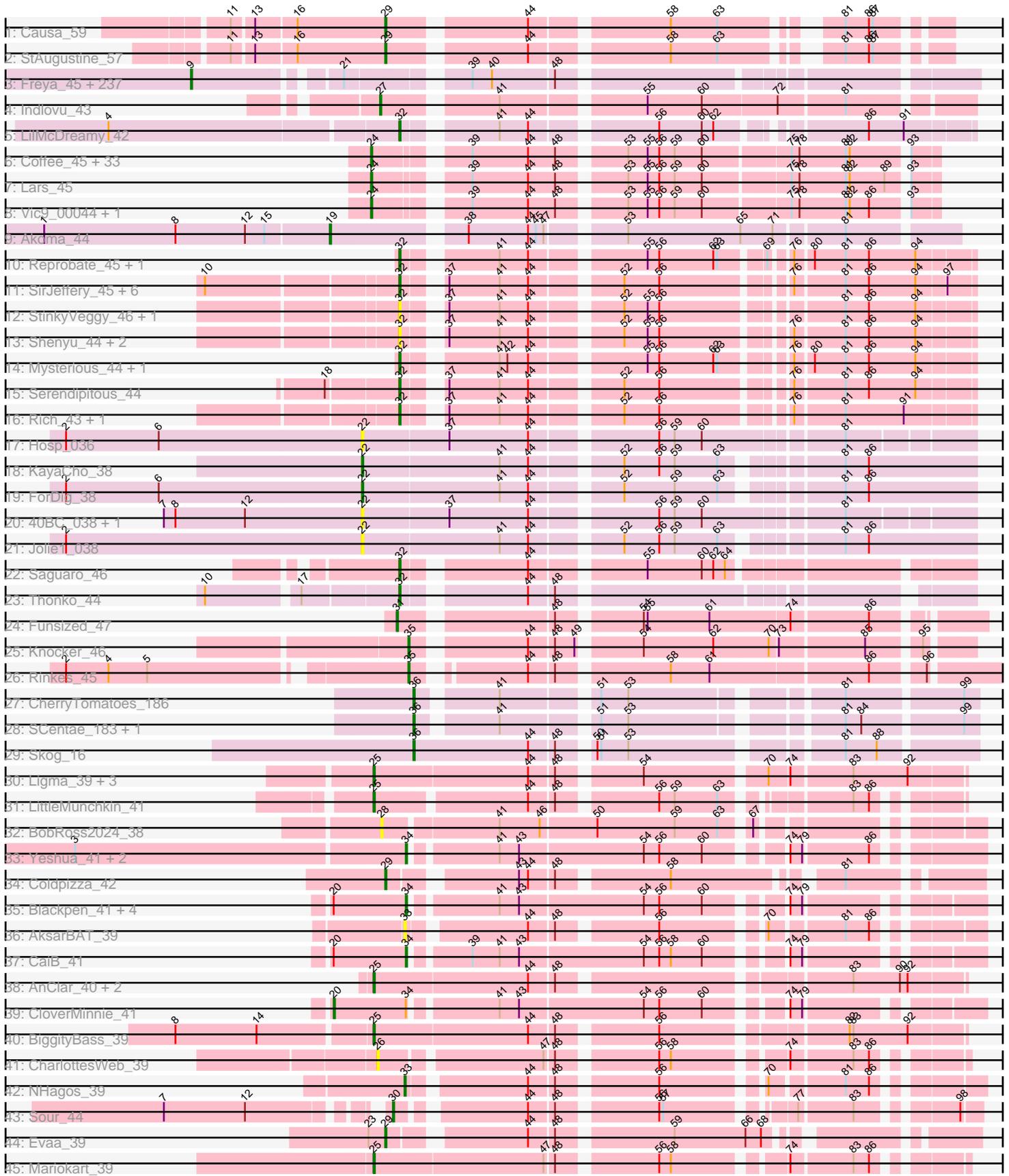# Pham 283404

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 283404 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283404 has 341 members, 45 are drafts.

Phages represented in each track:
• Track 1 : Causa_59
• Track 2 : StAugustine_57
• Track 3 : Freya_45, Morgushi_46, Swiphy_46, Daffy_46, Bluephacebaby_45, TooFast2Furius_48, Longacauda_45, Hamish_46, Melc17_46, Grand2040_45, KlimbOn_46, Altwerkus_45, Spartan300_46, Chaelin_46, KLucky39_46, Cornbread_45, MitKao_46, Beaglebox_45, Hocus_45, Kwadwo_45, Cher_45, Burr_45, Ricotta_45, DonSanchon_45, Cannibal_46, Larson_47, Roy17_46, Nathan_46, Gophee_46, Podrick_46, Potter_45, JangoPhett_46, Hartsy_46, Iridessa_46, Aleia_46, JakeO_45, DoesntMatter_45, KingTut_37, Vaticameos_42, Megamind20_46, Piglet_0045, Pinkman_45, Chuni_45, Roscoe_47, Schadenfreude_45, Skippy_46, Coletti_46, PallasAthena_46, Plata_46, CamL_46, Fozzie_45, Cosmolli16_45, MiniBoss_46, UncleHowie_46, MRabcd_45, MrPhizzler_46, Vivaldi_46, Veritas_45, Timmi_45, Eugenia_46, Jesabah_46, Happabalu_46, True_45, Solosis_45, Serpentine_0046, Murdoc_46, Etaye_46, Squid_46, Dice_45, Lulumae_45, Pacifista_45, RedRaider89_47, Horchata_46, Lasso_46, FremontTroll_46, AbsoluteMadLad_45, Duggie_45, BlueHusk_46, MichaelPhcott_45, KingVeVeVe_46, Serendipity_46, Waterdiva_46, Keitherie_46, ShadowBud_46, Pipsqueak_46, Iridoclysis_46, Crownjwl_46, PhrankReynolds_44, BoogieWoogie_45, LostAndPhound_45, ProfessorX_46, Telesworld_45, Riggan_46, Puhltonio_46, Brilliant_46, Charles1_46, Kailash_46, Schueller_45, Struggle_45, Kloppinator_46, Dingo_46, Windsor_45, Cobra_46, Mesh1_46, Kahve_45, Selr12_46, Phergie_45, Mana_45, Simielle_45, QueenBeane_46, Kimbrough_46, Gyarad_0046, SassyCat97_45, SDcharge11_46, Slatt_46, PhatLouie_46, LemonSlice_46, Magic8_46, DelRivs_45, Weher20_46, BlacksBerry_45, Olak_45, Quisquiliae_46, Gwennie1_46, Omniscient_46, Cornobble_45, LeeLot_46, Numberten_46, Oosterbaan_46, Squiggle_46, TomBombadil_46, HogWash_46, YouGoGlencoco_46, AngelCake_46, Haleema_45, Maru_45, Aelin_45, Scrick_46, Lumine_45, PinheadLarry_46, Aonishiki_47, Lulwa_46, Pops_46, Rimu_46, Wallhey_45, Anderson_46, Soto_46, Banjo_45, HSavage_46, Labeouficaum_45, CharlieGBrown_45, Jillium_45, Held_46, Doddsville_46, Mesmerelda_45, Bishoperium_45, Placalicious_45, Zaider_47, Mecca_45, Thunderbird_45, Phipps_46, Mcshane_45, Sophia_45, HenryJackson_45, BatteryCK_45, Virgeve_45, Vortex_46, Toni_45, SilverBell_46, Olive_46, TyrionL_45, Surely_46, FleetyMac_46, Caspiboi_45, Vista_46, UAch1_46, Chorkpop_46, Plmatters_46, Mikota_46, Derpp_45, Childish_45, FriarPreacher_45, FugateOSU_45, Flake_47, Jiraiya_45, Vaishali24_45, Haimas_46, Phunky_46, Virapocalypse_46, DirtJuice_46, Kwksand96_45, Zelda_46, Roliet_46, TallGrassMM_46, EmpTee_46, Newman_46,

Harvey_46, ShiVal_46, Matalotodo_46, Boehler_46, Oline_45, Robyn_45, Orfeu_45, Tomlarah_46, Mag7_45, Buckeye_46, Khan1_46, Dione_45, Nyala_45, Hertubise_46, Karn_45, DaddyDaniels_46, Riverton_45, Thora_46, Orwigg_45, Nicole21_46, Manad_45, SirBeauregard_46, Samaymay_46, Jiminy_45, LeiMonet_47, GeneCoco_46, Sheila_46, Phareon_46, Carthage_44, Valjean_46, Giraffe_46, GreenChile_46, CheetO_46, Inverness_46, OliverWalter_46, Hetaeria_46, Antonia_45, Frankicide_46, Xavier_45, LuckyMarjie_45, PhenghisKhan_45, Phleuron_45
- Track 4 : Indlovu_43
- Track 5 : LilMcDreamy_42
- Track 6 : Coffee_45, Calamitous_45, Lephleur_45, Allegro_45, MasterPo_45, Faze9_44, ItsyBitsy1_45, Kaleb_45, FrenchFry_45, LilSmirk_45, Bananafish_45, TA17A_46, West99_45, Phantasmagoria_45, Tinciduntsolum_46, Blocker23_45, Kheth_45, Tres_45, Holeinone_45, Hedgerow_45, LizLemon_45, Kolhan_45, Rhinoforte_45, Godines_45, Ares_45, PrinceCharming_45, Brownie5_45, Boyle_45, Eaglehorse_45, Arbiter_44, Rosebush_44, Sabella_44, Opia_45, Glass_45
- Track 7 : Lars_45
- Track 8 : Vic9_00044, Laurie_44
- Track 9 : Akoma_44
- Track 10 : Reprobate_45, Phelemich_44
- Track 11 : SirJeffery_45, Acadian_45, Reccee_46, EastView9101_43, Suigeneris_45, Donny_45, Rita130_45
- Track 12 : StinkyVeggy_46, KarasumaRum_46
- Track 13 : Shenyu_44, DigitDog_44, Nangang_44
- Track 14 : Mysterious_44, Nehemiah_44
- Track 15 : Serendipitous_44
- Track 16 : Rich_43, Baee_44
- Track 17 : Hosp_036
- Track 18 : KayaCho_38
- Track 19 : ForDig_38
- Track 20 : 40BC_038, 39HC_038
- Track 21 : Jolie1_038
- Track 22 : Saguaro_46
- Track 23 : Thonko_44
- Track 24 : Funsized_47
- Track 25 : Knocker_46
- Track 26 : Rinkes_45
- Track 27 : CherryTomatoes_186
- Track 28 : SCentae_183, Pupper_184
- Track 29 : Skog_16
- Track 30 : Ligma_39, Fresco_39, Axumite_39, Shatter_39
- Track 31 : LittleMunchkin_41
- Track 32 : BobRoss2024_38
- Track 33 : Yeshua_41, Wooper_41, TraderJ_41
- Track 34 : Coldpizza_42
- Track 35 : Blackpen_41, MossRose_41, MakoManhole_41, AnarQue_41, FelixTres_41
- Track 36 : AksarBAT_39
- Track 37 : CaiB_41
- Track 38 : AnClar_40, Sisko_39, Yago84_39
- Track 39 : CloverMinnie_41
- Track 40 : BiggityBass_39
- Track 41 : CharlottesWeb_39

- Track 42 : NHagos_39
- Track 43 : Sour_44
- Track 44 : Evaa_39
- Track 45 : Mariokart_39

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

The start number called the most often in the published annotations is 9, it was called in 214 of the 296 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
- AbsoluteMadLad_45, Aelin_45, Aleia_46, Altwerkus_45, Anderson_46, AngelCake_46, Antonia_45, Aonishiki_47, Banjo_45, BatteryCK_45, Beaglebox_45, Bishoperium_45, BlacksBerry_45, BlueHusk_46, Bluephacebaby_45, Boehler_46, BoogieWoogie_45, Brilliant_46, Buckeye_46, Burr_45, CamL_46, Cannibal_46, Carthage_44, Caspiboi_45, Chaelin_46, Charles1_46, CharlieGBrown_45, CheetO_46, Cher_45, Childish_45, Chorkpop_46, Chuni_45, Cobra_46, Coletti_46, Cornbread_45, Cornobble_45, Cosmolli16_45, Crownjwl_46, DaddyDaniels_46, Daffy_46, DelRivs_45, Derpp_45, Dice_45, Dingo_46, Dione_45, DirtJuice_46, Doddsville_46, DoesntMatter_45, DonSanchon_45, Duggie_45, EmpTee_46, Etaye_46, Eugenia_46, Flake_47, FleetyMac_46, Fozzie_45, Frankicide_46, FremontTroll_46, Freya_45, FriarPreacher_45, FugateOSU_45, GeneCoco_46, Giraffe_46, Gophee_46, Grand2040_45, GreenChile_46, Gwennie1_46, Gyarad_0046, HSavage_46, Haimas_46, Haleema_45, Hamish_46, Happabalu_46, Hartsy_46, Harvey_46, Held_46, HenryJackson_45, Hertubise_46, Hetaeria_46, Hocus_45, HogWash_46, Horchata_46, Inverness_46, Iridessa_46, Iridoclysis_46, JakeO_45, JangoPhett_46, Jesabah_46, Jillium_45, Jiminy_45, Jiraiya_45, KLucky39_46, Kahve_45, Kailash_46, Karn_45, Keitherie_46, Khan1_46, Kimbrough_46, KingTut_37, KingVeVeVe_46, KlimbOn_46, Kloppinator_46, Kwadwo_45, Kwksand96_45, Labeouficaum_45, Larson_47, Lasso_46, LeeLot_46, LeiMonet_47, LemonSlice_46, Longacauda_45, LostAndPhound_45, LuckyMarjie_45, Lulumae_45, Lulwa_46, Lumine_45, MRabcd_45, Mag7_45, Magic8_46, Mana_45, Manad_45, Maru_45, Matalotodo_46, Mcshane_45, Mecca_45, Megamind20_46, Melc17_46, Mesh1_46, Mesmerelda_45, MichaelPhcott_45, Mikota_46, MiniBoss_46, MitKao_46, Morgushi_46, MrPhizzler_46, Murdoc_46, Nathan_46, Newman_46, Nicole21_46, Numberten_46, Nyala_45, Olak_45, Oline_45, Olive_46, OliverWalter_46, Omniscient_46, Oosterbaan_46, Orfeu_45, Orwigg_45, Pacifista_45, PallasAthena_46, Phareon_46, PhatLouie_46, PhenghisKhan_45, Phergie_45, Phipps_46, Phleuron_45, PhrankReynolds_44, Phunky_46, Piglet_0045, PinheadLarry_46, Pinkman_45, Pipsqueak_46, Placalicious_45, Plata_46, Plmatters_46, Podrick_46, Pops_46, Potter_45, ProfessorX_46, Puhltonio_46, QueenBeane_46, Quisquiliae_46, RedRaider89_47, Ricotta_45, Riggan_46, Rimu_46, Riverton_45, Robyn_45, Roliet_46, Roscoe_47, Roy17_46, SDcharge11_46, Samaymay_46, SassyCat97_45, Schadenfreude_45, Schueller_45, Scrick_46, Selr12_46, Serendipity_46, Serpentine_0046, ShadowBud_46, Sheila_46, ShiVal_46, SilverBell_46, Simielle_45, SirBeauregard_46, Skippy_46, Slatt_46, Solosis_45, Sophia_45, Soto_46, Spartan300_46, Squid_46, Squiggle_46, Struggle_45, Surely_46, Swiphy_46, TallGrassMM_46, Telesworld_45, Thora_46, Thunderbird_45, Timmi_45, TomBombadil_46, Tomlarah_46, Toni_45, TooFast2Furius_48, True_45, TyrionL_45,

