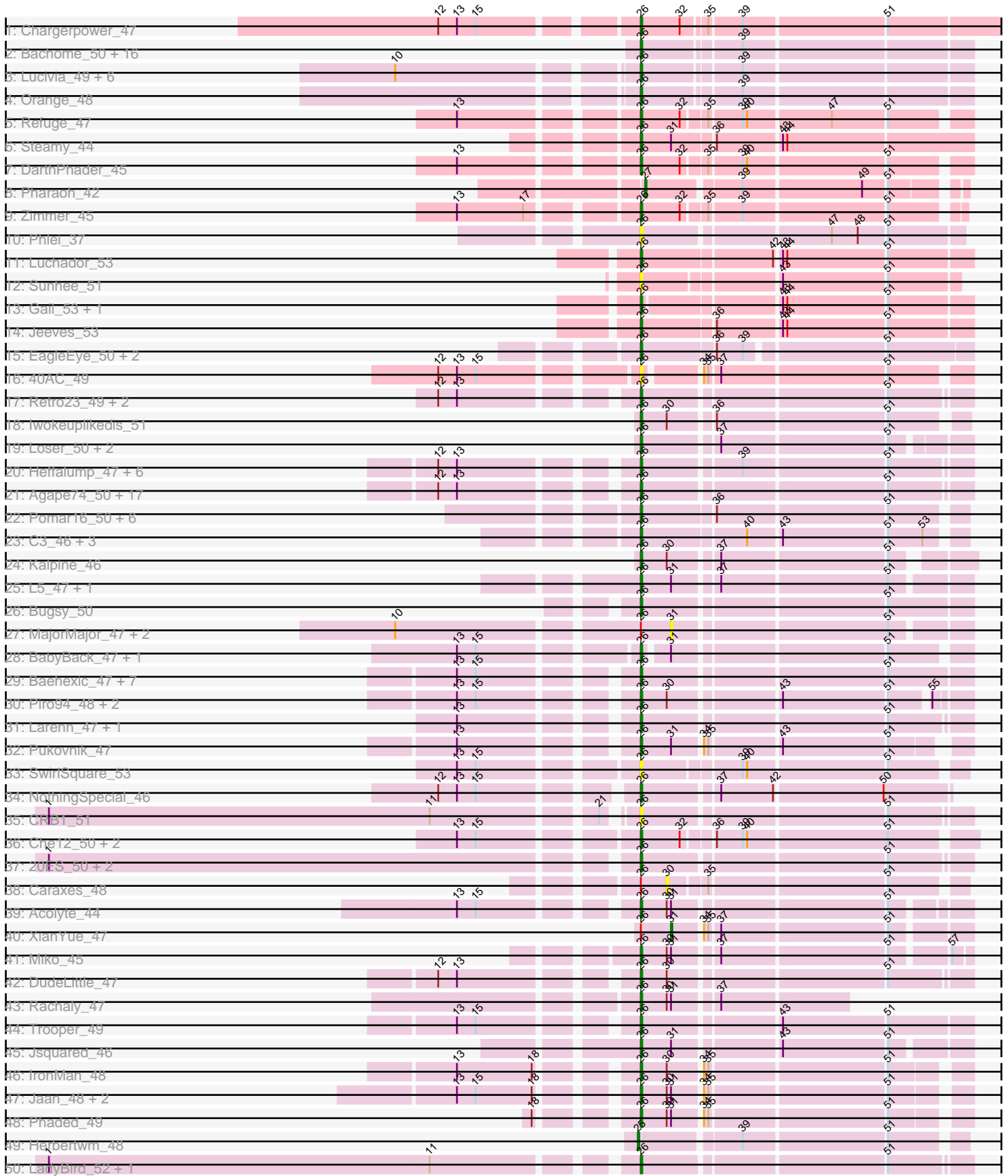
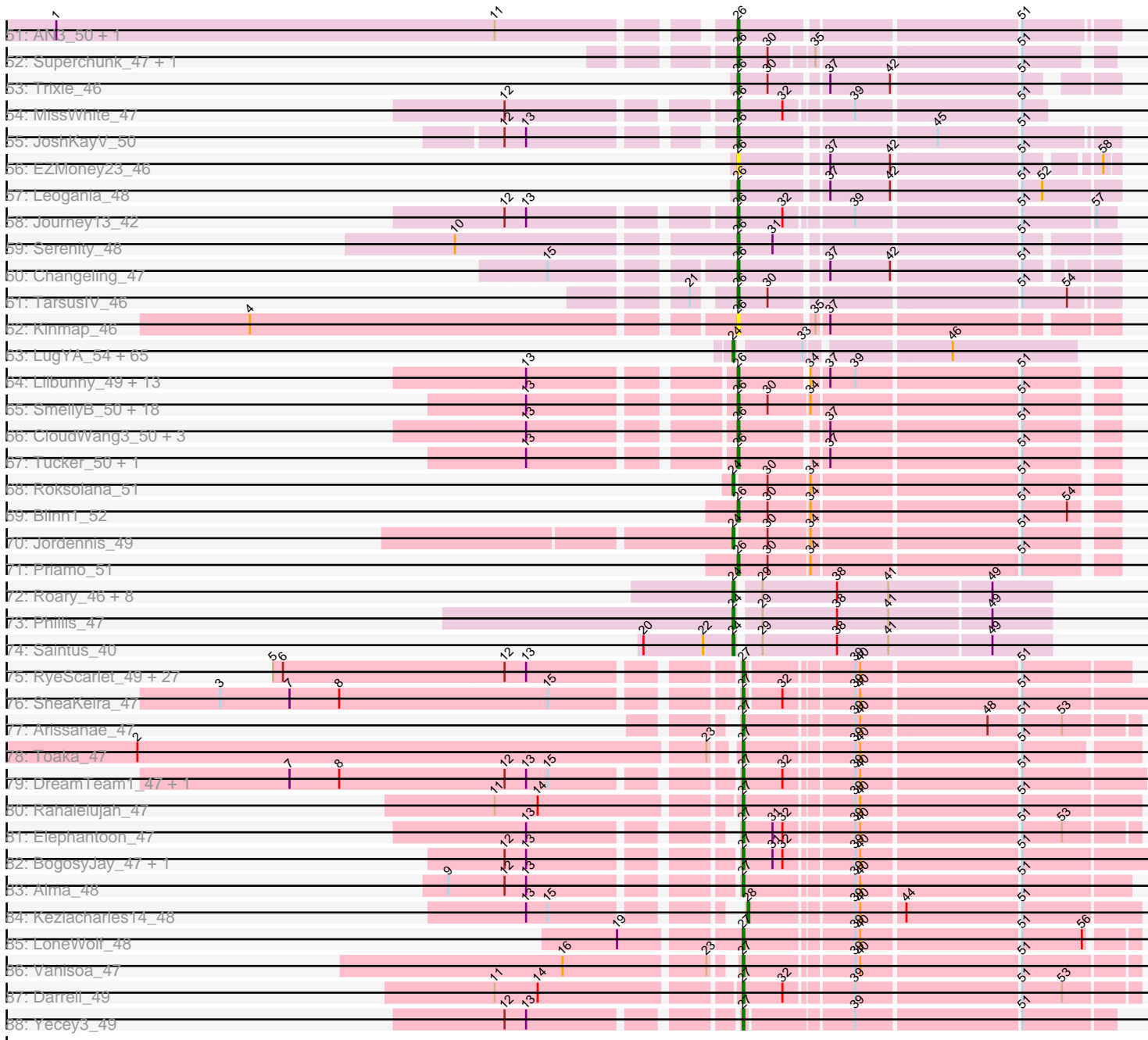


Pham 196232



Pham 196232



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 196232 Report

This analysis was run 12/09/24 on database version 580.

Pham number 196232 has 309 members, 31 are drafts.

