211, 30498), (212, 30492), (218, 30441),

Gene: Wojtek_78 Start: 58104, Stop: 58778, Start Num: 74

Candidate Starts for Wojtek_78:

(39, 58044), (51, 58068), (Start: 74 @58104 has 31 MA's), (131, 58296), (157, 58404), (174, 58440),
(196, 58530), (205, 58572), (208, 58587), (214, 58638), (220, 58680),

Gene: Xenia2_88 Start: 58445, Stop: 59125, Start Num: 74

Candidate Starts for Xenia2_88:

(Start: 74 @58445 has 31 MA's), (105, 58538), (119, 58598), (131, 58637), (155, 58736), (157, 58745),
(186, 58829), (205, 58913), (214, 58979),

Gene: Yara_34 Start: 30376, Stop: 29774, Start Num: 67

Candidate Starts for Yara_34:

(15, 30535), (18, 30520), (34, 30445), (54, 30403), (Start: 61 @30391 has 22 MA's), (Start: 67 @30376 has 1 MA's), (Start: 71 @30370 has 7 MA's), (107, 30259), (119, 30205), (129, 30172), (130, 30169), (144, 30115), (161, 30070), (200, 29941), (212, 29869), (220, 29812), (226, 29791),

Gene: Yelo_82 Start: 62763, Stop: 63470, Start Num: 57

Candidate Starts for Yelo_82:

(Start: 57 @62763 has 10 MA's), (75, 62814), (96, 62865), (113, 62934), (116, 62940), (123, 62970), (140, 63030), (160, 63078), (175, 63108), (176, 63111), (187, 63162), (190, 63171), (202, 63225), (211, 63282), (217, 63342), (218, 63345), (220, 63351), (230, 63393), (241, 63435),

Gene: Yikes_86 Start: 58672, Stop: 59307, Start Num: 90

Candidate Starts for Yikes_86:

(26, 58519), (29, 58534), (33, 58552), (Start: 42 @58573 has 46 MA's), (Start: 73 @58630 has 6 MA's), (Start: 74 @58633 has 31 MA's), (Start: 90 @58672 has 3 MA's), (131, 58825), (137, 58852), (157, 58933), (174, 58969), (205, 59101), (208, 59116), (214, 59167),

Gene: Yndexa_58 Start: 43757, Stop: 43017, Start Num: 42

Candidate Starts for Yndexa_58:

(13, 43889), (14, 43865), (23, 43820), (Start: 42 @43757 has 46 MA's), (65, 43712), (Start: 114 @43580 has 1 MA's), (138, 43487), (159, 43394), (161, 43391), (165, 43379), (175, 43343), (195, 43259), (221, 43097), (238, 43043), (244, 43022),

Gene: Zany_84 Start: 58887, Stop: 59561, Start Num: 73

Candidate Starts for Zany_84:

(Start: 71 @58884 has 7 MA's), (Start: 73 @58887 has 6 MA's), (131, 59079), (137, 59106), (157, 59187), (174, 59223), (205, 59355), (208, 59370), (214, 59421), (220, 59463),

Gene: Zenon_85 Start: 62734, Stop: 63441, Start Num: 57

Candidate Starts for Zenon_85:

(Start: 57 @62734 has 10 MA's), (75, 62785), (96, 62836), (113, 62905), (116, 62911), (123, 62941), (140, 63001), (160, 63049), (175, 63079), (176, 63082), (187, 63133), (190, 63142), (202, 63196), (211, 63253), (217, 63313), (218, 63316), (220, 63322), (230, 63364), (241, 63406),