UAch1_46, UncleHowie_46, Vaishali24_45, Valjean_46, Vaticameos_42, Veritas_45, Virapocalypse_46, Virgeve_45, Vista_46, Vivaldi_46, Vortex_46, Wallhey_45, Waterdiva_46, Weher20_46, Windsor_45, Xavier_45, YouGoGlencoco_46, Zaider_47, Zelda_46,

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

Genes that do not have the "Most Annotated" start:
• 39HC_038, 40BC_038, Acadian_45, Akoma_44, AksarBAT_39, Allegro_45, AnClar_40, AnarQue_41, Arbiter_44, Ares_45, Axumite_39, Baee_44, Bananafish_45, BiggityBass_39, Blackpen_41, Blocker23_45, BobRoss2024_38, Boyle_45, Brownie5_45, CaiB_41, Calamitous_45, Causa_59, CharlottesWeb_39, CherryTomatoes_186, CloverMinnie_41, Coffee_45, Coldpizza_42, DigitDog_44, Donny_45, Eaglehorse_45, EastView9101_43, Evaa_39, Faze9_44, FelixTres_41, ForDig_38, FrenchFry_45, Fresco_39, Funsized_47, Glass_45, Godines_45, Hedgerow_45, Holeinone_45, Hosp_036, Indlovu_43, ItsyBitsy1_45, Jolie1_038, Kaleb_45, KarasumaRum_46, KayaCho_38, Kheth_45, Knocker_46, Kolhan_45, Lars_45, Laurie_44, Lephleur_45, Ligma_39, LilMcDreamy_42, LilSmirk_45, LittleMunchkin_41, LizLemon_45, MakoManhole_41, Mariokart_39, MasterPo_45, MossRose_41, Mysterious_44, NHagos_39, Nangang_44, Nehemiah_44, Opia_45, Phantasmagoria_45, Phelemich_44, PrinceCharming_45, Pupper_184, Reccee_46, Reprobate_45, Rhinoforte_45, Rich_43, Rinkes_45, Rita130_45, Rosebush_44, SCentae_183, Sabella_44, Saguaro_46, Serendipitous_44, Shatter_39, Shenyu_44, SirJeffery_45, Sisko_39, Skog_16, Sour_44, StAugustine_57, StinkyVeggy_46, Suigeneris_45, TA17A_46, Thonko_44, Tinciduntsolum_46, TraderJ_41, Tres_45, Vic9_00044, West99_45, Wooper_41, Yago84_39, Yeshua_41,

Summary by start number:

Start 9:
• Found in 238 of 341 (69.8%) of genes in pham
• Manual Annotations of this start: 214 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AbsoluteMadLad_45 (B1), Aelin_45 (B1), Aleia_46 (B1), Altwerkus_45 (B1), Anderson_46 (B1), AngelCake_46 (B1), Antonia_45 (B1), Aonishiki_47 (B1), Banjo_45 (B1), BatteryCK_45 (B1), Beaglebox_45 (B1), Bishoperium_45 (B1), BlacksBerry_45 (B1), BlueHusk_46 (B1), Bluephacebaby_45 (B1), Boehler_46 (B1), BoogieWoogie_45 (B1), Brilliant_46 (B1), Buckeye_46 (B1), Burr_45 (B1), CamL_46 (B1), Cannibal_46 (B1), Carthage_44 (B1), Caspiboi_45 (B1), Chaelin_46 (B1), Charles1_46 (B1), CharlieGBrown_45 (B1), CheetO_46 (B1), Cher_45 (B1), Childish_45 (B1), Chorkpop_46 (B1), Chuni_45 (B1), Cobra_46 (B1), Coletti_46 (B1), Cornbread_45 (B1), Cornobble_45 (B1), Cosmolli16_45 (B1), Crownjwl_46 (B1), DaddyDaniels_46 (B1), Daffy_46 (B1), DelRivs_45 (B1), Derpp_45 (B1), Dice_45 (B1), Dingo_46 (B1), Dione_45 (B1), DirtJuice_46 (B1), Doddsville_46 (B1), DoesntMatter_45 (B1), DonSanchon_45 (B1), Duggie_45 (B1), EmpTee_46 (B1), Etaye_46 (B1), Eugenia_46 (B1), Flake_47 (B1), FleetyMac_46 (B1), Fozzie_45 (B1), Frankicide_46 (B1), FremontTroll_46 (B1), Freya_45 (B1), FriarPreacher_45 (B1), FugateOSU_45 (B1), GeneCoco_46 (B1), Giraffe_46 (B1), Gophee_46 (B1), Grand2040_45 (B1), GreenChile_46 (B1), Gwennie1_46 (B1), Gyarad_0046 (B1), HSavage_46 (B1), Haimas_46 (B1), Haleema_45 (B1), Hamish_46 (B1), Happabalu_46 (B1), Hartsy_46 (B1), Harvey_46 (B1), Held_46 (B1), HenryJackson_45 (B1), Hertubise_46 (B1), Hetaeria_46 (B1),

Hocus_45 (B1), HogWash_46 (B1), Horchata_46 (B1), Inverness_46 (B1), Iridessa_46 (B1), Iridoclysis_46 (B1), JakeO_45 (B1), JangoPhett_46 (B1), Jesabah_46 (B1), Jillium_45 (B1), Jiminy_45 (B1), Jiraiya_45 (B1), KLucky39_46 (B1), Kahve_45 (B1), Kailash_46 (B1), Karn_45 (B1), Keitherie_46 (B1), Khan1_46 (B1), Kimbrough_46 (B1), KingTut_37 (B1), KingVeVeVe_46 (B1), KlimbOn_46 (B1), Kloppinator_46 (B1), Kwadwo_45 (B1), Kwksand96_45 (B1), Labeouficaum_45 (B1), Larson_47 (B1), Lasso_46 (B1), LeeLot_46 (B1), LeiMonet_47 (B1), LemonSlice_46 (B1), Longacauda_45 (B1), LostAndPhound_45 (B1), LuckyMarjie_45 (B1), Lulumae_45 (B1), Lulwa_46 (B1), Lumine_45 (B1), MRabcd_45 (B1), Mag7_45 (B1), Magic8_46 (B1), Mana_45 (B1), Manad_45 (B1), Maru_45 (B1), Matalotodo_46 (B1), Mcshane_45 (B1), Mecca_45 (B1), Megamind20_46 (B1), Melc17_46 (B1), Mesh1_46 (B1), Mesmerelda_45 (B1), MichaelPhcott_45 (B1), Mikota_46 (B1), MiniBoss_46 (B1), MitKao_46 (B1), Morgushi_46 (B1), MrPhizzler_46 (B1), Murdoc_46 (B1), Nathan_46 (B1), Newman_46 (B1), Nicole21_46 (B1), Numberten_46 (B1), Nyala_45 (B1), Olak_45 (B1), Oline_45 (B1), Olive_46 (B1), OliverWalter_46 (B1), Omniscient_46 (B1), Oosterbaan_46 (B1), Orfeu_45 (B1), Orwigg_45 (B1), Pacifista_45 (B1), PallasAthena_46 (B1), Phareon_46 (B1), PhatLouie_46 (B1), PhenghisKhan_45 (B1), Phergie_45 (B1), Phipps_46 (B1), Phleuron_45 (B1), PhrankReynolds_44 (B1), Phunky_46 (B1), Piglet_0045 (B1), PinheadLarry_46 (B1), Pinkman_45 (B1), Pipsqueak_46 (B1), Placalicious_45 (B1), Plata_46 (B1), Plmatters_46 (B1), Podrick_46 (B1), Pops_46 (B1), Potter_45 (B1), ProfessorX_46 (B1), Puhltonio_46 (B1), QueenBeane_46 (B1), Quisquiliae_46 (B1), RedRaider89_47 (B1), Ricotta_45 (B1), Riggan_46 (B1), Rimu_46 (B1), Riverton_45 (B1), Robyn_45 (B1), Roliet_46 (B1), Roscoe_47 (B1), Roy17_46 (B1), SDcharge11_46 (B1), Samaymay_46 (B1), SassyCat97_45 (B1), Schadenfreude_45 (B1), Schueller_45 (B1), Scrick_46 (B1), Selr12_46 (B1), Serendipity_46 (B1), Serpentine_0046 (B1), ShadowBud_46 (B1), Sheila_46 (B1), ShiVal_46 (B1), SilverBell_46 (B1), Simielle_45 (B1), SirBeauregard_46 (B1), Skippy_46 (B1), Slatt_46 (B1), Solosis_45 (B1), Sophia_45 (B1), Soto_46 (B1), Spartan300_46 (B1), Squid_46 (B1), Squiggle_46 (B1), Struggle_45 (B1), Surely_46 (B1), Swiphy_46 (B1), TallGrassMM_46 (B1), Telesworld_45 (B1), Thora_46 (B1), Thunderbird_45 (B1), Timmi_45 (B1), TomBombadil_46 (B1), Tomlarah_46 (B1), Toni_45 (B1), TooFast2Furius_48 (B1), True_45 (B1), TyrionL_45 (B1), UAch1_46 (B1), UncleHowie_46 (B1), Vaishali24_45 (B1), Valjean_46 (B1), Vaticameos_42 (B1), Veritas_45 (B1), Virapocalypse_46 (B1), Virgeve_45 (B1), Vista_46 (B1), Vivaldi_46 (B1), Vortex_46 (B1), Wallhey_45 (B1), Waterdiva_46 (B1), Weher20_46 (B1), Windsor_45 (B1), Xavier_45 (B1), YouGoGlencoco_46 (B1), Zaider_47 (B1), Zelda_46 (B1),

Start 19:
• Found in 1 of 341 (0.3%) of genes in pham
• Manual Annotations of this start: 1 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Akoma_44 (B3),

Start 20:
• Found in 7 of 341 (2.1%) of genes in pham
• Manual Annotations of this start: 1 of 296
• Called 14.3% of time when present
• Phage (with cluster) where this start called: CloverMinnie_41 (DR),

Start 22:
• Found in 6 of 341 (1.8%) of genes in pham

• Manual Annotations of this start: 2 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: 39HC_038 (B6), 40BC_038 (B6), ForDig_38 (B6), Hosp_036 (B6), Jolie1_038 (B6), KayaCho_38 (B6),

Start 24:
• Found in 37 of 341 (10.9%) of genes in pham
• Manual Annotations of this start: 35 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Allegro_45 (B2), Arbiter_44 (B2), Ares_45 (B2), Bananafish_45 (B2), Blocker23_45 (B2), Boyle_45 (B2), Brownie5_45 (B2), Calamitous_45 (B2), Coffee_45 (B2), Eaglehorse_45 (B2), Faze9_44 (B2), FrenchFry_45 (B2), Glass_45 (B2), Godines_45 (B2), Hedgerow_45 (B2), Holeinone_45 (B2), ItsyBitsy1_45 (B2), Kaleb_45 (B2), Kheth_45 (B2), Kolhan_45 (B2), Lars_45 (B2), Laurie_44 (B2), Lephleur_45 (B2), LilSmirk_45 (B2), LizLemon_45 (B2), MasterPo_45 (B2), Opia_45 (B2), Phantasmagoria_45 (B2), PrinceCharming_45 (B2), Rhinoforte_45 (B2), Rosebush_44 (B2), Sabella_44 (B2), TA17A_46 (B2), Tinciduntsolum_46 (B2), Tres_45 (B2), Vic9_00044 (B2), West99_45 (B2),

Start 25:
• Found in 10 of 341 (2.9%) of genes in pham
• Manual Annotations of this start: 10 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AnClar_40 (DR), Axumite_39 (DR), BiggityBass_39 (DR), Fresco_39 (DR), Ligma_39 (DR), LittleMunchkin_41 (DR), Mariokart_39 (DR), Shatter_39 (DR), Sisko_39 (DR), Yago84_39 (DR),

Start 26:
• Found in 1 of 341 (0.3%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CharlottesWeb_39 (DR),

Start 27:
• Found in 1 of 341 (0.3%) of genes in pham
• Manual Annotations of this start: 1 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Indlovu_43 (B11),

Start 28:
• Found in 1 of 341 (0.3%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BobRoss2024_38 (DR),

Start 29:
• Found in 4 of 341 (1.2%) of genes in pham
• Manual Annotations of this start: 4 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Causa_59 (AI), Coldpizza_42 (DR), Evaa_39 (DR), StAugustine_57 (AI),

Start 30:
• Found in 1 of 341 (0.3%) of genes in pham
• Manual Annotations of this start: 1 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Sour_44 (DR),

Start 31:
• Found in 1 of 341 (0.3%) of genes in pham
• Manual Annotations of this start: 1 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Funsized_47 (B9),

Start 32:
• Found in 22 of 341 (6.5%) of genes in pham
• Manual Annotations of this start: 13 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Acadian_45 (B5), Baee_44 (B5),
DigitDog_44 (B5), Donny_45 (B5), EastView9101_43 (B5), KarasumaRum_46 (B5),
LilMcDreamy_42 (B12), Mysterious_44 (B5), Nangang_44 (B5), Nehemiah_44 (B5),
Phelemich_44 (B5), Reccee_46 (B5), Reprobate_45 (B5), Rich_43 (B5), Rita130_45
(B5), Saguaro_46 (B7), Serendipitous_44 (B5), Shenyu_44 (B5), SirJeffery_45 (B5),
StinkyVeggy_46 (B5), Suigeneris_45 (B5), Thonko_44 (B8),

Start 33:
• Found in 2 of 341 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AksarBAT_39 (DR), NHagos_39 (DR),

Start 34:
• Found in 10 of 341 (2.9%) of genes in pham
• Manual Annotations of this start: 6 of 296
• Called 90.0% of time when present
• Phage (with cluster) where this start called: AnarQue_41 (DR), Blackpen_41 (DR),
CaiB_41 (DR), FelixTres_41 (DR), MakoManhole_41 (DR), MossRose_41 (DR),
TraderJ_41 (DR), Wooper_41 (DR), Yeshua_41 (DR),

Start 35:
• Found in 2 of 341 (0.6%) of genes in pham
• Manual Annotations of this start: 2 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Knocker_46 (B9), Rinkes_45 (B9),

Start 36:
• Found in 4 of 341 (1.2%) of genes in pham
• Manual Annotations of this start: 4 of 296
• Called 100.0% of time when present
• Phage (with cluster) where this start called: CherryTomatoes_186 (DO), Pupper_184
(DO), SCentae_183 (DO), Skog_16 (DO),

Summary by clusters:

There are 13 clusters represented in this pham: DO, AI, B8, B3, B5, B6, B7, B12, B1, B2, B11, DR, B9,

Info for manual annotations of cluster AI:
•Start number 29 was manually annotated 2 times for cluster AI.

Info for manual annotations of cluster B1:
•Start number 9 was manually annotated 214 times for cluster B1.

Info for manual annotations of cluster B11:
•Start number 27 was manually annotated 1 time for cluster B11.

Info for manual annotations of cluster B12:
•Start number 32 was manually annotated 1 time for cluster B12.

Info for manual annotations of cluster B2:
•Start number 24 was manually annotated 35 times for cluster B2.

Info for manual annotations of cluster B3:
•Start number 19 was manually annotated 1 time for cluster B3.

Info for manual annotations of cluster B5:
•Start number 32 was manually annotated 10 times for cluster B5.

Info for manual annotations of cluster B6:
•Start number 22 was manually annotated 2 times for cluster B6.

Info for manual annotations of cluster B7:
•Start number 32 was manually annotated 1 time for cluster B7.

Info for manual annotations of cluster B8:
•Start number 32 was manually annotated 1 time for cluster B8.

Info for manual annotations of cluster B9:
•Start number 31 was manually annotated 1 time for cluster B9.
•Start number 35 was manually annotated 2 times for cluster B9.

Info for manual annotations of cluster DO:
•Start number 36 was manually annotated 4 times for cluster DO.