Phages represented in each track:

- Track 1 : Chargerpower_47
- Track 2 : Bachome_50, Fibonacci_48, Petersenfast_47, Bud_48, Hutc2_48, Mulciber_48, Snape_48, Ebony_48, MaCh_49, Jabith_49, Timothy_48, Sham4_48, TinyTimmy_48, Salz_47, Et2Brutus_47, Mabel_48, Insomnia_49
- Track 3 : Lucivia_49, Flaverint_49, Bowtie_49, Gilberta_49, Aneem_49, Munch_49, Joselito_49
- Track 4 : Orange_48
- Track 5 : Refuge_47
- Track 6 : Steamy_44
- Track 7 : DarthPhader_45
- Track 8 : Pharaoh_42
- Track 9 : Zimmer_45
- Track 10 : Phlei_37
- Track 11 : Luchador_53
- Track 12 : Sunhee_51
- Track 13 : Gail_53, SororFago_51
- Track 14 : Jeeves_53
- Track 15 : EagleEye_50, PainterBoy_49, Lucyedi_49
- Track 16 : 40AC_49
- Track 17 : Retro23_49, Dalmatian_49, Anselm_49
- Track 18 : Iwokeuplikedis_51
- Track 19 : Loser_50, RedRock_50, AnnaL29_50
- Track 20 : Heffalump_47, Crucio_48, Echild_48, QueenB2_47, Fameo_48, Benvolio_45, Turbido_49
- Track 21 : Agape74_50, Georgie2_49, ChipMunk_50, Smeagan_51, Dignity_50, AbbyPaige_50, FiringLine_48, Leviathan_50, Whabigail7_49, Power_47, SemperFi_49, SnapTap_48, KingCyrus_50, LilTurb_49, EvilGenius_50, SweetiePie_48, Jerm_50, QueenBeesly_48
- Track 22 : Pomar16_50, DBQu4n_50, Duplo_50, Tomathan_50, Travvers_50, Kerberos_50, StarStuff_50
- Track 23 : C3_46, VC3_51, AN9_51, ANI8_51
- Track 24 : Kalpine_46
- Track 25 : L5_47, Koduck_48
- Track 26 : Bugsy_50
- Track 27 : MajorMajor_47, Bradman_47, Quokka_46
- Track 28 : BabyBack_47, GaugeLDP_46

- Track 29 : Baehexic_47, MiculUcigas_48, Equemioh13_49, Updawg_49, Centaur_49, Flare16_48, NaSiaTalie_48, WideWale_49
- Track 30 : Piro94_48, HarryHoudini_49, Drake55_50
- Track 31 : Larenn_47, Malec_48
- Track 32 : Pukovnik_47
- Track 33 : SwirlSquare_53
- Track 34 : NothingSpecial_46
- Track 35 : CRB1_51
- Track 36 : Che12_50, Ph8s_50, Adzzy_50
- Track 37 : 20ES_50, Deloris_48, BengiVuitton_49
- Track 38 : Caraxes_48
- Track 39 : Acolyte_44
- Track 40 : XianYue_47
- Track 41 : Miko_45
- Track 42 : DudeLittle_47
- Track 43 : Rachaly_47
- Track 44 : Trooper_49
- Track 45 : Jsquared_46
- Track 46 : IronMan_48
- Track 47 : Jaan_48, Landor_48, Bactobuster_47
- Track 48 : Phaded_49
- Track 49 : Herbertwm_48
- Track 50 : LadyBird_52, First_0049
- Track 51 : AN3_50, VA6_48
- Track 52 : Superchunk_47, Odin_47
- Track 53 : Trixie_46
- Track 54 : MissWhite_47
- Track 55 : JoshKayV_50
- Track 56 : EZMoney23_46
- Track 57 : Leogania_48
- Track 58 : Journey13_42
- Track 59 : Serenity_48
- Track 60 : Changeling_47
- Track 61 : TarsusIV_46
- Track 62 : Kinmap_46
- Track 63 : LugYA_54, BreSam8_51, Gemma_50, Jobu08_50, Phoebe_52, Zetzy_50, JHC117_51, Groupthink_52, Hercules11_51, SoYo_51, ACFishhook_50, StepMih_51, Snickers_51, LBerry_52, JenCasNa_52, Kalnoky_52, Fernando_51, P28Green_52, Pawn_51, MarQuardt_51, AgronaGT15_50, Taurus_52, Heliosoles_50, GtownJaz_51, Dieselweasel_52, Calvinny_51, Beauxregard13_51, Vix_51, Marie_51, Marius_52, HaveUMetTed_52, Anubis_54, Colbster_51, Grif_51, Spike509_51, Grum1_51, Phranny_52, PurpleHaze_51, Bxz2_47, Sabia_51, MoneyMay_51, Manu_51, KADY_51, Tiffany_51, HashRod_52, PhishRPhriends_49, Misomonster_52, Louie6_50, JeppNRM_52, Kalb97_52, Stagni_51, Mainiac_51, Sabinator_50, Daishi_50, Soshari_53, Penny1_52, Cullens_51, Reba_51, Phoxy_51, Farber_51, EpicPhail_52, Rummer_50, LarryKay_51, PotatoSplit_53, Wooldri_53, SoilDragon_51
- Track 64 : Lilbunny_49, Artemis2UCLA_50, Wiks_49, WunderPhul_50, Garak_52, ToneTone_47, Helmet_52, Yokurt_50, Indra_53, Rifter_51, Hexamo_50, Gruunaga_50, Zaka_50, Jeffabunny_50
- Track 65 : SmellyB_50, Isiphiwo_48, SuperAwesome_50, Candra_50, GreedyLawyer_50, Kipper29_50, Dorothea_50, SuperCallie99_49, VohminGhazi_50, Cookiedough_50, McFly_50, Kazan_51, EricB_50, Pmask_50, Chartreuse_49,

- Neeharika16_49, DaVinci_49, Newrala_50, Gladiator_48
- Track 66 : CloudWang3_50, Hammer_51, Blue7_52, Koko_51
 - Track 67 : Tucker_50, Zulu_50
 - Track 68 : Roksolana_51
 - Track 69 : Blinn1_52
 - Track 70 : Jordennis_49
 - Track 71 : Priamo_51
 - Track 72 : Roary_46, Expelliarmus_45, NearlyHeadless_45, Smeadley_46, Dixon_45, Astro_45, Danforth_45, Groundhog_44, Stephig9_46
 - Track 73 : Phillis_47
 - Track 74 : Saintus_40
 - Track 75 : RyeScarlet_49, Eidsmoe_48, Holec_47, Fayely_48, Lilleskat_46, Myxus_48, Pioneer_48, Beemo_48, Aliter_48, ExplosioNervosa_48, EmyBug_47, PackMan_47, Ugenie5_45, Hanray_46, Onglai_46, HortumSL17_48, EdogawaKiddo_46, Scherzo_48, Conquerage_48, Phonnegut_48, Sachima_45, Tubs_48, Priya_48, Spouty_48, Jiawan_46, Catalina_49, Qobbit_48, Phaeder_48
 - Track 76 : SheaKeira_47
 - Track 77 : Arissanae_47
 - Track 78 : Toaka_47
 - Track 79 : DreamTeam1_47, Charm_47
 - Track 80 : Rahalelujah_47
 - Track 81 : Elephantoon_47
 - Track 82 : BogosyJay_47, Maminiaina_47
 - Track 83 : Alma_48
 - Track 84 : Keziacharles14_48
 - Track 85 : LoneWolf_48
 - Track 86 : Vanisoa_47
 - Track 87 : Darrell_49
 - Track 88 : Yecey3_49

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

The start number called the most often in the published annotations is 26, it was called in 164 of the 278 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 20ES_50, 40AC_49, AN3_50, AN9_51, ANI8_51, AbbyPaige_50, Acolyte_44, Adzzy_50, Agape74_50, Aneem_49, AnnaL29_50, Anselm_49, Artemis2UCLA_50, BabyBack_47, Bachome_50, Bactobuster_47, Baehexic_47, BengiVuitton_49, Benvolio_45, Blinn1_52, Blue7_52, Bowtie_49, Bud_48, Bugsy_50, C3_46, CRB1_51, Candra_50, Centaur_49, Changeling_47, Chargerpower_47, Chartreuse_49, Che12_50, ChipMunk_50, CloudWang3_50, Cookiedough_50, Crucio_48, DBQu4n_50, DaVinci_49, Dalmatian_49, DARTHPhader_45, Deloris_48, Dignity_50, Dorothea_50, Drake55_50, DudeLittle_47, Duplo_50, EZMoney23_46, EagleEye_50, Ebony_48, Echild_48, Equemioh13_49, EricB_50, Et2Brutus_47, EvilGenius_50, Fameo_48, Fibonacci_48, FiringLine_48, First_0049, Flare16_48, Flaverint_49, Gail_53, Garak_52, GaugeLDP_46, Georgie2_49, Gilberta_49, Gladiator_48, GreedyLawyer_50, Gruunaga_50, Hammer_51, HarryHoudini_49, Heffalump_47, Helmet_52, Hexamo_50, Hutc2_48, Indra_53, Insomnia_49, IronMan_48, Isiphiwo_48, Iwokeuplikedis_51, Jaan_48, Jabith_49, Jeeves_53,