Info for manual annotations of cluster DR:
•Start number 20 was manually annotated 1 time for cluster DR.
•Start number 25 was manually annotated 10 times for cluster DR.
•Start number 29 was manually annotated 2 times for cluster DR.
•Start number 30 was manually annotated 1 time for cluster DR.
•Start number 33 was manually annotated 1 time for cluster DR.
•Start number 34 was manually annotated 6 times for cluster DR.

Gene Information:
Gene: 39HC_038 Start: 37421, Stop: 36984, Start Num: 22

Candidate Starts for 39HC_038:
(7, 37574), (8, 37565), (12, 37511), (Start: 22 @37421 has 2 MA's), (37, 37355), (44, 37295), (56, 37208), (59, 37196), (60, 37175), (81, 37076),

Gene: 40BC_038 Start: 37421, Stop: 36984, Start Num: 22
Candidate Starts for 40BC_038:
(7, 37574), (8, 37565), (12, 37511), (Start: 22 @37421 has 2 MA's), (37, 37355), (44, 37295), (56, 37208), (59, 37196), (60, 37175), (81, 37076),

Gene: AbsoluteMadLad_45 Start: 39726, Stop: 39196, Start Num: 9
Candidate Starts for AbsoluteMadLad_45:
(Start: 9 @39726 has 214 MA's), (21, 39621), (39, 39543), (40, 39528), (48, 39483),

Gene: Acadian_45 Start: 40034, Stop: 39648, Start Num: 32
Candidate Starts for Acadian_45:
(10, 40172), (Start: 32 @40034 has 13 MA's), (37, 40013), (41, 39974), (44, 39953), (52, 39893), (56, 39866), (76, 39779), (81, 39743), (86, 39725), (94, 39689), (97, 39668),

Gene: Aelin_45 Start: 39278, Stop: 38751, Start Num: 9
Candidate Starts for Aelin_45:
(Start: 9 @39278 has 214 MA's), (21, 39176), (39, 39098), (40, 39083), (48, 39038),

Gene: Akoma_44 Start: 39465, Stop: 39028, Start Num: 19
Candidate Starts for Akoma_44:
(1, 39684), (8, 39582), (12, 39528), (15, 39513), (Start: 19 @39465 has 1 MA's), (38, 39375), (44, 39330), (45, 39324), (47, 39318), (53, 39267), (65, 39180), (71, 39156), (81, 39108),

Gene: AksarBAT_39 Start: 33818, Stop: 33444, Start Num: 33
Candidate Starts for AksarBAT_39:
(Start: 33 @33818 has 1 MA's), (44, 33737), (48, 33719), (56, 33650), (70, 33581), (81, 33530), (86, 33512),

Gene: Aleia_46 Start: 39289, Stop: 38765, Start Num: 9
Candidate Starts for Aleia_46:
(Start: 9 @39289 has 214 MA's), (21, 39190), (39, 39112), (40, 39097), (48, 39052),

Gene: Allegro_45 Start: 39852, Stop: 39463, Start Num: 24
Candidate Starts for Allegro_45:
(Start: 24 @39852 has 35 MA's), (39, 39795), (44, 39753), (48, 39732), (53, 39687), (55, 39672), (56, 39663), (59, 39651), (60, 39630), (75, 39567), (78, 39561), (81, 39525), (82, 39522), (93, 39483),

Gene: Altwerkus_45 Start: 39405, Stop: 38875, Start Num: 9
Candidate Starts for Altwerkus_45:
(Start: 9 @39405 has 214 MA's), (21, 39300), (39, 39222), (40, 39207), (48, 39162),

Gene: AnClar_40 Start: 36039, Stop: 35620, Start Num: 25
Candidate Starts for AnClar_40:
(Start: 25 @36039 has 10 MA's), (44, 35922), (48, 35904), (83, 35703), (90, 35667), (92, 35661),

Gene: AnarQue_41 Start: 35226, Stop: 34840, Start Num: 34
Candidate Starts for AnarQue_41:
(Start: 20 @35280 has 1 MA's), (Start: 34 @35226 has 6 MA's), (41, 35166), (43, 35151), (54, 35058), (56, 35046), (60, 35013), (74, 34965), (79, 34956),

Gene: Anderson_46 Start: 39704, Stop: 39180, Start Num: 9
Candidate Starts for Anderson_46:
(Start: 9 @39704 has 214 MA's), (21, 39605), (39, 39527), (40, 39512), (48, 39467),

Gene: AngelCake_46 Start: 39726, Stop: 39199, Start Num: 9
Candidate Starts for AngelCake_46:
(Start: 9 @39726 has 214 MA's), (21, 39624), (39, 39546), (40, 39531), (48, 39486),

Gene: Antonia_45 Start: 39278, Stop: 38751, Start Num: 9
Candidate Starts for Antonia_45:
(Start: 9 @39278 has 214 MA's), (21, 39176), (39, 39098), (40, 39083), (48, 39038),

Gene: Aonishiki_47 Start: 39747, Stop: 39223, Start Num: 9
Candidate Starts for Aonishiki_47:
(Start: 9 @39747 has 214 MA's), (21, 39648), (39, 39570), (40, 39555), (48, 39510),

Gene: Arbiter_44 Start: 39938, Stop: 39549, Start Num: 24
Candidate Starts for Arbiter_44:
(Start: 24 @39938 has 35 MA's), (39, 39881), (44, 39839), (48, 39818), (53, 39773), (55, 39758), (56, 39749), (59, 39737), (60, 39716), (75, 39653), (78, 39647), (81, 39611), (82, 39608), (93, 39569),

Gene: Ares_45 Start: 39922, Stop: 39533, Start Num: 24
Candidate Starts for Ares_45:
(Start: 24 @39922 has 35 MA's), (39, 39865), (44, 39823), (48, 39802), (53, 39757), (55, 39742), (56, 39733), (59, 39721), (60, 39700), (75, 39637), (78, 39631), (81, 39595), (82, 39592), (93, 39553),

Gene: Axumite_39 Start: 33273, Stop: 32851, Start Num: 25
Candidate Starts for Axumite_39:
(Start: 25 @33273 has 10 MA's), (44, 33156), (48, 33138), (54, 33081), (70, 32994), (74, 32979), (83, 32934), (92, 32892),

Gene: Baee_44 Start: 39937, Stop: 39551, Start Num: 32
Candidate Starts for Baee_44:
(Start: 32 @39937 has 13 MA's), (37, 39916), (41, 39877), (44, 39856), (52, 39796), (56, 39769), (76, 39682), (81, 39646), (91, 39601),

Gene: Bananafish_45 Start: 39858, Stop: 39469, Start Num: 24
Candidate Starts for Bananafish_45:
(Start: 24 @39858 has 35 MA's), (39, 39801), (44, 39759), (48, 39738), (53, 39693), (55, 39678), (56, 39669), (59, 39657), (60, 39636), (75, 39573), (78, 39567), (81, 39531), (82, 39528), (93, 39489),

Gene: Banjo_45 Start: 39409, Stop: 38885, Start Num: 9
Candidate Starts for Banjo_45:
(Start: 9 @39409 has 214 MA's), (21, 39310), (39, 39232), (40, 39217), (48, 39172),

Gene: BatteryCK_45 Start: 39331, Stop: 38804, Start Num: 9
Candidate Starts for BatteryCK_45:
(Start: 9 @39331 has 214 MA's), (21, 39229), (39, 39151), (40, 39136), (48, 39091),

Gene: Beaglebox_45 Start: 39430, Stop: 38906, Start Num: 9
Candidate Starts for Beaglebox_45:
(Start: 9 @39430 has 214 MA's), (21, 39331), (39, 39253), (40, 39238), (48, 39193),

Gene: BiggityBass_39 Start: 35501, Stop: 35082, Start Num: 25
Candidate Starts for BiggityBass_39:
(8, 35645), (14, 35582), (Start: 25 @35501 has 10 MA's), (44, 35384), (48, 35366), (56, 35297), (82, 35168), (83, 35165), (92, 35123),

Gene: Bishoperium_45 Start: 39418, Stop: 38894, Start Num: 9
Candidate Starts for Bishoperium_45:
(Start: 9 @39418 has 214 MA's), (21, 39319), (39, 39241), (40, 39226), (48, 39181),

Gene: Blackpen_41 Start: 34644, Stop: 34258, Start Num: 34
Candidate Starts for Blackpen_41:
(Start: 20 @34698 has 1 MA's), (Start: 34 @34644 has 6 MA's), (41, 34584), (43, 34569), (54, 34476), (56, 34464), (60, 34431), (74, 34383), (79, 34374),

Gene: BlacksBerry_45 Start: 39439, Stop: 38912, Start Num: 9
Candidate Starts for BlacksBerry_45:
(Start: 9 @39439 has 214 MA's), (21, 39337), (39, 39259), (40, 39244), (48, 39199),

Gene: Blocker23_45 Start: 39976, Stop: 39587, Start Num: 24
Candidate Starts for Blocker23_45:
(Start: 24 @39976 has 35 MA's), (39, 39919), (44, 39877), (48, 39856), (53, 39811), (55, 39796), (56, 39787), (59, 39775), (60, 39754), (75, 39691), (78, 39685), (81, 39649), (82, 39646), (93, 39607),

Gene: BlueHusk_46 Start: 39223, Stop: 38693, Start Num: 9
Candidate Starts for BlueHusk_46:
(Start: 9 @39223 has 214 MA's), (21, 39118), (39, 39040), (40, 39025), (48, 38980),

Gene: Bluephacebaby_45 Start: 39421, Stop: 38891, Start Num: 9
Candidate Starts for Bluephacebaby_45:
(Start: 9 @39421 has 214 MA's), (21, 39316), (39, 39238), (40, 39223), (48, 39178),

Gene: BobRoss2024_38 Start: 33364, Stop: 32954, Start Num: 28
Candidate Starts for BobRoss2024_38:
(28, 33364), (41, 33280), (46, 33250), (50, 33208), (59, 33148), (63, 33115), (67, 33097),

Gene: Boehler_46 Start: 39727, Stop: 39197, Start Num: 9
Candidate Starts for Boehler_46:
(Start: 9 @39727 has 214 MA's), (21, 39622), (39, 39544), (40, 39529), (48, 39484),

Gene: BoogieWoogie_45 Start: 39408, Stop: 38878, Start Num: 9
Candidate Starts for BoogieWoogie_45:
(Start: 9 @39408 has 214 MA's), (21, 39303), (39, 39225), (40, 39210), (48, 39165),

Gene: Boyle_45 Start: 39977, Stop: 39588, Start Num: 24
Candidate Starts for Boyle_45:
(Start: 24 @39977 has 35 MA's), (39, 39920), (44, 39878), (48, 39857), (53, 39812), (55, 39797), (56, 39788), (59, 39776), (60, 39755), (75, 39692), (78, 39686), (81, 39650), (82, 39647), (93, 39608),

Gene: Brilliant_46 Start: 39426, Stop: 38902, Start Num: 9
Candidate Starts for Brilliant_46:
(Start: 9 @39426 has 214 MA's), (21, 39327), (39, 39249), (40, 39234), (48, 39189),

Gene: Brownie5_45 Start: 39983, Stop: 39594, Start Num: 24
Candidate Starts for Brownie5_45:
(Start: 24 @39983 has 35 MA's), (39, 39926), (44, 39884), (48, 39863), (53, 39818), (55, 39803), (56, 39794), (59, 39782), (60, 39761), (75, 39698), (78, 39692), (81, 39656), (82, 39653), (93, 39614),

Gene: Buckeye_46 Start: 39741, Stop: 39214, Start Num: 9
Candidate Starts for Buckeye_46:
(Start: 9 @39741 has 214 MA's), (21, 39639), (39, 39561), (40, 39546), (48, 39501),

Gene: Burr_45 Start: 39415, Stop: 38891, Start Num: 9
Candidate Starts for Burr_45:
(Start: 9 @39415 has 214 MA's), (21, 39316), (39, 39238), (40, 39223), (48, 39178),

Gene: CaiB_41 Start: 35212, Stop: 34826, Start Num: 34
Candidate Starts for CaiB_41:
(Start: 20 @35266 has 1 MA's), (Start: 34 @35212 has 6 MA's), (39, 35173), (41, 35152), (43, 35137), (54, 35044), (56, 35032), (58, 35023), (60, 34999), (74, 34951), (79, 34942),

Gene: Calamitous_45 Start: 39863, Stop: 39474, Start Num: 24
Candidate Starts for Calamitous_45:
(Start: 24 @39863 has 35 MA's), (39, 39806), (44, 39764), (48, 39743), (53, 39698), (55, 39683), (56, 39674), (59, 39662), (60, 39641), (75, 39578), (78, 39572), (81, 39536), (82, 39533), (93, 39494),

Gene: CamL_46 Start: 39716, Stop: 39192, Start Num: 9
Candidate Starts for CamL_46:
(Start: 9 @39716 has 214 MA's), (21, 39617), (39, 39539), (40, 39524), (48, 39479),

Gene: Cannibal_46 Start: 39699, Stop: 39175, Start Num: 9
Candidate Starts for Cannibal_46:
(Start: 9 @39699 has 214 MA's), (21, 39600), (39, 39522), (40, 39507), (48, 39462),

Gene: Carthage_44 Start: 38628, Stop: 38104, Start Num: 9
Candidate Starts for Carthage_44:
(Start: 9 @38628 has 214 MA's), (21, 38529), (39, 38451), (40, 38436), (48, 38391),

Gene: Caspiboi_45 Start: 39425, Stop: 38901, Start Num: 9
Candidate Starts for Caspiboi_45:
(Start: 9 @39425 has 214 MA's), (21, 39326), (39, 39248), (40, 39233), (48, 39188),

Gene: Causa_59 Start: 48193, Stop: 47834, Start Num: 29
Candidate Starts for Causa_59:
(11, 48304), (13, 48289), (16, 48259), (Start: 29 @48193 has 4 MA's), (44, 48100), (58, 48004), (63, 47968), (81, 47902), (86, 47884), (87, 47881),

Gene: Chaelin_46 Start: 39416, Stop: 38889, Start Num: 9
Candidate Starts for Chaelin_46:
(Start: 9 @39416 has 214 MA's), (21, 39314), (39, 39236), (40, 39221), (48, 39176),

Gene: Charles1_46 Start: 39701, Stop: 39177, Start Num: 9
Candidate Starts for Charles1_46:
(Start: 9 @39701 has 214 MA's), (21, 39602), (39, 39524), (40, 39509), (48, 39464),

Gene: CharlieGBrown_45 Start: 39291, Stop: 38767, Start Num: 9

Candidate Starts for CharlieGBrown_45:
(Start: 9 @39291 has 214 MA's), (21, 39192), (39, 39114), (40, 39099), (48, 39054),

Gene: CharlottesWeb_39 Start: 33161, Stop: 32775, Start Num: 26
Candidate Starts for CharlottesWeb_39:
(26, 33161), (47, 33047), (48, 33041), (56, 32972), (58, 32963), (74, 32888), (83, 32843), (86, 32831),

Gene: CheetO_46 Start: 39721, Stop: 39191, Start Num: 9
Candidate Starts for CheetO_46:
(Start: 9 @39721 has 214 MA's), (21, 39616), (39, 39538), (40, 39523), (48, 39478),

Gene: Cher_45 Start: 39438, Stop: 38914, Start Num: 9
Candidate Starts for Cher_45:
(Start: 9 @39438 has 214 MA's), (21, 39339), (39, 39261), (40, 39246), (48, 39201),

Gene: CherryTomatoes_186 Start: 132867, Stop: 133241, Start Num: 36
Candidate Starts for CherryTomatoes_186:
(Start: 36 @132867 has 4 MA's), (41, 132921), (51, 132984), (53, 133005), (81, 133146), (99, 133230),

Gene: Childish_45 Start: 39441, Stop: 38917, Start Num: 9
Candidate Starts for Childish_45:
(Start: 9 @39441 has 214 MA's), (21, 39342), (39, 39264), (40, 39249), (48, 39204),

Gene: Chorkpop_46 Start: 39437, Stop: 38913, Start Num: 9
Candidate Starts for Chorkpop_46:
(Start: 9 @39437 has 214 MA's), (21, 39338), (39, 39260), (40, 39245), (48, 39200),

Gene: Chuni_45 Start: 39735, Stop: 39208, Start Num: 9
Candidate Starts for Chuni_45:
(Start: 9 @39735 has 214 MA's), (21, 39633), (39, 39555), (40, 39540), (48, 39495),

Gene: CloverMinnie_41 Start: 35206, Stop: 34766, Start Num: 20
Candidate Starts for CloverMinnie_41:
(Start: 20 @35206 has 1 MA's), (Start: 34 @35152 has 6 MA's), (41, 35092), (43, 35077), (54, 34984), (56, 34972), (60, 34939), (74, 34891), (79, 34882),

Gene: Cobra_46 Start: 39722, Stop: 39198, Start Num: 9
Candidate Starts for Cobra_46:
(Start: 9 @39722 has 214 MA's), (21, 39623), (39, 39545), (40, 39530), (48, 39485),

Gene: Coffee_45 Start: 39966, Stop: 39577, Start Num: 24
Candidate Starts for Coffee_45:
(Start: 24 @39966 has 35 MA's), (39, 39909), (44, 39867), (48, 39846), (53, 39801), (55, 39786), (56, 39777), (59, 39765), (60, 39744), (75, 39681), (78, 39675), (81, 39639), (82, 39636), (93, 39597),

Gene: Coldpizza_42 Start: 37983, Stop: 37594, Start Num: 29
Candidate Starts for Coldpizza_42:
(Start: 29 @37983 has 4 MA's), (43, 37899), (44, 37893), (48, 37875), (58, 37797), (81, 37686),

Gene: Coletti_46 Start: 39765, Stop: 39238, Start Num: 9
Candidate Starts for Coletti_46:
(Start: 9 @39765 has 214 MA's), (21, 39663), (39, 39585), (40, 39570), (48, 39525),

Gene: Cornbread_45 Start: 39438, Stop: 38914, Start Num: 9
Candidate Starts for Cornbread_45:
(Start: 9 @39438 has 214 MA's), (21, 39339), (39, 39261), (40, 39246), (48, 39201),

Gene: Cornobble_45 Start: 39279, Stop: 38752, Start Num: 9
Candidate Starts for Cornobble_45:
(Start: 9 @39279 has 214 MA's), (21, 39177), (39, 39099), (40, 39084), (48, 39039),

Gene: Cosmolli16_45 Start: 39429, Stop: 38902, Start Num: 9
Candidate Starts for Cosmolli16_45:
(Start: 9 @39429 has 214 MA's), (21, 39327), (39, 39249), (40, 39234), (48, 39189),

Gene: Crownjwl_46 Start: 39498, Stop: 38968, Start Num: 9
Candidate Starts for Crownjwl_46:
(Start: 9 @39498 has 214 MA's), (21, 39393), (39, 39315), (40, 39300), (48, 39255),

Gene: DaddyDaniels_46 Start: 39410, Stop: 38886, Start Num: 9
Candidate Starts for DaddyDaniels_46:
(Start: 9 @39410 has 214 MA's), (21, 39311), (39, 39233), (40, 39218), (48, 39173),

Gene: Daffy_46 Start: 39441, Stop: 38917, Start Num: 9
Candidate Starts for Daffy_46:
(Start: 9 @39441 has 214 MA's), (21, 39342), (39, 39264), (40, 39249), (48, 39204),

Gene: DelRivs_45 Start: 39442, Stop: 38912, Start Num: 9
Candidate Starts for DelRivs_45:
(Start: 9 @39442 has 214 MA's), (21, 39337), (39, 39259), (40, 39244), (48, 39199),

Gene: Derpp_45 Start: 39280, Stop: 38756, Start Num: 9
Candidate Starts for Derpp_45:
(Start: 9 @39280 has 214 MA's), (21, 39181), (39, 39103), (40, 39088), (48, 39043),

Gene: Dice_45 Start: 39412, Stop: 38891, Start Num: 9
Candidate Starts for Dice_45:
(Start: 9 @39412 has 214 MA's), (21, 39316), (39, 39238), (40, 39223), (48, 39178),

Gene: DigitDog_44 Start: 39734, Stop: 39348, Start Num: 32
Candidate Starts for DigitDog_44:
(Start: 32 @39734 has 13 MA's), (37, 39713), (41, 39674), (44, 39653), (52, 39593), (55, 39575), (56, 39566), (76, 39479), (81, 39443), (86, 39425), (94, 39389),

Gene: Dingo_46 Start: 39704, Stop: 39174, Start Num: 9
Candidate Starts for Dingo_46:
(Start: 9 @39704 has 214 MA's), (21, 39599), (39, 39521), (40, 39506), (48, 39461),

Gene: Dione_45 Start: 39420, Stop: 38896, Start Num: 9
Candidate Starts for Dione_45:
(Start: 9 @39420 has 214 MA's), (21, 39321), (39, 39243), (40, 39228), (48, 39183),

Gene: DirtJuice_46 Start: 39704, Stop: 39180, Start Num: 9
Candidate Starts for DirtJuice_46:
(Start: 9 @39704 has 214 MA's), (21, 39605), (39, 39527), (40, 39512), (48, 39467),

Gene: Doddsville_46 Start: 39434, Stop: 38910, Start Num: 9
Candidate Starts for Doddsville_46:
(Start: 9 @39434 has 214 MA's), (21, 39335), (39, 39257), (40, 39242), (48, 39197),

Gene: DoesntMatter_45 Start: 39707, Stop: 39183, Start Num: 9
Candidate Starts for DoesntMatter_45:
(Start: 9 @39707 has 214 MA's), (21, 39608), (39, 39530), (40, 39515), (48, 39470),

Gene: DonSanchon_45 Start: 39417, Stop: 38890, Start Num: 9
Candidate Starts for DonSanchon_45:
(Start: 9 @39417 has 214 MA's), (21, 39315), (39, 39237), (40, 39222), (48, 39177),

Gene: Donny_45 Start: 40039, Stop: 39653, Start Num: 32
Candidate Starts for Donny_45:
(10, 40177), (Start: 32 @40039 has 13 MA's), (37, 40018), (41, 39979), (44, 39958), (52, 39898), (56, 39871), (76, 39784), (81, 39748), (86, 39730), (94, 39694), (97, 39673),

Gene: Duggie_45 Start: 39436, Stop: 38912, Start Num: 9
Candidate Starts for Duggie_45:
(Start: 9 @39436 has 214 MA's), (21, 39337), (39, 39259), (40, 39244), (48, 39199),

Gene: Eaglehorse_45 Start: 39890, Stop: 39501, Start Num: 24
Candidate Starts for Eaglehorse_45:
(Start: 24 @39890 has 35 MA's), (39, 39833), (44, 39791), (48, 39770), (53, 39725), (55, 39710), (56, 39701), (59, 39689), (60, 39668), (75, 39605), (78, 39599), (81, 39563), (82, 39560), (93, 39521),

Gene: EastView9101_43 Start: 39689, Stop: 39303, Start Num: 32
Candidate Starts for EastView9101_43:
(10, 39827), (Start: 32 @39689 has 13 MA's), (37, 39668), (41, 39629), (44, 39608), (52, 39548), (56, 39521), (76, 39434), (81, 39398), (86, 39380), (94, 39344), (97, 39323),

Gene: EmpTee_46 Start: 39720, Stop: 39190, Start Num: 9
Candidate Starts for EmpTee_46:
(Start: 9 @39720 has 214 MA's), (21, 39615), (39, 39537), (40, 39522), (48, 39477),

Gene: Etaye_46 Start: 39707, Stop: 39180, Start Num: 9
Candidate Starts for Etaye_46:
(Start: 9 @39707 has 214 MA's), (21, 39605), (39, 39527), (40, 39512), (48, 39467),

Gene: Eugenia_46 Start: 39723, Stop: 39199, Start Num: 9
Candidate Starts for Eugenia_46:
(Start: 9 @39723 has 214 MA's), (21, 39624), (39, 39546), (40, 39531), (48, 39486),

Gene: Evaa_39 Start: 34284, Stop: 33898, Start Num: 29
Candidate Starts for Evaa_39:
(23, 34296), (Start: 29 @34284 has 4 MA's), (44, 34194), (48, 34176), (59, 34095), (66, 34041), (68, 34029),

Gene: Faze9_44 Start: 39986, Stop: 39597, Start Num: 24
Candidate Starts for Faze9_44:
(Start: 24 @39986 has 35 MA's), (39, 39929), (44, 39887), (48, 39866), (53, 39821), (55, 39806), (56, 39797), (59, 39785), (60, 39764), (75, 39701), (78, 39695), (81, 39659), (82, 39656), (93, 39617),

Gene: FelixTres_41 Start: 35215, Stop: 34829, Start Num: 34
Candidate Starts for FelixTres_41:
(Start: 20 @35269 has 1 MA's), (Start: 34 @35215 has 6 MA's), (41, 35155), (43, 35140), (54, 35047), (56, 35035), (60, 35002), (74, 34954), (79, 34945),

Gene: Flake_47 Start: 39772, Stop: 39245, Start Num: 9
Candidate Starts for Flake_47:
(Start: 9 @39772 has 214 MA's), (21, 39670), (39, 39592), (40, 39577), (48, 39532),

Gene: FleetyMac_46 Start: 39725, Stop: 39198, Start Num: 9
Candidate Starts for FleetyMac_46:
(Start: 9 @39725 has 214 MA's), (21, 39623), (39, 39545), (40, 39530), (48, 39485),

Gene: ForDig_38 Start: 37407, Stop: 36973, Start Num: 22
Candidate Starts for ForDig_38:
(2, 37635), (6, 37563), (Start: 22 @37407 has 2 MA's), (41, 37302), (44, 37281), (52, 37221), (59, 37182), (63, 37149), (81, 37074), (86, 37056),

Gene: Fozzie_45 Start: 39742, Stop: 39212, Start Num: 9
Candidate Starts for Fozzie_45:
(Start: 9 @39742 has 214 MA's), (21, 39637), (39, 39559), (40, 39544), (48, 39499),

Gene: Frankicide_46 Start: 39732, Stop: 39208, Start Num: 9
Candidate Starts for Frankicide_46:
(Start: 9 @39732 has 214 MA's), (21, 39633), (39, 39555), (40, 39540), (48, 39495),

Gene: FremontTroll_46 Start: 39480, Stop: 38950, Start Num: 9
Candidate Starts for FremontTroll_46:
(Start: 9 @39480 has 214 MA's), (21, 39375), (39, 39297), (40, 39282), (48, 39237),

Gene: FrenchFry_45 Start: 39980, Stop: 39591, Start Num: 24
Candidate Starts for FrenchFry_45:
(Start: 24 @39980 has 35 MA's), (39, 39923), (44, 39881), (48, 39860), (53, 39815), (55, 39800), (56, 39791), (59, 39779), (60, 39758), (75, 39695), (78, 39689), (81, 39653), (82, 39650), (93, 39611),

Gene: Fresco_39 Start: 33273, Stop: 32851, Start Num: 25
Candidate Starts for Fresco_39:
(Start: 25 @33273 has 10 MA's), (44, 33156), (48, 33138), (54, 33081), (70, 32994), (74, 32979), (83, 32934), (92, 32892),

Gene: Freya_45 Start: 39411, Stop: 38887, Start Num: 9
Candidate Starts for Freya_45:
(Start: 9 @39411 has 214 MA's), (21, 39312), (39, 39234), (40, 39219), (48, 39174),

Gene: FriarPreacher_45 Start: 39744, Stop: 39214, Start Num: 9
Candidate Starts for FriarPreacher_45:
(Start: 9 @39744 has 214 MA's), (21, 39639), (39, 39561), (40, 39546), (48, 39501),

Gene: FugateOSU_45 Start: 39419, Stop: 38892, Start Num: 9
Candidate Starts for FugateOSU_45:
(Start: 9 @39419 has 214 MA's), (21, 39317), (39, 39239), (40, 39224), (48, 39179),

Gene: Funsized_47 Start: 42156, Stop: 41758, Start Num: 31

Candidate Starts for Funsized_47:
(Start: 31 @42156 has 1 MA's), (48, 42054), (54, 41997), (55, 41994), (61, 41946), (74, 41886), (86, 41829),

Gene: GeneCoco_46 Start: 39728, Stop: 39204, Start Num: 9
Candidate Starts for GeneCoco_46:
(Start: 9 @39728 has 214 MA's), (21, 39629), (39, 39551), (40, 39536), (48, 39491),

Gene: Giraffe_46 Start: 39422, Stop: 38898, Start Num: 9
Candidate Starts for Giraffe_46:
(Start: 9 @39422 has 214 MA's), (21, 39323), (39, 39245), (40, 39230), (48, 39185),

Gene: Glass_45 Start: 39980, Stop: 39591, Start Num: 24
Candidate Starts for Glass_45:
(Start: 24 @39980 has 35 MA's), (39, 39923), (44, 39881), (48, 39860), (53, 39815), (55, 39800), (56, 39791), (59, 39779), (60, 39758), (75, 39695), (78, 39689), (81, 39653), (82, 39650), (93, 39611),

Gene: Godines_45 Start: 39922, Stop: 39533, Start Num: 24
Candidate Starts for Godines_45:
(Start: 24 @39922 has 35 MA's), (39, 39865), (44, 39823), (48, 39802), (53, 39757), (55, 39742), (56, 39733), (59, 39721), (60, 39700), (75, 39637), (78, 39631), (81, 39595), (82, 39592), (93, 39553),

Gene: Gophee_46 Start: 39711, Stop: 39181, Start Num: 9
Candidate Starts for Gophee_46:
(Start: 9 @39711 has 214 MA's), (21, 39606), (39, 39528), (40, 39513), (48, 39468),

Gene: Grand2040_45 Start: 39437, Stop: 38913, Start Num: 9
Candidate Starts for Grand2040_45:
(Start: 9 @39437 has 214 MA's), (21, 39338), (39, 39260), (40, 39245), (48, 39200),

Gene: GreenChile_46 Start: 39716, Stop: 39189, Start Num: 9
Candidate Starts for GreenChile_46:
(Start: 9 @39716 has 214 MA's), (21, 39614), (39, 39536), (40, 39521), (48, 39476),

Gene: Gwennie1_46 Start: 39783, Stop: 39259, Start Num: 9
Candidate Starts for Gwennie1_46:
(Start: 9 @39783 has 214 MA's), (21, 39684), (39, 39606), (40, 39591), (48, 39546),

Gene: Gyarad_0046 Start: 39719, Stop: 39195, Start Num: 9
Candidate Starts for Gyarad_0046:
(Start: 9 @39719 has 214 MA's), (21, 39620), (39, 39542), (40, 39527), (48, 39482),

Gene: HSavage_46 Start: 39723, Stop: 39199, Start Num: 9
Candidate Starts for HSavage_46:
(Start: 9 @39723 has 214 MA's), (21, 39624), (39, 39546), (40, 39531), (48, 39486),

Gene: Haimas_46 Start: 39717, Stop: 39190, Start Num: 9
Candidate Starts for Haimas_46:
(Start: 9 @39717 has 214 MA's), (21, 39615), (39, 39537), (40, 39522), (48, 39477),

Gene: Haleema_45 Start: 39437, Stop: 38913, Start Num: 9
Candidate Starts for Haleema_45:
(Start: 9 @39437 has 214 MA's), (21, 39338), (39, 39260), (40, 39245), (48, 39200),