Jeffabunny_50, Jerm_50, Joselito_49, JoshKayV_50, Journey13_42, Jsquared_46, Kalpine_46, Kazan_51, Kerberos_50, KingCyrus_50, Kinmap_46, Kipper29_50, Koduck_48, Koko_51, L5_47, LadyBird_52, Landor_48, Larenn_47, Leogania_48, Leviathan_50, LilTurb_49, Lilbunny_49, Loser_50, Luchador_53, Lucivia_49, Lucyedi_49, MaCh_49, Mabel_48, Malec_48, McFly_50, MiculUcigas_48, Miko_45, MissWhite_47, Mulciber_48, Munch_49, NaSiaTalie_48, Neeharika16_49, Newrala_50, NothingSpecial_46, Odin_47, Orange_48, PainterBoy_49, Petersenfast_47, Ph8s_50, Phaded_49, Phlei_37, Piro94_48, Pmask_50, Pomar16_50, Power_47, Priamo_51, Pukovnik_47, QueenB2_47, QueenBeesly_48, Rachaly_47, RedRock_50, Refuge_47, Retro23_49, Rifter_51, Salz_47, SemperFi_49, Serenity_48, Sham4_48, Smeagan_51, SmellyB_50, SnapTap_48, Snape_48, SororFago_51, StarStuff_50, Steamy_44, Sunhee_51, SuperAwesome_50, SuperCallie99_49, Superchunk_47, SweetiePie_48, SwirlSquare_53, TarsusIV_46, Timothy_48, TinyTimmy_48, Tomathan_50, ToneTone_47, Travvers_50, Trixie_46, Trooper_49, Tucker_50, Turbido_49, Updawg_49, VA6_48, VC3_51, VohminGhazi_50, Whabigail7_49, WideWale_49, Wiks_49, WunderPhul_50, Yokurt_50, Zaka_50, Zimmer_45, Zulu_50,

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

- Bradman_47, Caraxes_48, MajorMajor_47, Quokka_46, XianYue_47,

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

- ACFishhook_50, AgronaGT15_50, Aliter_48, Alma_48, Anubis_54, Arissanae_47, Astro_45, Beauxregard13_51, Beemo_48, BogosyJay_47, BreSam8_51, Bxz2_47, Calvinny_51, Catalina_49, Charm_47, Colbster_51, Conquerage_48, Cullens_51, Daishi_50, Danforth_45, Darrell_49, Dieselweasel_52, Dixon_45, DreamTeam1_47, EdogawaKiddo_46, Eidsmoe_48, Elephantoon_47, EmyBug_47, EpicPhail_52, Expelliarmus_45, ExplosioNervosa_48, Farber_51, Fayely_48, Fernando_51, Gemma_50, Grif_51, Groundhog_44, Groupthink_52, Grum1_51, GtownJaz_51, Hanray_46, HashRod_52, HaveUMetTed_52, Heliosoles_50, Herbertwm_48, Hercules11_51, Holesx_47, HortumSL17_48, JHC117_51, JenCasNa_52, JeppNRM_52, Jiawan_46, Jobu08_50, Jordennis_49, KADY_51, Kalb97_52, Kalnok_52, Keziacharles14_48, LBerry_52, LarryKay_51, Lilleskat_46, LoneWolf_48, Louie6_50, LugYA_54, Mainiac_51, Maminaiaina_47, Manu_51, MarQuardt_51, Marie_51, Marius_52, Misomonster_52, MoneyMay_51, Myxus_48, NearlyHeadless_45, Onglai_46, P28Green_52, PackMan_47, Pawn_51, Penny1_52, Phaeder_48, Pharaoh_42, Phillis_47, PhishRPhriends_49, Phoebe_52, Phonnegut_48, Phoxy_51, Phranny_52, Pioneer_48, PotatoSplit_53, Priya_48, PurpleHaze_51, Qobbit_48, Rahalelujah_47, Reba_51, Roary_46, Roksolana_51, Rummer_50, RyeScarlet_49, Sabia_51, Sabinator_50, Sachima_45, Saintus_40, Scherzo_48, SheaKeira_47, Smeadley_46, Snickers_51, SoYo_51, SoilDragon_51, Soshari_53, Spike509_51, Spouty_48, Stagni_51, StepMih_51, Stephig9_46, Taurus_52, Tiffany_51, Toaka_47, Tubs_48, Ugenie5_45, Vanisoa_47, Vix_51, Wooldri_53, Yecey3_49, Zetzy_50,

Summary by start number:

Start 24:

- Found in 79 of 309 (25.6%) of genes in pham
- Manual Annotations of this start: 76 of 278
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ACFishhook_50 (A3), AgronaGT15_50 (A3), Anubis_54 (A3), Astro_45 (A8), Beauxregard13_51 (A3), BreSam8_51 (A3),

Bxz2_47 (A3), Calvinny_51 (A3), Colbster_51 (A3), Cullens_51 (A3), Daishi_50 (A3), Danforth_45 (A8), Dieselweasel_52 (A3), Dixon_45 (A8), EpicPhail_52 (A3), Expelliarmus_45 (A8), Farber_51 (A3), Fernando_51 (A3), Gemma_50 (A3), Grif_51 (A3), Groundhog_44 (A8), Groupthink_52 (A3), Grum1_51 (A3), GtownJaz_51 (A3), HashRod_52 (A3), HaveUMetTed_52 (A3), Heliosoles_50 (A3), Hercules11_51 (A3), JHC117_51 (A3), JenCasNa_52 (A3), JeppNRM_52 (A3), Jobu08_50 (A3), Jordennis_49 (A6), KADY_51 (A3), Kalb97_52 (A3), Kalnoky_52 (A3), LBerry_52 (A3), LarryKay_51 (A3), Louie6_50 (A3), LugYA_54 (A3), Mainiac_51 (A3), Manu_51 (A3), MarQuardt_51 (A3), Marie_51 (A3), Marius_52 (A3), Misomonster_52 (A3), MoneyMay_51 (A3), NearlyHeadless_45 (A8), P28Green_52 (A3), Pawn_51 (A3), Penny1_52 (A3), Phillis_47 (A8), PhishRPhriends_49 (A3), Phoebe_52 (A3), Phoxy_51 (A3), Phranny_52 (A3), PotatoSplit_53 (A3), PurpleHaze_51 (A3), Reba_51 (A3), Roary_46 (A8), Roksolana_51 (A6), Rummer_50 (A3), Sabia_51 (A3), Sabinator_50 (A3), Saintus_40 (A8), Smeadley_46 (A8), Snickers_51 (A3), SoYo_51 (A3), SoilDragon_51 (A3), Soshari_53 (A3), Spike509_51 (A3), Stagni_51 (A3), StepMih_51 (A3), Stephig9_46 (A8), Taurus_52 (A3), Tiffany_51 (A3), Vix_51 (A3), Wooldri_53 (A3), Zetzy_50 (A3),

Start 25:

- Found in 1 of 309 (0.3%) of genes in pham
- Manual Annotations of this start: 1 of 278
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Herbertwm_48 (A2),

Start 26:

- Found in 185 of 309 (59.9%) of genes in pham
- Manual Annotations of this start: 164 of 278
- Called 97.3% of time when present
- Phage (with cluster) where this start called: 20ES_50 (A2), 40AC_49 (A17), AN3_50 (A2), AN9_51 (A2), ANI8_51 (A2), AbbyPaige_50 (A2), Acolyte_44 (A2), Adzzy_50 (A2), Agape74_50 (A2), Aneem_49 (A11), AnnaL29_50 (A2), Anselm_49 (A2), Artemis2UCLA_50 (A6), BabyBack_47 (A2), Bachome_50 (A11), Bactobuster_47 (A2), Baehexic_47 (A2), BengiVuitton_49 (A2), Benvolio_45 (A2), Blinn1_52 (A6), Blue7_52 (A6), Bowtie_49 (A11), Bud_48 (A11), Buggy_50 (A2), C3_46 (A2), CRB1_51 (A2), Candra_50 (A6), Centaur_49 (A2), Changeling_47 (A2), Chargerpower_47 (A), Chartreuse_49 (A6), Che12_50 (A2), ChipMunk_50 (A2), CloudWang3_50 (A6), Cookiedough_50 (A6), Crucio_48 (A2), DBQu4n_50 (A2), DaVinci_49 (A6), Dalmatian_49 (A2), DarthPhader_45 (A12), Deloris_48 (A2), Dignity_50 (A2), Dorothea_50 (A6), Drake55_50 (A2), DudeLittle_47 (A2), Duplo_50 (A2), EZMoney23_46 (A2), EagleEye_50 (A16), Ebony_48 (A11), Echild_48 (A2), Equemioh13_49 (A2), EricB_50 (A6), Et2Brutus_47 (A11), EvilGenius_50 (A2), Fameo_48 (A2), Fibonacci_48 (A11), FiringLine_48 (A2), First_0049 (A2), Flare16_48 (A2), Flaverint_49 (A11), Gail_53 (A14), Garak_52 (A6), GaugeLDP_46 (A2), Georgie2_49 (A2), Gilberta_49 (A11), Gladiator_48 (A6), GreedyLawyer_50 (A6), Gruunaga_50 (A6), Hammer_51 (A6), HarryHoudini_49 (A2), Heffalump_47 (A2), Helmet_52 (A6), Hexamo_50 (A6), Hutc2_48 (A11), Indra_53 (A6), Insomnia_49 (A11), IronMan_48 (A2), Isiphiwo_48 (A6), Iwokeuplikedis_51 (A2), Jaan_48 (A2), Jabith_49 (A11), Jeeves_53 (A14), Jeffabunny_50 (A6), Jerm_50 (A2), Joselito_49 (A11), JoshKayV_50 (A2), Journey13_42 (A2), Jsquared_46 (A2), Kalpine_46 (A2), Kazan_51 (A6), Kerberos_50 (A2), KingCyrus_50 (A2), Kinmap_46 (A21), Kipper29_50 (A6), Koduck_48 (A2), Koko_51 (A6), L5_47 (A2), LadyBird_52 (A2), Landor_48 (A2), Larenn_47 (A2), Leogania_48 (A2), Leviathan_50 (A2), LilTurb_49 (A2), Lilbunny_49 (A6), Loser_50 (A2), Luchador_53 (A14), Lucivia_49

(A11), Lucyedi_49 (A16), MaCh_49 (A11), Mabel_48 (A11), Malec_48 (A2), McFly_50 (A6), MiculUcigas_48 (A2), Miko_45 (A2), MissWhite_47 (A2), Mulciber_48 (A11), Munch_49 (A11), NaSiaTalie_48 (A2), Neeharika16_49 (A6), Newrala_50 (A6), NothingSpecial_46 (A2), Odin_47 (A2), Orange_48 (A11), PainterBoy_49 (A16), Petersenfast_47 (A11), Ph8s_50 (A2), Phaded_49 (A2), Phlei_37 (A13), Piro94_48 (A2), Pmask_50 (A6), Pomar16_50 (A2), Power_47 (A2), Priamo_51 (A6), Pukovnik_47 (A2), QueenB2_47 (A2), QueenBeesly_48 (A2), Rachaly_47 (A2), RedRock_50 (A2), Refuge_47 (A12), Retro23_49 (A2), Rifter_51 (A6), Salz_47 (A11), SemperFi_49 (A2), Serenity_48 (A2), Sham4_48 (A11), Smeagan_51 (A2), SmellyB_50 (A6), SnapTap_48 (A2), Snape_48 (A11), SororFago_51 (A14), StarStuff_50 (A2), Steamy_44 (A12), Sunhee_51 (A14), SuperAwesome_50 (A6), SuperCallie99_49 (A6), Superchunk_47 (A2), SweetiePie_48 (A2), SwirlSquare_53 (A2), TarsusIV_46 (A2), Timothy_48 (A11), TinyTimmy_48 (A11), Tomathan_50 (A2), ToneTone_47 (A6), Travvers_50 (A2), Trixie_46 (A2), Trooper_49 (A2), Tucker_50 (A6), Turbido_49 (A2), Updawg_49 (A2), VA6_48 (A2), VC3_51 (A2), VohminGhazi_50 (A6), Whabigail7_49 (A2), WideWale_49 (A2), Wiks_49 (A6), WunderPhul_50 (A6), Yokurt_50 (A6), Zaka_50 (A6), Zimmer_45 (A12), Zulu_50 (A6),

Start 27:

- Found in 43 of 309 (13.9%) of genes in pham
- Manual Annotations of this start: 35 of 278
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aliter_48 (A9), Alma_48 (A9), Arissanae_47 (A9), Beemo_48 (A9), BogosyJay_47 (A9), Catalina_49 (A9), Charm_47 (A9), Conquerage_48 (A9), Darrell_49 (A9), DreamTeam1_47 (A9), EdogawaKiddo_46 (A9), Eidsmoe_48 (A9), Elephantoon_47 (A9), EmyBug_47 (A9), ExplosioNervosa_48 (A9), Fayely_48 (A9), Hanray_46 (A9), Horex_47 (A9), HortumSL17_48 (A9), Jiawan_46 (A9), Lilleskat_46 (A9), LoneWolf_48 (A9), Maminiaina_47 (A9), Myxus_48 (A9), Onglai_46 (A9), PackMan_47 (A9), Phaeder_48 (A9), Pharaoh_42 (A12), Phonnegut_48 (A9), Pioneer_48 (A9), Priya_48 (A9), Qobbit_48 (A9), Rahalelujah_47 (A9), RyeScarlet_49 (A9), Sachima_45 (A9), Scherzo_48 (A9), SheaKeira_47 (A9), Spouty_48 (A9), Toaka_47 (A9), Tubs_48 (A9), Ugenie5_45 (A9), Vanisoa_47 (A9), Yecey3_49 (A9),

Start 28:

- Found in 1 of 309 (0.3%) of genes in pham
- Manual Annotations of this start: 1 of 278
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Keziacharles14_48 (A9),

Start 30:

- Found in 42 of 309 (13.6%) of genes in pham
- No Manual Annotations of this start.
- Called 2.4% of time when present
- Phage (with cluster) where this start called: Caraxes_48 (A2),

Start 31:

- Found in 22 of 309 (7.1%) of genes in pham
- Manual Annotations of this start: 1 of 278
- Called 18.2% of time when present
- Phage (with cluster) where this start called: Bradman_47 (A2), MajorMajor_47 (A2), Quokka_46 (A2), XianYue_47 (A2),

Summary by clusters:

There are 13 clusters represented in this pham: A, A21, A17, A14, A11, A13, A12, A3, A2, A6, A9, A8, A16,

Info for manual annotations of cluster A:

- Start number 26 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A11:

- Start number 26 was manually annotated 24 times for cluster A11.

Info for manual annotations of cluster A12:

- Start number 26 was manually annotated 4 times for cluster A12.
- Start number 27 was manually annotated 1 time for cluster A12.

Info for manual annotations of cluster A14:

- Start number 26 was manually annotated 4 times for cluster A14.

Info for manual annotations of cluster A16:

- Start number 26 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A2:

- Start number 25 was manually annotated 1 time for cluster A2.
- Start number 26 was manually annotated 91 times for cluster A2.
- Start number 31 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A3:

- Start number 24 was manually annotated 63 times for cluster A3.

Info for manual annotations of cluster A6:

- Start number 24 was manually annotated 2 times for cluster A6.
- Start number 26 was manually annotated 37 times for cluster A6.

Info for manual annotations of cluster A8:

- Start number 24 was manually annotated 11 times for cluster A8.

Info for manual annotations of cluster A9:

- Start number 27 was manually annotated 34 times for cluster A9.
- Start number 28 was manually annotated 1 time for cluster A9.