Gene: Hamish_46 Start: 39709, Stop: 39182, Start Num: 9
Candidate Starts for Hamish_46:
(Start: 9 @39709 has 214 MA's), (21, 39607), (39, 39529), (40, 39514), (48, 39469),

Gene: Happabalu_46 Start: 39438, Stop: 38911, Start Num: 9
Candidate Starts for Happabalu_46:
(Start: 9 @39438 has 214 MA's), (21, 39336), (39, 39258), (40, 39243), (48, 39198),

Gene: Hartsy_46 Start: 39760, Stop: 39233, Start Num: 9
Candidate Starts for Hartsy_46:
(Start: 9 @39760 has 214 MA's), (21, 39658), (39, 39580), (40, 39565), (48, 39520),

Gene: Harvey_46 Start: 39735, Stop: 39208, Start Num: 9
Candidate Starts for Harvey_46:
(Start: 9 @39735 has 214 MA's), (21, 39633), (39, 39555), (40, 39540), (48, 39495),

Gene: Hedgerow_45 Start: 39962, Stop: 39573, Start Num: 24
Candidate Starts for Hedgerow_45:
(Start: 24 @39962 has 35 MA's), (39, 39905), (44, 39863), (48, 39842), (53, 39797), (55, 39782), (56, 39773), (59, 39761), (60, 39740), (75, 39677), (78, 39671), (81, 39635), (82, 39632), (93, 39593),

Gene: Held_46 Start: 39421, Stop: 38897, Start Num: 9
Candidate Starts for Held_46:
(Start: 9 @39421 has 214 MA's), (21, 39322), (39, 39244), (40, 39229), (48, 39184),

Gene: HenryJackson_45 Start: 39437, Stop: 38913, Start Num: 9
Candidate Starts for HenryJackson_45:
(Start: 9 @39437 has 214 MA's), (21, 39338), (39, 39260), (40, 39245), (48, 39200),

Gene: Hertubise_46 Start: 39731, Stop: 39204, Start Num: 9
Candidate Starts for Hertubise_46:
(Start: 9 @39731 has 214 MA's), (21, 39629), (39, 39551), (40, 39536), (48, 39491),

Gene: Hetaeria_46 Start: 39733, Stop: 39206, Start Num: 9
Candidate Starts for Hetaeria_46:
(Start: 9 @39733 has 214 MA's), (21, 39631), (39, 39553), (40, 39538), (48, 39493),

Gene: Hocus_45 Start: 39426, Stop: 38902, Start Num: 9
Candidate Starts for Hocus_45:
(Start: 9 @39426 has 214 MA's), (21, 39327), (39, 39249), (40, 39234), (48, 39189),

Gene: HogWash_46 Start: 39729, Stop: 39202, Start Num: 9
Candidate Starts for HogWash_46:
(Start: 9 @39729 has 214 MA's), (21, 39627), (39, 39549), (40, 39534), (48, 39489),

Gene: Holeinone_45 Start: 39842, Stop: 39453, Start Num: 24
Candidate Starts for Holeinone_45:
(Start: 24 @39842 has 35 MA's), (39, 39785), (44, 39743), (48, 39722), (53, 39677), (55, 39662), (56, 39653), (59, 39641), (60, 39620), (75, 39557), (78, 39551), (81, 39515), (82, 39512), (93, 39473),

Gene: Horchata_46 Start: 39711, Stop: 39184, Start Num: 9
Candidate Starts for Horchata_46:

(Start: 9 @39711 has 214 MA's), (21, 39609), (39, 39531), (40, 39516), (48, 39471),

Gene: Hosp_036 Start: 35614, Stop: 35177, Start Num: 22
Candidate Starts for Hosp_036:
(2, 35842), (6, 35770), (Start: 22 @35614 has 2 MA's), (37, 35548), (44, 35488), (56, 35401), (59, 35389), (60, 35368), (81, 35269),

Gene: Indlovu_43 Start: 38910, Stop: 38503, Start Num: 27
Candidate Starts for Indlovu_43:
(Start: 27 @38910 has 1 MA's), (41, 38835), (55, 38736), (60, 38694), (72, 38637), (81, 38589),

Gene: Inverness_46 Start: 39720, Stop: 39196, Start Num: 9
Candidate Starts for Inverness_46:
(Start: 9 @39720 has 214 MA's), (21, 39621), (39, 39543), (40, 39528), (48, 39483),

Gene: Iridessa_46 Start: 39422, Stop: 38898, Start Num: 9
Candidate Starts for Iridessa_46:
(Start: 9 @39422 has 214 MA's), (21, 39323), (39, 39245), (40, 39230), (48, 39185),

Gene: Iridoclysis_46 Start: 39703, Stop: 39176, Start Num: 9
Candidate Starts for Iridoclysis_46:
(Start: 9 @39703 has 214 MA's), (21, 39601), (39, 39523), (40, 39508), (48, 39463),

Gene: ItsyBitsy1_45 Start: 39844, Stop: 39455, Start Num: 24
Candidate Starts for ItsyBitsy1_45:
(Start: 24 @39844 has 35 MA's), (39, 39787), (44, 39745), (48, 39724), (53, 39679), (55, 39664), (56, 39655), (59, 39643), (60, 39622), (75, 39559), (78, 39553), (81, 39517), (82, 39514), (93, 39475),

Gene: JakeO_45 Start: 39439, Stop: 38915, Start Num: 9
Candidate Starts for JakeO_45:
(Start: 9 @39439 has 214 MA's), (21, 39340), (39, 39262), (40, 39247), (48, 39202),

Gene: JangoPhett_46 Start: 39714, Stop: 39184, Start Num: 9
Candidate Starts for JangoPhett_46:
(Start: 9 @39714 has 214 MA's), (21, 39609), (39, 39531), (40, 39516), (48, 39471),

Gene: Jesabah_46 Start: 39442, Stop: 38915, Start Num: 9
Candidate Starts for Jesabah_46:
(Start: 9 @39442 has 214 MA's), (21, 39340), (39, 39262), (40, 39247), (48, 39202),

Gene: Jillium_45 Start: 39433, Stop: 38906, Start Num: 9
Candidate Starts for Jillium_45:
(Start: 9 @39433 has 214 MA's), (21, 39331), (39, 39253), (40, 39238), (48, 39193),

Gene: Jiminy_45 Start: 39274, Stop: 38750, Start Num: 9
Candidate Starts for Jiminy_45:
(Start: 9 @39274 has 214 MA's), (21, 39175), (39, 39097), (40, 39082), (48, 39037),

Gene: Jiraiya_45 Start: 39427, Stop: 38903, Start Num: 9
Candidate Starts for Jiraiya_45:
(Start: 9 @39427 has 214 MA's), (21, 39328), (39, 39250), (40, 39235), (48, 39190),

Gene: Jolie1_038 Start: 37398, Stop: 36964, Start Num: 22

Candidate Starts for Jolie1_038:
(2, 37626), (Start: 22 @37398 has 2 MA's), (41, 37293), (44, 37272), (52, 37212), (56, 37185), (59, 37173), (63, 37140), (81, 37065), (86, 37047),

Gene: KLucky39_46 Start: 39718, Stop: 39194, Start Num: 9
Candidate Starts for KLucky39_46:
(Start: 9 @39718 has 214 MA's), (21, 39619), (39, 39541), (40, 39526), (48, 39481),

Gene: Kahve_45 Start: 39434, Stop: 38910, Start Num: 9
Candidate Starts for Kahve_45:
(Start: 9 @39434 has 214 MA's), (21, 39335), (39, 39257), (40, 39242), (48, 39197),

Gene: Kailash_46 Start: 39775, Stop: 39248, Start Num: 9
Candidate Starts for Kailash_46:
(Start: 9 @39775 has 214 MA's), (21, 39673), (39, 39595), (40, 39580), (48, 39535),

Gene: Kaleb_45 Start: 39977, Stop: 39588, Start Num: 24
Candidate Starts for Kaleb_45:
(Start: 24 @39977 has 35 MA's), (39, 39920), (44, 39878), (48, 39857), (53, 39812), (55, 39797), (56, 39788), (59, 39776), (60, 39755), (75, 39692), (78, 39686), (81, 39650), (82, 39647), (93, 39608),

Gene: KarasumaRum_46 Start: 40176, Stop: 39790, Start Num: 32
Candidate Starts for KarasumaRum_46:
(Start: 32 @40176 has 13 MA's), (37, 40155), (41, 40116), (44, 40095), (52, 40035), (55, 40017), (56, 40008), (81, 39885), (86, 39867), (94, 39831),

Gene: Karn_45 Start: 39434, Stop: 38910, Start Num: 9
Candidate Starts for Karn_45:
(Start: 9 @39434 has 214 MA's), (21, 39335), (39, 39257), (40, 39242), (48, 39197),

Gene: KayaCho_38 Start: 37397, Stop: 36963, Start Num: 22
Candidate Starts for KayaCho_38:
(Start: 22 @37397 has 2 MA's), (41, 37292), (44, 37271), (52, 37211), (56, 37184), (59, 37172), (63, 37139), (81, 37064), (86, 37046),

Gene: Keitherie_46 Start: 39774, Stop: 39247, Start Num: 9
Candidate Starts for Keitherie_46:
(Start: 9 @39774 has 214 MA's), (21, 39672), (39, 39594), (40, 39579), (48, 39534),

Gene: Khan1_46 Start: 39455, Stop: 38931, Start Num: 9
Candidate Starts for Khan1_46:
(Start: 9 @39455 has 214 MA's), (21, 39356), (39, 39278), (40, 39263), (48, 39218),

Gene: Kheth_45 Start: 39865, Stop: 39476, Start Num: 24
Candidate Starts for Kheth_45:
(Start: 24 @39865 has 35 MA's), (39, 39808), (44, 39766), (48, 39745), (53, 39700), (55, 39685), (56, 39676), (59, 39664), (60, 39643), (75, 39580), (78, 39574), (81, 39538), (82, 39535), (93, 39496),

Gene: Kimbrough_46 Start: 39435, Stop: 38902, Start Num: 9
Candidate Starts for Kimbrough_46:
(Start: 9 @39435 has 214 MA's), (21, 39327), (39, 39249), (40, 39234), (48, 39189),

Gene: KingTut_37 Start: 35098, Stop: 34571, Start Num: 9

Candidate Starts for KingTut_37:
(Start: 9 @35098 has 214 MA's), (21, 34996), (39, 34918), (40, 34903), (48, 34858),

Gene: KingVeVeVe_46 Start: 39705, Stop: 39175, Start Num: 9
Candidate Starts for KingVeVeVe_46:
(Start: 9 @39705 has 214 MA's), (21, 39600), (39, 39522), (40, 39507), (48, 39462),

Gene: KlimbOn_46 Start: 39712, Stop: 39188, Start Num: 9
Candidate Starts for KlimbOn_46:
(Start: 9 @39712 has 214 MA's), (21, 39613), (39, 39535), (40, 39520), (48, 39475),

Gene: Kloppinator_46 Start: 39738, Stop: 39211, Start Num: 9
Candidate Starts for Kloppinator_46:
(Start: 9 @39738 has 214 MA's), (21, 39636), (39, 39558), (40, 39543), (48, 39498),

Gene: Knocker_46 Start: 41265, Stop: 40882, Start Num: 35
Candidate Starts for Knocker_46:
(Start: 35 @41265 has 2 MA's), (44, 41190), (48, 41172), (49, 41157), (54, 41115), (62, 41061), (70, 41019), (73, 41013), (85, 40950), (95, 40914),

Gene: Kolhan_45 Start: 39856, Stop: 39467, Start Num: 24
Candidate Starts for Kolhan_45:
(Start: 24 @39856 has 35 MA's), (39, 39799), (44, 39757), (48, 39736), (53, 39691), (55, 39676), (56, 39667), (59, 39655), (60, 39634), (75, 39571), (78, 39565), (81, 39529), (82, 39526), (93, 39487),

Gene: Kwadwo_45 Start: 39416, Stop: 38892, Start Num: 9
Candidate Starts for Kwadwo_45:
(Start: 9 @39416 has 214 MA's), (21, 39317), (39, 39239), (40, 39224), (48, 39179),

Gene: Kwksand96_45 Start: 39285, Stop: 38761, Start Num: 9
Candidate Starts for Kwksand96_45:
(Start: 9 @39285 has 214 MA's), (21, 39186), (39, 39108), (40, 39093), (48, 39048),

Gene: Labeouficaum_45 Start: 39280, Stop: 38756, Start Num: 9
Candidate Starts for Labeouficaum_45:
(Start: 9 @39280 has 214 MA's), (21, 39181), (39, 39103), (40, 39088), (48, 39043),

Gene: Lars_45 Start: 39967, Stop: 39578, Start Num: 24
Candidate Starts for Lars_45:
(Start: 24 @39967 has 35 MA's), (39, 39910), (44, 39868), (48, 39847), (53, 39802), (55, 39787), (56, 39778), (59, 39766), (60, 39745), (75, 39682), (78, 39676), (81, 39640), (82, 39637), (89, 39610), (93, 39598),

Gene: Larson_47 Start: 39832, Stop: 39305, Start Num: 9
Candidate Starts for Larson_47:
(Start: 9 @39832 has 214 MA's), (21, 39730), (39, 39652), (40, 39637), (48, 39592),

Gene: Lasso_46 Start: 39691, Stop: 39167, Start Num: 9
Candidate Starts for Lasso_46:
(Start: 9 @39691 has 214 MA's), (21, 39592), (39, 39514), (40, 39499), (48, 39454),

Gene: Laurie_44 Start: 39366, Stop: 38977, Start Num: 24
Candidate Starts for Laurie_44:

(Start: 24 @39366 has 35 MA's), (39, 39309), (44, 39267), (48, 39246), (53, 39201), (55, 39186), (56, 39177), (59, 39165), (60, 39144), (75, 39081), (78, 39075), (81, 39039), (82, 39036), (86, 39021), (93, 38997),

Gene: LeeLot_46 Start: 39722, Stop: 39198, Start Num: 9
Candidate Starts for LeeLot_46:
(Start: 9 @39722 has 214 MA's), (21, 39623), (39, 39545), (40, 39530), (48, 39485),

Gene: LeiMonet_47 Start: 39423, Stop: 38899, Start Num: 9
Candidate Starts for LeiMonet_47:
(Start: 9 @39423 has 214 MA's), (21, 39324), (39, 39246), (40, 39231), (48, 39186),

Gene: LemonSlice_46 Start: 39422, Stop: 38895, Start Num: 9
Candidate Starts for LemonSlice_46:
(Start: 9 @39422 has 214 MA's), (21, 39320), (39, 39242), (40, 39227), (48, 39182),

Gene: Lephleur_45 Start: 39860, Stop: 39471, Start Num: 24
Candidate Starts for Lephleur_45:
(Start: 24 @39860 has 35 MA's), (39, 39803), (44, 39761), (48, 39740), (53, 39695), (55, 39680), (56, 39671), (59, 39659), (60, 39638), (75, 39575), (78, 39569), (81, 39533), (82, 39530), (93, 39491),

Gene: Ligma_39 Start: 33273, Stop: 32851, Start Num: 25
Candidate Starts for Ligma_39:
(Start: 25 @33273 has 10 MA's), (44, 33156), (48, 33138), (54, 33081), (70, 32994), (74, 32979), (83, 32934), (92, 32892),

Gene: LilMcDreamy_42 Start: 39137, Stop: 38754, Start Num: 32
Candidate Starts for LilMcDreamy_42:
(4, 39353), (Start: 32 @39137 has 13 MA's), (41, 39077), (44, 39056), (56, 38969), (60, 38936), (62, 38927), (86, 38831), (91, 38804),