Gene Information:

Gene: 20ES_50 Start: 32641, Stop: 32432, Start Num: 26

Candidate Starts for 20ES_50:

(1, 33025), (Start: 26 @32641 has 164 MA's), (51, 32485),

Gene: 40AC_49 Start: 33650, Stop: 33450, Start Num: 26

Candidate Starts for 40AC_49:

(12, 33770), (13, 33758), (15, 33746), (Start: 26 @33650 has 164 MA's), (34, 33617), (35, 33614), (37, 33608), (51, 33500),

Gene: ACFishhook_50 Start: 32461, Stop: 32273, Start Num: 24

Candidate Starts for ACFishhook_50:

(Start: 24 @32461 has 76 MA's), (33, 32425), (46, 32347),

Gene: AN3_50 Start: 33012, Stop: 32803, Start Num: 26

Candidate Starts for AN3_50:

(1, 33396), (11, 33132), (Start: 26 @33012 has 164 MA's), (51, 32856),

Gene: AN9_51 Start: 32552, Stop: 32346, Start Num: 26

Candidate Starts for AN9_51:

(Start: 26 @32552 has 164 MA's), (40, 32483), (43, 32462), (51, 32393), (53, 32369),

Gene: ANI8_51 Start: 32552, Stop: 32346, Start Num: 26

Candidate Starts for ANI8_51:

(Start: 26 @32552 has 164 MA's), (40, 32483), (43, 32462), (51, 32393), (53, 32369),

Gene: AbbyPaige_50 Start: 32822, Stop: 32613, Start Num: 26

Candidate Starts for AbbyPaige_50:

(12, 32936), (13, 32924), (Start: 26 @32822 has 164 MA's), (51, 32666),

Gene: Acolyte_44 Start: 31789, Stop: 31586, Start Num: 26

Candidate Starts for Acolyte_44:

(13, 31891), (15, 31879), (Start: 26 @31789 has 164 MA's), (30, 31771), (Start: 31 @31768 has 1 MA's), (51, 31633),

Gene: Adzzy_50 Start: 31273, Stop: 31064, Start Num: 26

Candidate Starts for Adzzy_50:

(13, 31381), (15, 31369), (Start: 26 @31273 has 164 MA's), (32, 31246), (36, 31228), (39, 31210), (40, 31207), (51, 31117),

Gene: Agape74_50 Start: 32807, Stop: 32598, Start Num: 26

Candidate Starts for Agape74_50:

(12, 32921), (13, 32909), (Start: 26 @32807 has 164 MA's), (51, 32651),

Gene: AgronaGT15_50 Start: 32341, Stop: 32153, Start Num: 24

Candidate Starts for AgronaGT15_50:

(Start: 24 @32341 has 76 MA's), (33, 32305), (46, 32227),

Gene: Aliter_48 Start: 32246, Stop: 32034, Start Num: 27

Candidate Starts for Aliter_48:

(5, 32504), (6, 32498), (12, 32366), (13, 32354), (Start: 27 @32246 has 35 MA's), (39, 32189), (40, 32186), (51, 32096),

Gene: Alma_48 Start: 32372, Stop: 32157, Start Num: 27

Candidate Starts for Alma_48:

(9, 32525), (12, 32492), (13, 32480), (Start: 27 @32372 has 35 MA's), (39, 32312), (40, 32309), (51, 32219),

Gene: Aneem_49 Start: 31910, Stop: 31698, Start Num: 26

Candidate Starts for Aneem_49:

(10, 32057), (Start: 26 @31910 has 164 MA's), (39, 31847),

Gene: AnnaL29_50 Start: 33346, Stop: 33143, Start Num: 26

Candidate Starts for AnnaL29_50:

(Start: 26 @33346 has 164 MA's), (37, 33298), (51, 33190),

Gene: Anselm_49 Start: 32738, Stop: 32529, Start Num: 26

Candidate Starts for Anselm_49:

(12, 32852), (13, 32840), (Start: 26 @32738 has 164 MA's), (51, 32582),

Gene: Anubis_54 Start: 32376, Stop: 32188, Start Num: 24

Candidate Starts for Anubis_54:

(Start: 24 @32376 has 76 MA's), (33, 32340), (46, 32262),

Gene: Arissanae_47 Start: 32905, Stop: 32687, Start Num: 27

Candidate Starts for Arissanae_47:

(Start: 27 @32905 has 35 MA's), (39, 32845), (40, 32842), (48, 32770), (51, 32752), (53, 32728),

Gene: Artemis2UCLA_50 Start: 31040, Stop: 30834, Start Num: 26

Candidate Starts for Artemis2UCLA_50:

(13, 31148), (Start: 26 @31040 has 164 MA's), (34, 31001), (37, 30992), (39, 30977), (51, 30884),

Gene: Astro_45 Start: 31320, Stop: 31138, Start Num: 24

Candidate Starts for Astro_45:

(Start: 24 @31320 has 76 MA's), (29, 31308), (38, 31263), (41, 31233), (49, 31173),

Gene: BabyBack_47 Start: 33062, Stop: 32862, Start Num: 26

Candidate Starts for BabyBack_47:

(13, 33170), (15, 33158), (Start: 26 @33062 has 164 MA's), (Start: 31 @33047 has 1 MA's), (51, 32912),

Gene: Bachome_50 Start: 31898, Stop: 31686, Start Num: 26

Candidate Starts for Bachome_50:

(Start: 26 @31898 has 164 MA's), (39, 31835),

Gene: Bactobuster_47 Start: 33296, Stop: 33093, Start Num: 26

Candidate Starts for Bactobuster_47:

(13, 33398), (15, 33386), (18, 33347), (Start: 26 @33296 has 164 MA's), (30, 33278), (Start: 31 @33275 has 1 MA's), (34, 33257), (35, 33254), (51, 33140),

Gene: Baehexic_47 Start: 32512, Stop: 32300, Start Num: 26

Candidate Starts for Baehexic_47:

(13, 32614), (15, 32602), (Start: 26 @32512 has 164 MA's), (51, 32356),

Gene: Beauxregard13_51 Start: 32493, Stop: 32305, Start Num: 24

Candidate Starts for Beauxregard13_51:

(Start: 24 @32493 has 76 MA's), (33, 32457), (46, 32379),

Gene: Beemo_48 Start: 32368, Stop: 32156, Start Num: 27

Candidate Starts for Beemo_48:

(5, 32626), (6, 32620), (12, 32488), (13, 32476), (Start: 27 @32368 has 35 MA's), (39, 32311), (40, 32308), (51, 32218),

Gene: BengiVuitton_49 Start: 32594, Stop: 32385, Start Num: 26

Candidate Starts for BengiVuitton_49:

(1, 32978), (Start: 26 @32594 has 164 MA's), (51, 32438),

Gene: Benvolio_45 Start: 31769, Stop: 31560, Start Num: 26

Candidate Starts for Benvolio_45:

(12, 31883), (13, 31871), (Start: 26 @31769 has 164 MA's), (39, 31706), (51, 31613),

Gene: Blinn1_52 Start: 31303, Stop: 31094, Start Num: 26

Candidate Starts for Blinn1_52:

(Start: 26 @31303 has 164 MA's), (30, 31285), (34, 31261), (51, 31144), (54, 31117),

Gene: Blue7_52 Start: 31136, Stop: 30930, Start Num: 26

Candidate Starts for Blue7_52:

(13, 31244), (Start: 26 @31136 has 164 MA's), (37, 31088), (51, 30980),

Gene: BogosyJay_47 Start: 32089, Stop: 31862, Start Num: 27

Candidate Starts for BogosyJay_47:

(12, 32209), (13, 32197), (Start: 27 @32089 has 35 MA's), (Start: 31 @32071 has 1 MA's), (32, 32065), (39, 32029), (40, 32026), (51, 31936),

Gene: Bowtie_49 Start: 31917, Stop: 31705, Start Num: 26

Candidate Starts for Bowtie_49:

(10, 32064), (Start: 26 @31917 has 164 MA's), (39, 31854),

Gene: Bradman_47 Start: 31270, Stop: 31082, Start Num: 31

Candidate Starts for Bradman_47:

(10, 31444), (Start: 26 @31291 has 164 MA's), (Start: 31 @31270 has 1 MA's), (51, 31132),

Gene: BreSam8_51 Start: 32483, Stop: 32295, Start Num: 24

Candidate Starts for BreSam8_51:

(Start: 24 @32483 has 76 MA's), (33, 32447), (46, 32369),

Gene: Bud_48 Start: 31472, Stop: 31260, Start Num: 26

Candidate Starts for Bud_48:

(Start: 26 @31472 has 164 MA's), (39, 31409),

Gene: Buggy_50 Start: 32882, Stop: 32670, Start Num: 26

Candidate Starts for Buggy_50:

(Start: 26 @32882 has 164 MA's), (51, 32726),

Gene: Bxz2_47 Start: 32527, Stop: 32339, Start Num: 24

Candidate Starts for Bxz2_47:

(Start: 24 @32527 has 76 MA's), (33, 32491), (46, 32413),

Gene: C3_46 Start: 32552, Stop: 32346, Start Num: 26

Candidate Starts for C3_46:

(Start: 26 @32552 has 164 MA's), (40, 32483), (43, 32462), (51, 32393), (53, 32369),

Gene: CRB1_51 Start: 32987, Stop: 32778, Start Num: 26

Candidate Starts for CRB1_51:

(1, 33368), (11, 33104), (21, 33002), (Start: 26 @32987 has 164 MA's), (51, 32831),

Gene: Calvinny_51 Start: 32389, Stop: 32201, Start Num: 24

Candidate Starts for Calvinny_51:

(Start: 24 @32389 has 76 MA's), (33, 32353), (46, 32275),

Gene: Candra_50 Start: 31382, Stop: 31173, Start Num: 26

Candidate Starts for Candra_50:

(13, 31490), (Start: 26 @31382 has 164 MA's), (30, 31364), (34, 31340), (51, 31223),

Gene: Caraxes_48 Start: 30908, Stop: 30723, Start Num: 30

Candidate Starts for Caraxes_48:

(Start: 26 @30926 has 164 MA's), (30, 30908), (35, 30884), (51, 30770),

Gene: Catalina_49 Start: 32319, Stop: 32107, Start Num: 27

Candidate Starts for Catalina_49:

(5, 32577), (6, 32571), (12, 32439), (13, 32427), (Start: 27 @32319 has 35 MA's), (39, 32262), (40, 32259), (51, 32169),

Gene: Centaur_49 Start: 32729, Stop: 32517, Start Num: 26

Candidate Starts for Centaur_49:

(13, 32831), (15, 32819), (Start: 26 @32729 has 164 MA's), (51, 32573),

Gene: Changeling_47 Start: 32928, Stop: 32725, Start Num: 26

Candidate Starts for Changeling_47:

(15, 33024), (Start: 26 @32928 has 164 MA's), (37, 32880), (42, 32844), (51, 32772),

Gene: Chargerpower_47 Start: 31274, Stop: 31038, Start Num: 26

Candidate Starts for Chargerpower_47:

(12, 31394), (13, 31382), (15, 31370), (Start: 26 @31274 has 164 MA's), (32, 31247), (35, 31232), (39, 31211), (51, 31118),

Gene: Charm_47 Start: 32120, Stop: 31896, Start Num: 27

Candidate Starts for Charm_47:

(7, 32369), (8, 32339), (12, 32240), (13, 32228), (15, 32216), (Start: 27 @32120 has 35 MA's), (32, 32096), (39, 32060), (40, 32057), (51, 31967),

Gene: Chartreuse_49 Start: 30742, Stop: 30533, Start Num: 26

Candidate Starts for Chartreuse_49:

(13, 30850), (Start: 26 @30742 has 164 MA's), (30, 30724), (34, 30700), (51, 30583),

Gene: Che12_50 Start: 31360, Stop: 31148, Start Num: 26

Candidate Starts for Che12_50:

(13, 31468), (15, 31456), (Start: 26 @31360 has 164 MA's), (32, 31333), (36, 31315), (39, 31297), (40, 31294), (51, 31201),

Gene: ChipMunk_50 Start: 34079, Stop: 33870, Start Num: 26

Candidate Starts for ChipMunk_50:

(12, 34193), (13, 34181), (Start: 26 @34079 has 164 MA's), (51, 33923),

Gene: CloudWang3_50 Start: 31140, Stop: 30934, Start Num: 26

Candidate Starts for CloudWang3_50:

(13, 31248), (Start: 26 @31140 has 164 MA's), (37, 31092), (51, 30984),

Gene: Colbster_51 Start: 32493, Stop: 32305, Start Num: 24

Candidate Starts for Colbster_51:

(Start: 24 @32493 has 76 MA's), (33, 32457), (46, 32379),

Gene: Conquerage_48 Start: 32342, Stop: 32130, Start Num: 27

Candidate Starts for Conquerage_48:

(5, 32600), (6, 32594), (12, 32462), (13, 32450), (Start: 27 @32342 has 35 MA's), (39, 32285), (40, 32282), (51, 32192),

Gene: Cookiedough_50 Start: 31358, Stop: 31149, Start Num: 26

Candidate Starts for Cookiedough_50:

(13, 31466), (Start: 26 @31358 has 164 MA's), (30, 31340), (34, 31316), (51, 31199),

Gene: Crucio_48 Start: 32322, Stop: 32113, Start Num: 26

Candidate Starts for Crucio_48:

(12, 32436), (13, 32424), (Start: 26 @32322 has 164 MA's), (39, 32259), (51, 32166),

Gene: Cullens_51 Start: 32489, Stop: 32301, Start Num: 24

Candidate Starts for Cullens_51:

(Start: 24 @32489 has 76 MA's), (33, 32453), (46, 32375),

Gene: DBQu4n_50 Start: 32112, Stop: 31906, Start Num: 26

Candidate Starts for DBQu4n_50:

(Start: 26 @32112 has 164 MA's), (36, 32064), (51, 31953),

Gene: DaVinci_49 Start: 30796, Stop: 30587, Start Num: 26

Candidate Starts for DaVinci_49:

(13, 30904), (Start: 26 @30796 has 164 MA's), (30, 30778), (34, 30754), (51, 30637),

Gene: Daishi_50 Start: 31361, Stop: 31173, Start Num: 24

Candidate Starts for Daishi_50:

(Start: 24 @31361 has 76 MA's), (33, 31325), (46, 31247),

Gene: Dalmatian_49 Start: 32714, Stop: 32505, Start Num: 26

Candidate Starts for Dalmatian_49:

(12, 32828), (13, 32816), (Start: 26 @32714 has 164 MA's), (51, 32558),

Gene: Danforth_45 Start: 31349, Stop: 31167, Start Num: 24

Candidate Starts for Danforth_45:

(Start: 24 @31349 has 76 MA's), (29, 31337), (38, 31292), (41, 31262), (49, 31202),

Gene: Darrell_49 Start: 32708, Stop: 32490, Start Num: 27

Candidate Starts for Darrell_49:

(11, 32843), (14, 32819), (Start: 27 @32708 has 35 MA's), (32, 32684), (39, 32648), (51, 32555), (53, 32531),

Gene: DarthPhader_45 Start: 33153, Stop: 32947, Start Num: 26

Candidate Starts for DarthPhader_45:

(13, 33261), (Start: 26 @33153 has 164 MA's), (32, 33126), (35, 33111), (39, 33090), (40, 33087), (51, 32997),

Gene: Deloris_48 Start: 32263, Stop: 32054, Start Num: 26

Candidate Starts for Deloris_48:

(1, 32647), (Start: 26 @32263 has 164 MA's), (51, 32107),

Gene: Dieselweasel_52 Start: 32492, Stop: 32304, Start Num: 24

Candidate Starts for Dieselweasel_52:

(Start: 24 @32492 has 76 MA's), (33, 32456), (46, 32378),

Gene: Dignity_50 Start: 32887, Stop: 32678, Start Num: 26

Candidate Starts for Dignity_50:

(12, 33001), (13, 32989), (Start: 26 @32887 has 164 MA's), (51, 32731),

Gene: Dixon_45 Start: 31222, Stop: 31040, Start Num: 24

Candidate Starts for Dixon_45:

(Start: 24 @31222 has 76 MA's), (29, 31210), (38, 31165), (41, 31135), (49, 31075),

Gene: Dorothea_50 Start: 31365, Stop: 31156, Start Num: 26

Candidate Starts for Dorothea_50:

(13, 31473), (Start: 26 @31365 has 164 MA's), (30, 31347), (34, 31323), (51, 31206),

Gene: Drake55_50 Start: 32805, Stop: 32602, Start Num: 26

Candidate Starts for Drake55_50:

(13, 32907), (15, 32895), (Start: 26 @32805 has 164 MA's), (30, 32787), (43, 32718), (51, 32649), (55, 32625),

Gene: DreamTeam1_47 Start: 31994, Stop: 31770, Start Num: 27

Candidate Starts for DreamTeam1_47:

(7, 32243), (8, 32213), (12, 32114), (13, 32102), (15, 32090), (Start: 27 @31994 has 35 MA's), (32, 31970), (39, 31934), (40, 31931), (51, 31841),

Gene: DudeLittle_47 Start: 32456, Stop: 32247, Start Num: 26

Candidate Starts for DudeLittle_47:

(12, 32570), (13, 32558), (Start: 26 @32456 has 164 MA's), (30, 32438), (51, 32300),

Gene: Duplo_50 Start: 32150, Stop: 31944, Start Num: 26

Candidate Starts for Duplo_50:

(Start: 26 @32150 has 164 MA's), (36, 32102), (51, 31991),

Gene: EZMoney23_46 Start: 32252, Stop: 32052, Start Num: 26

Candidate Starts for EZMoney23_46:

(Start: 26 @32252 has 164 MA's), (37, 32204), (42, 32168), (51, 32096), (58, 32060),

Gene: EagleEye_50 Start: 31872, Stop: 31663, Start Num: 26

Candidate Starts for EagleEye_50:

(Start: 26 @31872 has 164 MA's), (36, 31824), (39, 31806), (51, 31719),

Gene: Ebony_48 Start: 31489, Stop: 31277, Start Num: 26

Candidate Starts for Ebony_48:

(Start: 26 @31489 has 164 MA's), (39, 31426),

Gene: Echild_48 Start: 31793, Stop: 31584, Start Num: 26

Candidate Starts for Echild_48:

(12, 31907), (13, 31895), (Start: 26 @31793 has 164 MA's), (39, 31730), (51, 31637),

Gene: EdogawaKiddo_46 Start: 32319, Stop: 32107, Start Num: 27

Candidate Starts for EdogawaKiddo_46:

(5, 32577), (6, 32571), (12, 32439), (13, 32427), (Start: 27 @32319 has 35 MA's), (39, 32262), (40, 32259), (51, 32169),

Gene: Eidsmoe_48 Start: 32382, Stop: 32170, Start Num: 27

Candidate Starts for Eidsmoe_48:

(5, 32640), (6, 32634), (12, 32502), (13, 32490), (Start: 27 @32382 has 35 MA's), (39, 32325), (40, 32322), (51, 32232),

Gene: Elephantoon_47 Start: 31688, Stop: 31470, Start Num: 27

Candidate Starts for Elephantoon_47:

(13, 31790), (Start: 27 @31688 has 35 MA's), (Start: 31 @31670 has 1 MA's), (32, 31664), (39, 31628), (40, 31625), (51, 31535), (53, 31511),

Gene: EmyBug_47 Start: 32384, Stop: 32172, Start Num: 27

Candidate Starts for EmyBug_47:

(5, 32642), (6, 32636), (12, 32504), (13, 32492), (Start: 27 @32384 has 35 MA's), (39, 32327), (40, 32324), (51, 32234),

Gene: EpicPhail_52 Start: 32493, Stop: 32305, Start Num: 24

Candidate Starts for EpicPhail_52:

(Start: 24 @32493 has 76 MA's), (33, 32457), (46, 32379),

Gene: Equemioh13_49 Start: 32631, Stop: 32419, Start Num: 26

Candidate Starts for Equemioh13_49:

(13, 32733), (15, 32721), (Start: 26 @32631 has 164 MA's), (51, 32475),

Gene: EricB_50 Start: 31339, Stop: 31130, Start Num: 26

Candidate Starts for EricB_50:

(13, 31447), (Start: 26 @31339 has 164 MA's), (30, 31321), (34, 31297), (51, 31180),

Gene: Et2Brutus_47 Start: 31449, Stop: 31237, Start Num: 26

Candidate Starts for Et2Brutus_47:

(Start: 26 @31449 has 164 MA's), (39, 31386),

Gene: EvilGenius_50 Start: 34083, Stop: 33874, Start Num: 26

Candidate Starts for EvilGenius_50:

(12, 34197), (13, 34185), (Start: 26 @34083 has 164 MA's), (51, 33927),

Gene: Expelliarmus_45 Start: 31378, Stop: 31196, Start Num: 24

Candidate Starts for Expelliarmus_45:

(Start: 24 @31378 has 76 MA's), (29, 31366), (38, 31321), (41, 31291), (49, 31231),

Gene: ExplosioNervosa_48 Start: 32402, Stop: 32190, Start Num: 27

Candidate Starts for ExplosioNervosa_48:

(5, 32660), (6, 32654), (12, 32522), (13, 32510), (Start: 27 @32402 has 35 MA's), (39, 32345), (40, 32342), (51, 32252),

Gene: Fameo_48 Start: 32632, Stop: 32423, Start Num: 26

Candidate Starts for Fameo_48:

(12, 32746), (13, 32734), (Start: 26 @32632 has 164 MA's), (39, 32569), (51, 32476),

Gene: Farber_51 Start: 32482, Stop: 32294, Start Num: 24

Candidate Starts for Farber_51:
(Start: 24 @32482 has 76 MA's), (33, 32446), (46, 32368),

Gene: Fayely_48 Start: 32351, Stop: 32139, Start Num: 27
Candidate Starts for Fayely_48:
(5, 32609), (6, 32603), (12, 32471), (13, 32459), (Start: 27 @32351 has 35 MA's), (39, 32294), (40, 32291), (51, 32201),

Gene: Fernando_51 Start: 32489, Stop: 32301, Start Num: 24
Candidate Starts for Fernando_51:
(Start: 24 @32489 has 76 MA's), (33, 32453), (46, 32375),

Gene: Fibonacci_48 Start: 31464, Stop: 31252, Start Num: 26
Candidate Starts for Fibonacci_48:
(Start: 26 @31464 has 164 MA's), (39, 31401),

Gene: FiringLine_48 Start: 32303, Stop: 32094, Start Num: 26
Candidate Starts for FiringLine_48:
(12, 32417), (13, 32405), (Start: 26 @32303 has 164 MA's), (51, 32147),

Gene: First_0049 Start: 32517, Stop: 32308, Start Num: 26
Candidate Starts for First_0049:
(1, 32901), (11, 32637), (Start: 26 @32517 has 164 MA's), (51, 32361),

Gene: Flare16_48 Start: 32390, Stop: 32178, Start Num: 26
Candidate Starts for Flare16_48:
(13, 32492), (15, 32480), (Start: 26 @32390 has 164 MA's), (51, 32234),

Gene: Flaverint_49 Start: 31911, Stop: 31699, Start Num: 26
Candidate Starts for Flaverint_49:
(10, 32058), (Start: 26 @31911 has 164 MA's), (39, 31848),

Gene: Gail_53 Start: 34071, Stop: 33859, Start Num: 26
Candidate Starts for Gail_53:
(Start: 26 @34071 has 164 MA's), (43, 33984), (44, 33981), (51, 33915),

Gene: Garak_52 Start: 31507, Stop: 31301, Start Num: 26
Candidate Starts for Garak_52:
(13, 31615), (Start: 26 @31507 has 164 MA's), (34, 31468), (37, 31459), (39, 31444), (51, 31351),

Gene: GaugeLDP_46 Start: 32685, Stop: 32485, Start Num: 26
Candidate Starts for GaugeLDP_46:
(13, 32793), (15, 32781), (Start: 26 @32685 has 164 MA's), (Start: 31 @32670 has 1 MA's), (51, 32535),

Gene: Gemma_50 Start: 32385, Stop: 32197, Start Num: 24
Candidate Starts for Gemma_50:
(Start: 24 @32385 has 76 MA's), (33, 32349), (46, 32271),

Gene: Georgie2_49 Start: 32348, Stop: 32139, Start Num: 26
Candidate Starts for Georgie2_49:
(12, 32462), (13, 32450), (Start: 26 @32348 has 164 MA's), (51, 32192),