Gene: LilSmirk_45 Start: 39854, Stop: 39465, Start Num: 24
Candidate Starts for LilSmirk_45:
(Start: 24 @39854 has 35 MA's), (39, 39797), (44, 39755), (48, 39734), (53, 39689), (55, 39674), (56, 39665), (59, 39653), (60, 39632), (75, 39569), (78, 39563), (81, 39527), (82, 39524), (93, 39485),

Gene: LittleMunchkin_41 Start: 36568, Stop: 36182, Start Num: 25
Candidate Starts for LittleMunchkin_41:
(Start: 25 @36568 has 10 MA's), (44, 36460), (48, 36442), (56, 36373), (59, 36361), (63, 36328), (83, 36247), (86, 36235),

Gene: LizLemon_45 Start: 39976, Stop: 39587, Start Num: 24
Candidate Starts for LizLemon_45:
(Start: 24 @39976 has 35 MA's), (39, 39919), (44, 39877), (48, 39856), (53, 39811), (55, 39796), (56, 39787), (59, 39775), (60, 39754), (75, 39691), (78, 39685), (81, 39649), (82, 39646), (93, 39607),

Gene: Longacauda_45 Start: 39424, Stop: 38900, Start Num: 9
Candidate Starts for Longacauda_45:
(Start: 9 @39424 has 214 MA's), (21, 39325), (39, 39247), (40, 39232), (48, 39187),

Gene: LostAndPhound_45 Start: 39425, Stop: 38901, Start Num: 9
Candidate Starts for LostAndPhound_45:
(Start: 9 @39425 has 214 MA's), (21, 39326), (39, 39248), (40, 39233), (48, 39188),

Gene: LuckyMarjie_45 Start: 39431, Stop: 38910, Start Num: 9
Candidate Starts for LuckyMarjie_45:
(Start: 9 @39431 has 214 MA's), (21, 39335), (39, 39257), (40, 39242), (48, 39197),

Gene: Lulumae_45 Start: 39416, Stop: 38892, Start Num: 9
Candidate Starts for Lulumae_45:
(Start: 9 @39416 has 214 MA's), (21, 39317), (39, 39239), (40, 39224), (48, 39179),

Gene: Lulwa_46 Start: 39703, Stop: 39179, Start Num: 9
Candidate Starts for Lulwa_46:
(Start: 9 @39703 has 214 MA's), (21, 39604), (39, 39526), (40, 39511), (48, 39466),

Gene: Lumine_45 Start: 39412, Stop: 38888, Start Num: 9
Candidate Starts for Lumine_45:
(Start: 9 @39412 has 214 MA's), (21, 39313), (39, 39235), (40, 39220), (48, 39175),

Gene: MRabcd_45 Start: 39416, Stop: 38892, Start Num: 9
Candidate Starts for MRabcd_45:
(Start: 9 @39416 has 214 MA's), (21, 39317), (39, 39239), (40, 39224), (48, 39179),

Gene: Mag7_45 Start: 39325, Stop: 38798, Start Num: 9
Candidate Starts for Mag7_45:
(Start: 9 @39325 has 214 MA's), (21, 39223), (39, 39145), (40, 39130), (48, 39085),

Gene: Magic8_46 Start: 39760, Stop: 39233, Start Num: 9
Candidate Starts for Magic8_46:
(Start: 9 @39760 has 214 MA's), (21, 39658), (39, 39580), (40, 39565), (48, 39520),

Gene: MakoManhole_41 Start: 35230, Stop: 34844, Start Num: 34
Candidate Starts for MakoManhole_41:
(Start: 20 @35284 has 1 MA's), (Start: 34 @35230 has 6 MA's), (41, 35170), (43, 35155), (54, 35062), (56, 35050), (60, 35017), (74, 34969), (79, 34960),

Gene: Mana_45 Start: 39431, Stop: 38907, Start Num: 9
Candidate Starts for Mana_45:
(Start: 9 @39431 has 214 MA's), (21, 39332), (39, 39254), (40, 39239), (48, 39194),

Gene: Manad_45 Start: 39276, Stop: 38749, Start Num: 9
Candidate Starts for Manad_45:
(Start: 9 @39276 has 214 MA's), (21, 39174), (39, 39096), (40, 39081), (48, 39036),

Gene: Mariokart_39 Start: 33175, Stop: 32774, Start Num: 25
Candidate Starts for Mariokart_39:
(Start: 25 @33175 has 10 MA's), (47, 33046), (48, 33040), (56, 32971), (58, 32962), (74, 32887), (83, 32842), (86, 32830),

Gene: Maru_45 Start: 39374, Stop: 38850, Start Num: 9
Candidate Starts for Maru_45:
(Start: 9 @39374 has 214 MA's), (21, 39275), (39, 39197), (40, 39182), (48, 39137),

Gene: MasterPo_45 Start: 39863, Stop: 39474, Start Num: 24
Candidate Starts for MasterPo_45:

(Start: 24 @39863 has 35 MA's), (39, 39806), (44, 39764), (48, 39743), (53, 39698), (55, 39683), (56, 39674), (59, 39662), (60, 39641), (75, 39578), (78, 39572), (81, 39536), (82, 39533), (93, 39494),

Gene: Matalotodo_46 Start: 39720, Stop: 39193, Start Num: 9
Candidate Starts for Matalotodo_46:
(Start: 9 @39720 has 214 MA's), (21, 39618), (39, 39540), (40, 39525), (48, 39480),

Gene: Mcshane_45 Start: 39417, Stop: 38890, Start Num: 9
Candidate Starts for Mcshane_45:
(Start: 9 @39417 has 214 MA's), (21, 39315), (39, 39237), (40, 39222), (48, 39177),

Gene: Mecca_45 Start: 39423, Stop: 38893, Start Num: 9
Candidate Starts for Mecca_45:
(Start: 9 @39423 has 214 MA's), (21, 39318), (39, 39240), (40, 39225), (48, 39180),

Gene: Megamind20_46 Start: 39445, Stop: 38915, Start Num: 9
Candidate Starts for Megamind20_46:
(Start: 9 @39445 has 214 MA's), (21, 39340), (39, 39262), (40, 39247), (48, 39202),

Gene: Melc17_46 Start: 39715, Stop: 39188, Start Num: 9
Candidate Starts for Melc17_46:
(Start: 9 @39715 has 214 MA's), (21, 39613), (39, 39535), (40, 39520), (48, 39475),

Gene: Mesh1_46 Start: 39732, Stop: 39205, Start Num: 9
Candidate Starts for Mesh1_46:
(Start: 9 @39732 has 214 MA's), (21, 39630), (39, 39552), (40, 39537), (48, 39492),

Gene: Mesmerelda_45 Start: 39433, Stop: 38903, Start Num: 9
Candidate Starts for Mesmerelda_45:
(Start: 9 @39433 has 214 MA's), (21, 39328), (39, 39250), (40, 39235), (48, 39190),

Gene: MichaelPhcott_45 Start: 39322, Stop: 38795, Start Num: 9
Candidate Starts for MichaelPhcott_45:
(Start: 9 @39322 has 214 MA's), (21, 39220), (39, 39142), (40, 39127), (48, 39082),

Gene: Mikota_46 Start: 39702, Stop: 39178, Start Num: 9
Candidate Starts for Mikota_46:
(Start: 9 @39702 has 214 MA's), (21, 39603), (39, 39525), (40, 39510), (48, 39465),

Gene: MiniBoss_46 Start: 39708, Stop: 39184, Start Num: 9
Candidate Starts for MiniBoss_46:
(Start: 9 @39708 has 214 MA's), (21, 39609), (39, 39531), (40, 39516), (48, 39471),

Gene: MitKao_46 Start: 39423, Stop: 38899, Start Num: 9
Candidate Starts for MitKao_46:
(Start: 9 @39423 has 214 MA's), (21, 39324), (39, 39246), (40, 39231), (48, 39186),

Gene: Morgushi_46 Start: 39424, Stop: 38900, Start Num: 9
Candidate Starts for Morgushi_46:
(Start: 9 @39424 has 214 MA's), (21, 39325), (39, 39247), (40, 39232), (48, 39187),

Gene: MossRose_41 Start: 35209, Stop: 34823, Start Num: 34
Candidate Starts for MossRose_41:

(Start: 20 @35263 has 1 MA's), (Start: 34 @35209 has 6 MA's), (41, 35149), (43, 35134), (54, 35041), (56, 35029), (60, 34996), (74, 34948), (79, 34939),

Gene: MrPhizzler_46 Start: 39432, Stop: 38908, Start Num: 9
Candidate Starts for MrPhizzler_46:
(Start: 9 @39432 has 214 MA's), (21, 39333), (39, 39255), (40, 39240), (48, 39195),

Gene: Murdoc_46 Start: 39716, Stop: 39192, Start Num: 9
Candidate Starts for Murdoc_46:
(Start: 9 @39716 has 214 MA's), (21, 39617), (39, 39539), (40, 39524), (48, 39479),

Gene: Mysterious_44 Start: 40306, Stop: 39920, Start Num: 32
Candidate Starts for Mysterious_44:
(Start: 32 @40306 has 13 MA's), (41, 40246), (42, 40240), (44, 40225), (55, 40147), (56, 40138), (62, 40096), (63, 40093), (76, 40051), (80, 40039), (81, 40015), (86, 39997), (94, 39961),

Gene: NHagos_39 Start: 33821, Stop: 33447, Start Num: 33
Candidate Starts for NHagos_39:
(Start: 33 @33821 has 1 MA's), (44, 33740), (48, 33722), (56, 33653), (70, 33584), (81, 33533), (86, 33515),

Gene: Nangang_44 Start: 40099, Stop: 39713, Start Num: 32
Candidate Starts for Nangang_44:
(Start: 32 @40099 has 13 MA's), (37, 40078), (41, 40039), (44, 40018), (52, 39958), (55, 39940), (56, 39931), (76, 39844), (81, 39808), (86, 39790), (94, 39754),

Gene: Nathan_46 Start: 39754, Stop: 39230, Start Num: 9
Candidate Starts for Nathan_46:
(Start: 9 @39754 has 214 MA's), (21, 39655), (39, 39577), (40, 39562), (48, 39517),

Gene: Nehemiah_44 Start: 40306, Stop: 39920, Start Num: 32
Candidate Starts for Nehemiah_44:
(Start: 32 @40306 has 13 MA's), (41, 40246), (42, 40240), (44, 40225), (55, 40147), (56, 40138), (62, 40096), (63, 40093), (76, 40051), (80, 40039), (81, 40015), (86, 39997), (94, 39961),

Gene: Newman_46 Start: 39715, Stop: 39191, Start Num: 9
Candidate Starts for Newman_46:
(Start: 9 @39715 has 214 MA's), (21, 39616), (39, 39538), (40, 39523), (48, 39478),

Gene: Nicole21_46 Start: 39716, Stop: 39189, Start Num: 9
Candidate Starts for Nicole21_46:
(Start: 9 @39716 has 214 MA's), (21, 39614), (39, 39536), (40, 39521), (48, 39476),

Gene: Numberten_46 Start: 39722, Stop: 39198, Start Num: 9
Candidate Starts for Numberten_46:
(Start: 9 @39722 has 214 MA's), (21, 39623), (39, 39545), (40, 39530), (48, 39485),

Gene: Nyala_45 Start: 39421, Stop: 38891, Start Num: 9
Candidate Starts for Nyala_45:
(Start: 9 @39421 has 214 MA's), (21, 39316), (39, 39238), (40, 39223), (48, 39178),

Gene: Olak_45 Start: 39424, Stop: 38894, Start Num: 9
Candidate Starts for Olak_45:

(Start: 9 @39424 has 214 MA's), (21, 39319), (39, 39241), (40, 39226), (48, 39181),

Gene: Oline_45 Start: 39284, Stop: 38760, Start Num: 9
Candidate Starts for Oline_45:
(Start: 9 @39284 has 214 MA's), (21, 39185), (39, 39107), (40, 39092), (48, 39047),

Gene: Olive_46 Start: 39711, Stop: 39181, Start Num: 9
Candidate Starts for Olive_46:
(Start: 9 @39711 has 214 MA's), (21, 39606), (39, 39528), (40, 39513), (48, 39468),

Gene: OliverWalter_46 Start: 39733, Stop: 39203, Start Num: 9
Candidate Starts for OliverWalter_46:
(Start: 9 @39733 has 214 MA's), (21, 39628), (39, 39550), (40, 39535), (48, 39490),

Gene: Omniscient_46 Start: 39730, Stop: 39200, Start Num: 9
Candidate Starts for Omniscient_46:
(Start: 9 @39730 has 214 MA's), (21, 39625), (39, 39547), (40, 39532), (48, 39487),

Gene: Oosterbaan_46 Start: 39718, Stop: 39191, Start Num: 9
Candidate Starts for Oosterbaan_46:
(Start: 9 @39718 has 214 MA's), (21, 39616), (39, 39538), (40, 39523), (48, 39478),

Gene: Opia_45 Start: 39849, Stop: 39460, Start Num: 24
Candidate Starts for Opia_45:
(Start: 24 @39849 has 35 MA's), (39, 39792), (44, 39750), (48, 39729), (53, 39684), (55, 39669), (56, 39660), (59, 39648), (60, 39627), (75, 39564), (78, 39558), (81, 39522), (82, 39519), (93, 39480),

Gene: Orfeu_45 Start: 39423, Stop: 38899, Start Num: 9
Candidate Starts for Orfeu_45:
(Start: 9 @39423 has 214 MA's), (21, 39324), (39, 39246), (40, 39231), (48, 39186),

Gene: Orwigg_45 Start: 39417, Stop: 38887, Start Num: 9
Candidate Starts for Orwigg_45:
(Start: 9 @39417 has 214 MA's), (21, 39312), (39, 39234), (40, 39219), (48, 39174),

Gene: Pacifista_45 Start: 39420, Stop: 38893, Start Num: 9
Candidate Starts for Pacifista_45:
(Start: 9 @39420 has 214 MA's), (21, 39318), (39, 39240), (40, 39225), (48, 39180),

Gene: PallasAthena_46 Start: 39428, Stop: 38904, Start Num: 9
Candidate Starts for PallasAthena_46:
(Start: 9 @39428 has 214 MA's), (21, 39329), (39, 39251), (40, 39236), (48, 39191),

Gene: Phantasmagoria_45 Start: 39861, Stop: 39472, Start Num: 24
Candidate Starts for Phantasmagoria_45:
(Start: 24 @39861 has 35 MA's), (39, 39804), (44, 39762), (48, 39741), (53, 39696), (55, 39681), (56, 39672), (59, 39660), (60, 39639), (75, 39576), (78, 39570), (81, 39534), (82, 39531), (93, 39492),

Gene: Phareon_46 Start: 39425, Stop: 38901, Start Num: 9
Candidate Starts for Phareon_46:
(Start: 9 @39425 has 214 MA's), (21, 39326), (39, 39248), (40, 39233), (48, 39188),

Gene: PhatLouie_46 Start: 39722, Stop: 39195, Start Num: 9

Candidate Starts for PhatLouie_46:
(Start: 9 @39722 has 214 MA's), (21, 39620), (39, 39542), (40, 39527), (48, 39482),

Gene: Phelemich_44 Start: 40305, Stop: 39919, Start Num: 32
Candidate Starts for Phelemich_44:
(Start: 32 @40305 has 13 MA's), (41, 40245), (44, 40224), (55, 40146), (56, 40137), (62, 40095), (63, 40092), (69, 40062), (76, 40050), (80, 40038), (81, 40014), (86, 39996), (94, 39960),

Gene: PhenghisKhan_45 Start: 39328, Stop: 38801, Start Num: 9
Candidate Starts for PhenghisKhan_45:
(Start: 9 @39328 has 214 MA's), (21, 39226), (39, 39148), (40, 39133), (48, 39088),

Gene: Phergie_45 Start: 39319, Stop: 38792, Start Num: 9
Candidate Starts for Phergie_45:
(Start: 9 @39319 has 214 MA's), (21, 39217), (39, 39139), (40, 39124), (48, 39079),

Gene: Phipps_46 Start: 39698, Stop: 39168, Start Num: 9
Candidate Starts for Phipps_46:
(Start: 9 @39698 has 214 MA's), (21, 39593), (39, 39515), (40, 39500), (48, 39455),

Gene: Phleuron_45 Start: 39325, Stop: 38798, Start Num: 9
Candidate Starts for Phleuron_45:
(Start: 9 @39325 has 214 MA's), (21, 39223), (39, 39145), (40, 39130), (48, 39085),

Gene: PhrankReynolds_44 Start: 39325, Stop: 38798, Start Num: 9
Candidate Starts for PhrankReynolds_44:
(Start: 9 @39325 has 214 MA's), (21, 39223), (39, 39145), (40, 39130), (48, 39085),

Gene: Phunky_46 Start: 39722, Stop: 39198, Start Num: 9
Candidate Starts for Phunky_46:
(Start: 9 @39722 has 214 MA's), (21, 39623), (39, 39545), (40, 39530), (48, 39485),

Gene: Piglet_0045 Start: 39829, Stop: 39305, Start Num: 9
Candidate Starts for Piglet_0045:
(Start: 9 @39829 has 214 MA's), (21, 39730), (39, 39652), (40, 39637), (48, 39592),

Gene: PinheadLarry_46 Start: 39435, Stop: 38911, Start Num: 9
Candidate Starts for PinheadLarry_46:
(Start: 9 @39435 has 214 MA's), (21, 39336), (39, 39258), (40, 39243), (48, 39198),

Gene: Pinkman_45 Start: 39278, Stop: 38754, Start Num: 9
Candidate Starts for Pinkman_45:
(Start: 9 @39278 has 214 MA's), (21, 39179), (39, 39101), (40, 39086), (48, 39041),

Gene: Pipsqueak_46 Start: 39723, Stop: 39196, Start Num: 9
Candidate Starts for Pipsqueak_46:
(Start: 9 @39723 has 214 MA's), (21, 39621), (39, 39543), (40, 39528), (48, 39483),

Gene: Placalicious_45 Start: 39416, Stop: 38889, Start Num: 9
Candidate Starts for Placalicious_45:
(Start: 9 @39416 has 214 MA's), (21, 39314), (39, 39236), (40, 39221), (48, 39176),

Gene: Plata_46 Start: 39434, Stop: 38910, Start Num: 9

Candidate Starts for Plata_46:
(Start: 9 @39434 has 214 MA's), (21, 39335), (39, 39257), (40, 39242), (48, 39197),

Gene: Plmatters_46 Start: 39719, Stop: 39195, Start Num: 9
Candidate Starts for Plmatters_46:
(Start: 9 @39719 has 214 MA's), (21, 39620), (39, 39542), (40, 39527), (48, 39482),

Gene: Podrick_46 Start: 39710, Stop: 39186, Start Num: 9
Candidate Starts for Podrick_46:
(Start: 9 @39710 has 214 MA's), (21, 39611), (39, 39533), (40, 39518), (48, 39473),

Gene: Pops_46 Start: 39734, Stop: 39210, Start Num: 9
Candidate Starts for Pops_46:
(Start: 9 @39734 has 214 MA's), (21, 39635), (39, 39557), (40, 39542), (48, 39497),

Gene: Potter_45 Start: 39434, Stop: 38910, Start Num: 9
Candidate Starts for Potter_45:
(Start: 9 @39434 has 214 MA's), (21, 39335), (39, 39257), (40, 39242), (48, 39197),

Gene: PrinceCharming_45 Start: 39969, Stop: 39580, Start Num: 24
Candidate Starts for PrinceCharming_45:
(Start: 24 @39969 has 35 MA's), (39, 39912), (44, 39870), (48, 39849), (53, 39804), (55, 39789), (56, 39780), (59, 39768), (60, 39747), (75, 39684), (78, 39678), (81, 39642), (82, 39639), (93, 39600),

Gene: ProfessorX_46 Start: 39711, Stop: 39181, Start Num: 9
Candidate Starts for ProfessorX_46:
(Start: 9 @39711 has 214 MA's), (21, 39606), (39, 39528), (40, 39513), (48, 39468),

Gene: Puhltonio_46 Start: 39726, Stop: 39202, Start Num: 9
Candidate Starts for Puhltonio_46:
(Start: 9 @39726 has 214 MA's), (21, 39627), (39, 39549), (40, 39534), (48, 39489),

Gene: Pupper_184 Start: 132729, Stop: 133103, Start Num: 36
Candidate Starts for Pupper_184:
(Start: 36 @132729 has 4 MA's), (41, 132783), (51, 132846), (53, 132867), (81, 133008), (84, 133020), (99, 133092),

Gene: QueenBeane_46 Start: 39716, Stop: 39192, Start Num: 9
Candidate Starts for QueenBeane_46:
(Start: 9 @39716 has 214 MA's), (21, 39617), (39, 39539), (40, 39524), (48, 39479),

Gene: Quisquiliae_46 Start: 39747, Stop: 39220, Start Num: 9
Candidate Starts for Quisquiliae_46:
(Start: 9 @39747 has 214 MA's), (21, 39645), (39, 39567), (40, 39552), (48, 39507),

Gene: Reccee_46 Start: 40217, Stop: 39831, Start Num: 32
Candidate Starts for Reccee_46:
(10, 40355), (Start: 32 @40217 has 13 MA's), (37, 40196), (41, 40157), (44, 40136), (52, 40076), (56, 40049), (76, 39962), (81, 39926), (86, 39908), (94, 39872), (97, 39851),

Gene: RedRaider89_47 Start: 39943, Stop: 39419, Start Num: 9
Candidate Starts for RedRaider89_47:
(Start: 9 @39943 has 214 MA's), (21, 39844), (39, 39766), (40, 39751), (48, 39706),

Gene: Reprobate_45 Start: 40310, Stop: 39924, Start Num: 32
Candidate Starts for Reprobate_45:
(Start: 32 @40310 has 13 MA's), (41, 40250), (44, 40229), (55, 40151), (56, 40142), (62, 40100), (63, 40097), (69, 40067), (76, 40055), (80, 40043), (81, 40019), (86, 40001), (94, 39965),

Gene: Rhinoforte_45 Start: 39970, Stop: 39581, Start Num: 24
Candidate Starts for Rhinoforte_45:
(Start: 24 @39970 has 35 MA's), (39, 39913), (44, 39871), (48, 39850), (53, 39805), (55, 39790), (56, 39781), (59, 39769), (60, 39748), (75, 39685), (78, 39679), (81, 39643), (82, 39640), (93, 39601),

Gene: Rich_43 Start: 39907, Stop: 39521, Start Num: 32
Candidate Starts for Rich_43:
(Start: 32 @39907 has 13 MA's), (37, 39886), (41, 39847), (44, 39826), (52, 39766), (56, 39739), (76, 39652), (81, 39616), (91, 39571),

Gene: Ricotta_45 Start: 39439, Stop: 38918, Start Num: 9
Candidate Starts for Ricotta_45:
(Start: 9 @39439 has 214 MA's), (21, 39343), (39, 39265), (40, 39250), (48, 39205),

Gene: Riggan_46 Start: 39706, Stop: 39179, Start Num: 9
Candidate Starts for Riggan_46:
(Start: 9 @39706 has 214 MA's), (21, 39604), (39, 39526), (40, 39511), (48, 39466),

Gene: Rimu_46 Start: 39452, Stop: 38928, Start Num: 9
Candidate Starts for Rimu_46:
(Start: 9 @39452 has 214 MA's), (21, 39353), (39, 39275), (40, 39260), (48, 39215),

Gene: Rinkes_45 Start: 40821, Stop: 40423, Start Num: 35
Candidate Starts for Rinkes_45:
(2, 41061), (4, 41028), (5, 40998), (Start: 35 @40821 has 2 MA's), (44, 40752), (48, 40734), (58, 40656), (61, 40626), (86, 40509), (96, 40473),

Gene: Rita130_45 Start: 40037, Stop: 39651, Start Num: 32
Candidate Starts for Rita130_45:
(10, 40175), (Start: 32 @40037 has 13 MA's), (37, 40016), (41, 39977), (44, 39956), (52, 39896), (56, 39869), (76, 39782), (81, 39746), (86, 39728), (94, 39692), (97, 39671),

Gene: Riverton_45 Start: 39724, Stop: 39200, Start Num: 9
Candidate Starts for Riverton_45:
(Start: 9 @39724 has 214 MA's), (21, 39625), (39, 39547), (40, 39532), (48, 39487),

Gene: Robyn_45 Start: 39290, Stop: 38763, Start Num: 9
Candidate Starts for Robyn_45:
(Start: 9 @39290 has 214 MA's), (21, 39188), (39, 39110), (40, 39095), (48, 39050),

Gene: Roliet_46 Start: 39718, Stop: 39188, Start Num: 9
Candidate Starts for Roliet_46:
(Start: 9 @39718 has 214 MA's), (21, 39613), (39, 39535), (40, 39520), (48, 39475),

Gene: Roscoe_47 Start: 39956, Stop: 39426, Start Num: 9
Candidate Starts for Roscoe_47:
(Start: 9 @39956 has 214 MA's), (21, 39851), (39, 39773), (40, 39758), (48, 39713),

Gene: Rosebush_44 Start: 39977, Stop: 39588, Start Num: 24
Candidate Starts for Rosebush_44:
(Start: 24 @39977 has 35 MA's), (39, 39920), (44, 39878), (48, 39857), (53, 39812), (55, 39797), (56, 39788), (59, 39776), (60, 39755), (75, 39692), (78, 39686), (81, 39650), (82, 39647), (93, 39608),

Gene: Roy17_46 Start: 39416, Stop: 38892, Start Num: 9
Candidate Starts for Roy17_46:
(Start: 9 @39416 has 214 MA's), (21, 39317), (39, 39239), (40, 39224), (48, 39179),

Gene: SCentae_183 Start: 132921, Stop: 133295, Start Num: 36
Candidate Starts for SCentae_183:
(Start: 36 @132921 has 4 MA's), (41, 132975), (51, 133038), (53, 133059), (81, 133200), (84, 133212), (99, 133284),

Gene: SDcharge11_46 Start: 39696, Stop: 39166, Start Num: 9
Candidate Starts for SDcharge11_46:
(Start: 9 @39696 has 214 MA's), (21, 39591), (39, 39513), (40, 39498), (48, 39453),

Gene: Sabella_44 Start: 39854, Stop: 39465, Start Num: 24
Candidate Starts for Sabella_44:
(Start: 24 @39854 has 35 MA's), (39, 39797), (44, 39755), (48, 39734), (53, 39689), (55, 39674), (56, 39665), (59, 39653), (60, 39632), (75, 39569), (78, 39563), (81, 39527), (82, 39524), (93, 39485),

Gene: Saguaro_46 Start: 41034, Stop: 40648, Start Num: 32
Candidate Starts for Saguaro_46:
(Start: 32 @41034 has 13 MA's), (44, 40953), (55, 40875), (60, 40833), (62, 40824), (64, 40815),

Gene: Samaymay_46 Start: 39716, Stop: 39192, Start Num: 9
Candidate Starts for Samaymay_46:
(Start: 9 @39716 has 214 MA's), (21, 39617), (39, 39539), (40, 39524), (48, 39479),

Gene: SassyCat97_45 Start: 39422, Stop: 38898, Start Num: 9
Candidate Starts for SassyCat97_45:
(Start: 9 @39422 has 214 MA's), (21, 39323), (39, 39245), (40, 39230), (48, 39185),

Gene: Schadenfreude_45 Start: 39264, Stop: 38749, Start Num: 9
Candidate Starts for Schadenfreude_45:
(Start: 9 @39264 has 214 MA's), (21, 39162), (39, 39096), (40, 39081), (48, 39036),

Gene: Schueller_45 Start: 39435, Stop: 38911, Start Num: 9
Candidate Starts for Schueller_45:
(Start: 9 @39435 has 214 MA's), (21, 39336), (39, 39258), (40, 39243), (48, 39198),

Gene: Scrick_46 Start: 39446, Stop: 38916, Start Num: 9
Candidate Starts for Scrick_46:
(Start: 9 @39446 has 214 MA's), (21, 39341), (39, 39263), (40, 39248), (48, 39203),

Gene: Selr12_46 Start: 39449, Stop: 38919, Start Num: 9
Candidate Starts for Selr12_46:
(Start: 9 @39449 has 214 MA's), (21, 39344), (39, 39266), (40, 39251), (48, 39206),

Gene: Serendipitous_44 Start: 39865, Stop: 39479, Start Num: 32

Candidate Starts for Serendipitous_44:
(18, 39916), (Start: 32 @39865 has 13 MA's), (37, 39844), (41, 39805), (44, 39784), (52, 39724), (56, 39697), (76, 39610), (81, 39574), (86, 39556), (94, 39520),

Gene: Serendipity_46 Start: 39740, Stop: 39216, Start Num: 9
Candidate Starts for Serendipity_46:
(Start: 9 @39740 has 214 MA's), (21, 39641), (39, 39563), (40, 39548), (48, 39503),

Gene: Serpentine_0046 Start: 39721, Stop: 39197, Start Num: 9
Candidate Starts for Serpentine_0046:
(Start: 9 @39721 has 214 MA's), (21, 39622), (39, 39544), (40, 39529), (48, 39484),

Gene: ShadowBud_46 Start: 39744, Stop: 39217, Start Num: 9
Candidate Starts for ShadowBud_46:
(Start: 9 @39744 has 214 MA's), (21, 39642), (39, 39564), (40, 39549), (48, 39504),

Gene: Shatter_39 Start: 33273, Stop: 32851, Start Num: 25
Candidate Starts for Shatter_39:
(Start: 25 @33273 has 10 MA's), (44, 33156), (48, 33138), (54, 33081), (70, 32994), (74, 32979), (83, 32934), (92, 32892),

Gene: Sheila_46 Start: 39758, Stop: 39234, Start Num: 9
Candidate Starts for Sheila_46:
(Start: 9 @39758 has 214 MA's), (21, 39659), (39, 39581), (40, 39566), (48, 39521),

Gene: Shenyu_44 Start: 40099, Stop: 39713, Start Num: 32
Candidate Starts for Shenyu_44:
(Start: 32 @40099 has 13 MA's), (37, 40078), (41, 40039), (44, 40018), (52, 39958), (55, 39940), (56, 39931), (76, 39844), (81, 39808), (86, 39790), (94, 39754),

Gene: ShiVal_46 Start: 39720, Stop: 39190, Start Num: 9
Candidate Starts for ShiVal_46:
(Start: 9 @39720 has 214 MA's), (21, 39615), (39, 39537), (40, 39522), (48, 39477),

Gene: SilverBell_46 Start: 39739, Stop: 39212, Start Num: 9
Candidate Starts for SilverBell_46:
(Start: 9 @39739 has 214 MA's), (21, 39637), (39, 39559), (40, 39544), (48, 39499),

Gene: Simielle_45 Start: 39409, Stop: 38885, Start Num: 9
Candidate Starts for Simielle_45:
(Start: 9 @39409 has 214 MA's), (21, 39310), (39, 39232), (40, 39217), (48, 39172),

Gene: SirBeauregard_46 Start: 39416, Stop: 38889, Start Num: 9
Candidate Starts for SirBeauregard_46:
(Start: 9 @39416 has 214 MA's), (21, 39314), (39, 39236), (40, 39221), (48, 39176),

Gene: SirJeffery_45 Start: 40036, Stop: 39650, Start Num: 32
Candidate Starts for SirJeffery_45:
(10, 40174), (Start: 32 @40036 has 13 MA's), (37, 40015), (41, 39976), (44, 39955), (52, 39895), (56, 39868), (76, 39781), (81, 39745), (86, 39727), (94, 39691), (97, 39670),

Gene: Sisko_39 Start: 34043, Stop: 33624, Start Num: 25
Candidate Starts for Sisko_39:

(Start: 25 @34043 has 10 MA's), (44, 33926), (48, 33908), (83, 33707), (90, 33671), (92, 33665),

Gene: Skippy_46 Start: 39704, Stop: 39180, Start Num: 9
Candidate Starts for Skippy_46:
(Start: 9 @39704 has 214 MA's), (21, 39605), (39, 39527), (40, 39512), (48, 39467),

Gene: Skog_16 Start: 8706, Stop: 9095, Start Num: 36
Candidate Starts for Skog_16:
(Start: 36 @8706 has 4 MA's), (44, 8793), (48, 8811), (50, 8832), (51, 8835), (53, 8856), (81, 9000), (88, 9024),

Gene: Slatt_46 Start: 39730, Stop: 39206, Start Num: 9
Candidate Starts for Slatt_46:
(Start: 9 @39730 has 214 MA's), (21, 39631), (39, 39553), (40, 39538), (48, 39493),

Gene: Solosis_45 Start: 39431, Stop: 38907, Start Num: 9
Candidate Starts for Solosis_45:
(Start: 9 @39431 has 214 MA's), (21, 39332), (39, 39254), (40, 39239), (48, 39194),

Gene: Sophia_45 Start: 39431, Stop: 38907, Start Num: 9
Candidate Starts for Sophia_45:
(Start: 9 @39431 has 214 MA's), (21, 39332), (39, 39254), (40, 39239), (48, 39194),

Gene: Soto_46 Start: 39730, Stop: 39200, Start Num: 9
Candidate Starts for Soto_46:
(Start: 9 @39730 has 214 MA's), (21, 39625), (39, 39547), (40, 39532), (48, 39487),

Gene: Sour_44 Start: 37942, Stop: 37568, Start Num: 30
Candidate Starts for Sour_44:
(7, 38089), (12, 38026), (Start: 30 @37942 has 1 MA's), (44, 37858), (48, 37840), (56, 37771), (57, 37768), (77, 37684), (83, 37645), (98, 37582),

Gene: Spartan300_46 Start: 39716, Stop: 39186, Start Num: 9
Candidate Starts for Spartan300_46:
(Start: 9 @39716 has 214 MA's), (21, 39611), (39, 39533), (40, 39518), (48, 39473),

Gene: Squid_46 Start: 39422, Stop: 38898, Start Num: 9
Candidate Starts for Squid_46:
(Start: 9 @39422 has 214 MA's), (21, 39323), (39, 39245), (40, 39230), (48, 39185),

Gene: Squiggle_46 Start: 39440, Stop: 38910, Start Num: 9
Candidate Starts for Squiggle_46:
(Start: 9 @39440 has 214 MA's), (21, 39335), (39, 39257), (40, 39242), (48, 39197),

Gene: StAugustine_57 Start: 48208, Stop: 47849, Start Num: 29
Candidate Starts for StAugustine_57:
(11, 48319), (13, 48304), (16, 48274), (Start: 29 @48208 has 4 MA's), (44, 48115), (58, 48019), (63, 47983), (81, 47917), (86, 47899), (87, 47896),

Gene: StinkyVeggy_46 Start: 40176, Stop: 39790, Start Num: 32
Candidate Starts for StinkyVeggy_46:
(Start: 32 @40176 has 13 MA's), (37, 40155), (41, 40116), (44, 40095), (52, 40035), (55, 40017), (56, 40008), (81, 39885), (86, 39867), (94, 39831),

Gene: Struggle_45 Start: 39272, Stop: 38748, Start Num: 9
Candidate Starts for Struggle_45:
(Start: 9 @39272 has 214 MA's), (21, 39173), (39, 39095), (40, 39080), (48, 39035),

Gene: Suigeneris_45 Start: 40039, Stop: 39653, Start Num: 32
Candidate Starts for Suigeneris_45:
(10, 40177), (Start: 32 @40039 has 13 MA's), (37, 40018), (41, 39979), (44, 39958), (52, 39898), (56, 39871), (76, 39784), (81, 39748), (86, 39730), (94, 39694), (97, 39673),

Gene: Surely_46 Start: 39727, Stop: 39200, Start Num: 9
Candidate Starts for Surely_46:
(Start: 9 @39727 has 214 MA's), (21, 39625), (39, 39547), (40, 39532), (48, 39487),

Gene: Swiphy_46 Start: 39722, Stop: 39195, Start Num: 9
Candidate Starts for Swiphy_46:
(Start: 9 @39722 has 214 MA's), (21, 39620), (39, 39542), (40, 39527), (48, 39482),

Gene: TA17A_46 Start: 39844, Stop: 39455, Start Num: 24
Candidate Starts for TA17A_46:
(Start: 24 @39844 has 35 MA's), (39, 39787), (44, 39745), (48, 39724), (53, 39679), (55, 39664), (56, 39655), (59, 39643), (60, 39622), (75, 39559), (78, 39553), (81, 39517), (82, 39514), (93, 39475),

Gene: TallGrassMM_46 Start: 39346, Stop: 38822, Start Num: 9
Candidate Starts for TallGrassMM_46:
(Start: 9 @39346 has 214 MA's), (21, 39247), (39, 39169), (40, 39154), (48, 39109),

Gene: Telesworld_45 Start: 39419, Stop: 38895, Start Num: 9
Candidate Starts for Telesworld_45:
(Start: 9 @39419 has 214 MA's), (21, 39320), (39, 39242), (40, 39227), (48, 39182),

Gene: Thonko_44 Start: 37338, Stop: 36958, Start Num: 32
Candidate Starts for Thonko_44:
(10, 37470), (17, 37404), (Start: 32 @37338 has 13 MA's), (44, 37257), (48, 37239),

Gene: Thora_46 Start: 39726, Stop: 39199, Start Num: 9
Candidate Starts for Thora_46:
(Start: 9 @39726 has 214 MA's), (21, 39624), (39, 39546), (40, 39531), (48, 39486),

Gene: Thunderbird_45 Start: 39427, Stop: 38903, Start Num: 9
Candidate Starts for Thunderbird_45:
(Start: 9 @39427 has 214 MA's), (21, 39328), (39, 39250), (40, 39235), (48, 39190),

Gene: Timmi_45 Start: 39432, Stop: 38908, Start Num: 9
Candidate Starts for Timmi_45:
(Start: 9 @39432 has 214 MA's), (21, 39333), (39, 39255), (40, 39240), (48, 39195),

Gene: Tinciduntsolum_46 Start: 39982, Stop: 39593, Start Num: 24
Candidate Starts for Tinciduntsolum_46:
(Start: 24 @39982 has 35 MA's), (39, 39925), (44, 39883), (48, 39862), (53, 39817), (55, 39802), (56, 39793), (59, 39781), (60, 39760), (75, 39697), (78, 39691), (81, 39655), (82, 39652), (93, 39613),

Gene: TomBombadil_46 Start: 39717, Stop: 39193, Start Num: 9

Candidate Starts for TomBombadil_46:
(Start: 9 @39717 has 214 MA's), (21, 39618), (39, 39540), (40, 39525), (48, 39480),

Gene: Tomlarah_46 Start: 39714, Stop: 39184, Start Num: 9
Candidate Starts for Tomlarah_46:
(Start: 9 @39714 has 214 MA's), (21, 39609), (39, 39531), (40, 39516), (48, 39471),

Gene: Toni_45 Start: 39424, Stop: 38900, Start Num: 9
Candidate Starts for Toni_45:
(Start: 9 @39424 has 214 MA's), (21, 39325), (39, 39247), (40, 39232), (48, 39187),

Gene: TooFast2Furius_48 Start: 39956, Stop: 39429, Start Num: 9
Candidate Starts for TooFast2Furius_48:
(Start: 9 @39956 has 214 MA's), (21, 39854), (39, 39776), (40, 39761), (48, 39716),

Gene: TraderJ_41 Start: 35242, Stop: 34853, Start Num: 34
Candidate Starts for TraderJ_41:
(3, 35491), (Start: 34 @35242 has 6 MA's), (41, 35182), (43, 35167), (54, 35074), (56, 35062), (60, 35029), (74, 34981), (79, 34972), (86, 34924),

Gene: Tres_45 Start: 39857, Stop: 39468, Start Num: 24
Candidate Starts for Tres_45:
(Start: 24 @39857 has 35 MA's), (39, 39800), (44, 39758), (48, 39737), (53, 39692), (55, 39677), (56, 39668), (59, 39656), (60, 39635), (75, 39572), (78, 39566), (81, 39530), (82, 39527), (93, 39488),

Gene: True_45 Start: 39424, Stop: 38897, Start Num: 9
Candidate Starts for True_45:
(Start: 9 @39424 has 214 MA's), (21, 39322), (39, 39244), (40, 39229), (48, 39184),

Gene: TyrionL_45 Start: 39280, Stop: 38756, Start Num: 9
Candidate Starts for TyrionL_45:
(Start: 9 @39280 has 214 MA's), (21, 39181), (39, 39103), (40, 39088), (48, 39043),

Gene: UAch1_46 Start: 39733, Stop: 39206, Start Num: 9
Candidate Starts for UAch1_46:
(Start: 9 @39733 has 214 MA's), (21, 39631), (39, 39553), (40, 39538), (48, 39493),

Gene: UncleHowie_46 Start: 39423, Stop: 38896, Start Num: 9
Candidate Starts for UncleHowie_46:
(Start: 9 @39423 has 214 MA's), (21, 39321), (39, 39243), (40, 39228), (48, 39183),

Gene: Vaishali24_45 Start: 39382, Stop: 38858, Start Num: 9
Candidate Starts for Vaishali24_45:
(Start: 9 @39382 has 214 MA's), (21, 39283), (39, 39205), (40, 39190), (48, 39145),

Gene: Valjean_46 Start: 39719, Stop: 39189, Start Num: 9
Candidate Starts for Valjean_46:
(Start: 9 @39719 has 214 MA's), (21, 39614), (39, 39536), (40, 39521), (48, 39476),

Gene: Vaticameos_42 Start: 37411, Stop: 36887, Start Num: 9
Candidate Starts for Vaticameos_42:
(Start: 9 @37411 has 214 MA's), (21, 37312), (39, 37234), (40, 37219), (48, 37174),

Gene: Veritas_45 Start: 39286, Stop: 38759, Start Num: 9
Candidate Starts for Veritas_45:
(Start: 9 @39286 has 214 MA's), (21, 39184), (39, 39106), (40, 39091), (48, 39046),

Gene: Vic9_00044 Start: 40363, Stop: 39974, Start Num: 24
Candidate Starts for Vic9_00044:
(Start: 24 @40363 has 35 MA's), (39, 40306), (44, 40264), (48, 40243), (53, 40198), (55, 40183), (56, 40174), (59, 40162), (60, 40141), (75, 40078), (78, 40072), (81, 40036), (82, 40033), (86, 40018), (93, 39994),

Gene: Virapocalypse_46 Start: 39714, Stop: 39184, Start Num: 9
Candidate Starts for Virapocalypse_46:
(Start: 9 @39714 has 214 MA's), (21, 39609), (39, 39531), (40, 39516), (48, 39471),

Gene: Virgeve_45 Start: 39491, Stop: 38964, Start Num: 9
Candidate Starts for Virgeve_45:
(Start: 9 @39491 has 214 MA's), (21, 39389), (39, 39311), (40, 39296), (48, 39251),

Gene: Vista_46 Start: 39724, Stop: 39197, Start Num: 9
Candidate Starts for Vista_46:
(Start: 9 @39724 has 214 MA's), (21, 39622), (39, 39544), (40, 39529), (48, 39484),

Gene: Vivaldi_46 Start: 39750, Stop: 39226, Start Num: 9
Candidate Starts for Vivaldi_46:
(Start: 9 @39750 has 214 MA's), (21, 39651), (39, 39573), (40, 39558), (48, 39513),

Gene: Vortex_46 Start: 39427, Stop: 38903, Start Num: 9
Candidate Starts for Vortex_46:
(Start: 9 @39427 has 214 MA's), (21, 39328), (39, 39250), (40, 39235), (48, 39190),

Gene: Wallhey_45 Start: 39284, Stop: 38760, Start Num: 9
Candidate Starts for Wallhey_45:
(Start: 9 @39284 has 214 MA's), (21, 39185), (39, 39107), (40, 39092), (48, 39047),

Gene: Waterdiva_46 Start: 39716, Stop: 39189, Start Num: 9
Candidate Starts for Waterdiva_46:
(Start: 9 @39716 has 214 MA's), (21, 39614), (39, 39536), (40, 39521), (48, 39476),

Gene: Weher20_46 Start: 39715, Stop: 39188, Start Num: 9
Candidate Starts for Weher20_46:
(Start: 9 @39715 has 214 MA's), (21, 39613), (39, 39535), (40, 39520), (48, 39475),

Gene: West99_45 Start: 39977, Stop: 39588, Start Num: 24
Candidate Starts for West99_45:
(Start: 24 @39977 has 35 MA's), (39, 39920), (44, 39878), (48, 39857), (53, 39812), (55, 39797), (56, 39788), (59, 39776), (60, 39755), (75, 39692), (78, 39686), (81, 39650), (82, 39647), (93, 39608),

Gene: Windsor_45 Start: 39420, Stop: 38893, Start Num: 9
Candidate Starts for Windsor_45:
(Start: 9 @39420 has 214 MA's), (21, 39318), (39, 39240), (40, 39225), (48, 39180),

Gene: Wooper_41 Start: 35248, Stop: 34859, Start Num: 34
Candidate Starts for Wooper_41:

(3, 35497), (Start: 34 @35248 has 6 MA's), (41, 35188), (43, 35173), (54, 35080), (56, 35068), (60, 35035), (74, 34987), (79, 34978), (86, 34930),

Gene: Xavier_45 Start: 39434, Stop: 38910, Start Num: 9
Candidate Starts for Xavier_45:
(Start: 9 @39434 has 214 MA's), (21, 39335), (39, 39257), (40, 39242), (48, 39197),

Gene: Yago84_39 Start: 34117, Stop: 33698, Start Num: 25
Candidate Starts for Yago84_39:
(Start: 25 @34117 has 10 MA's), (44, 34000), (48, 33982), (83, 33781), (90, 33745), (92, 33739),

Gene: Yeshua_41 Start: 35225, Stop: 34836, Start Num: 34
Candidate Starts for Yeshua_41:
(3, 35474), (Start: 34 @35225 has 6 MA's), (41, 35165), (43, 35150), (54, 35057), (56, 35045), (60, 35012), (74, 34964), (79, 34955), (86, 34907),

Gene: YouGoGlencoco_46 Start: 39718, Stop: 39191, Start Num: 9
Candidate Starts for YouGoGlencoco_46:
(Start: 9 @39718 has 214 MA's), (21, 39616), (39, 39538), (40, 39523), (48, 39478),

Gene: Zaider_47 Start: 39948, Stop: 39421, Start Num: 9
Candidate Starts for Zaider_47:
(Start: 9 @39948 has 214 MA's), (21, 39846), (39, 39768), (40, 39753), (48, 39708),

Gene: Zelda_46 Start: 39765, Stop: 39238, Start Num: 9
Candidate Starts for Zelda_46:
(Start: 9 @39765 has 214 MA's), (21, 39663), (39, 39585), (40, 39570), (48, 39525),