Gene: Gilberta_49 Start: 31901, Stop: 31689, Start Num: 26

Candidate Starts for Gilberta_49:

(10, 32048), (Start: 26 @31901 has 164 MA's), (39, 31838),

Gene: Gladiator_48 Start: 30670, Stop: 30461, Start Num: 26

Candidate Starts for Gladiator_48:

(13, 30778), (Start: 26 @30670 has 164 MA's), (30, 30652), (34, 30628), (51, 30511),

Gene: GreedyLawyer_50 Start: 31346, Stop: 31137, Start Num: 26

Candidate Starts for GreedyLawyer_50:

(13, 31454), (Start: 26 @31346 has 164 MA's), (30, 31328), (34, 31304), (51, 31187),

Gene: Grif_51 Start: 32564, Stop: 32376, Start Num: 24

Candidate Starts for Grif_51:

(Start: 24 @32564 has 76 MA's), (33, 32528), (46, 32450),

Gene: Groundhog_44 Start: 31285, Stop: 31103, Start Num: 24

Candidate Starts for Groundhog_44:

(Start: 24 @31285 has 76 MA's), (29, 31273), (38, 31228), (41, 31198), (49, 31138),

Gene: Groupthink_52 Start: 32389, Stop: 32201, Start Num: 24

Candidate Starts for Groupthink_52:

(Start: 24 @32389 has 76 MA's), (33, 32353), (46, 32275),

Gene: Grum1_51 Start: 32489, Stop: 32301, Start Num: 24

Candidate Starts for Grum1_51:

(Start: 24 @32489 has 76 MA's), (33, 32453), (46, 32375),

Gene: Gruunaga_50 Start: 31343, Stop: 31137, Start Num: 26

Candidate Starts for Gruunaga_50:

(13, 31451), (Start: 26 @31343 has 164 MA's), (34, 31304), (37, 31295), (39, 31280), (51, 31187),

Gene: GtownJaz_51 Start: 32491, Stop: 32303, Start Num: 24

Candidate Starts for GtownJaz_51:

(Start: 24 @32491 has 76 MA's), (33, 32455), (46, 32377),

Gene: Hammer_51 Start: 30946, Stop: 30740, Start Num: 26

Candidate Starts for Hammer_51:

(13, 31054), (Start: 26 @30946 has 164 MA's), (37, 30898), (51, 30790),

Gene: Hanray_46 Start: 32323, Stop: 32111, Start Num: 27

Candidate Starts for Hanray_46:

(5, 32581), (6, 32575), (12, 32443), (13, 32431), (Start: 27 @32323 has 35 MA's), (39, 32266), (40, 32263), (51, 32173),

Gene: HarryHoudini_49 Start: 32814, Stop: 32611, Start Num: 26

Candidate Starts for HarryHoudini_49:

(13, 32916), (15, 32904), (Start: 26 @32814 has 164 MA's), (30, 32796), (43, 32727), (51, 32658), (55, 32634),

Gene: HashRod_52 Start: 32520, Stop: 32332, Start Num: 24

Candidate Starts for HashRod_52:

(Start: 24 @32520 has 76 MA's), (33, 32484), (46, 32406),

Gene: HaveUMetTed_52 Start: 32371, Stop: 32183, Start Num: 24

Candidate Starts for HaveUMetTed_52:

(Start: 24 @32371 has 76 MA's), (33, 32335), (46, 32257),

Gene: Heffalump_47 Start: 33100, Stop: 32891, Start Num: 26

Candidate Starts for Heffalump_47:

(12, 33214), (13, 33202), (Start: 26 @33100 has 164 MA's), (39, 33037), (51, 32944),

Gene: Heliosoles_50 Start: 32392, Stop: 32204, Start Num: 24

Candidate Starts for Heliosoles_50:

(Start: 24 @32392 has 76 MA's), (33, 32356), (46, 32278),

Gene: Helmet_52 Start: 31507, Stop: 31301, Start Num: 26

Candidate Starts for Helmet_52:

(13, 31615), (Start: 26 @31507 has 164 MA's), (34, 31468), (37, 31459), (39, 31444), (51, 31351),

Gene: Herbertwm_48 Start: 32176, Stop: 31973, Start Num: 25

Candidate Starts for Herbertwm_48:

(Start: 25 @32176 has 1 MA's), (39, 32113), (51, 32020),

Gene: Hercules11_51 Start: 32498, Stop: 32310, Start Num: 24

Candidate Starts for Hercules11_51:

(Start: 24 @32498 has 76 MA's), (33, 32462), (46, 32384),

Gene: Hexamo_50 Start: 31128, Stop: 30922, Start Num: 26

Candidate Starts for Hexamo_50:

(13, 31236), (Start: 26 @31128 has 164 MA's), (34, 31089), (37, 31080), (39, 31065), (51, 30972),

Gene: Horex_47 Start: 32342, Stop: 32130, Start Num: 27

Candidate Starts for Horex_47:

(5, 32600), (6, 32594), (12, 32462), (13, 32450), (Start: 27 @32342 has 35 MA's), (39, 32285), (40, 32282), (51, 32192),

Gene: HortumSL17_48 Start: 32318, Stop: 32106, Start Num: 27

Candidate Starts for HortumSL17_48:

(5, 32576), (6, 32570), (12, 32438), (13, 32426), (Start: 27 @32318 has 35 MA's), (39, 32261), (40, 32258), (51, 32168),

Gene: Hutc2_48 Start: 31464, Stop: 31252, Start Num: 26

Candidate Starts for Hutc2_48:

(Start: 26 @31464 has 164 MA's), (39, 31401),

Gene: Indra_53 Start: 31508, Stop: 31302, Start Num: 26

Candidate Starts for Indra_53:

(13, 31616), (Start: 26 @31508 has 164 MA's), (34, 31469), (37, 31460), (39, 31445), (51, 31352),

Gene: Insomnia_49 Start: 31969, Stop: 31757, Start Num: 26

Candidate Starts for Insomnia_49:

(Start: 26 @31969 has 164 MA's), (39, 31906),

Gene: IronMan_48 Start: 33479, Stop: 33276, Start Num: 26

Candidate Starts for IronMan_48:

(13, 33581), (18, 33530), (Start: 26 @33479 has 164 MA's), (30, 33461), (34, 33440), (35, 33437), (51, 33323),

Gene: Isiphiwo_48 Start: 30883, Stop: 30674, Start Num: 26

Candidate Starts for Isiphiwo_48:

(13, 30991), (Start: 26 @30883 has 164 MA's), (30, 30865), (34, 30841), (51, 30724),

Gene: Iwokeuplikedis_51 Start: 32416, Stop: 32213, Start Num: 26

Candidate Starts for Iwokeuplikedis_51:

(Start: 26 @32416 has 164 MA's), (30, 32398), (36, 32371), (51, 32260),

Gene: JHC117_51 Start: 32488, Stop: 32300, Start Num: 24

Candidate Starts for JHC117_51:

(Start: 24 @32488 has 76 MA's), (33, 32452), (46, 32374),

Gene: Jaan_48 Start: 33645, Stop: 33442, Start Num: 26

Candidate Starts for Jaan_48:

(13, 33747), (15, 33735), (18, 33696), (Start: 26 @33645 has 164 MA's), (30, 33627), (Start: 31 @33624 has 1 MA's), (34, 33606), (35, 33603), (51, 33489),

Gene: Jabith_49 Start: 31970, Stop: 31758, Start Num: 26

Candidate Starts for Jabith_49:

(Start: 26 @31970 has 164 MA's), (39, 31907),

Gene: Jeeves_53 Start: 32846, Stop: 32631, Start Num: 26

Candidate Starts for Jeeves_53:

(Start: 26 @32846 has 164 MA's), (36, 32798), (43, 32756), (44, 32753), (51, 32687),

Gene: Jeffabunny_50 Start: 31164, Stop: 30958, Start Num: 26

Candidate Starts for Jeffabunny_50:

(13, 31272), (Start: 26 @31164 has 164 MA's), (34, 31125), (37, 31116), (39, 31101), (51, 31008),

Gene: JenCasNa_52 Start: 32489, Stop: 32301, Start Num: 24

Candidate Starts for JenCasNa_52:

(Start: 24 @32489 has 76 MA's), (33, 32453), (46, 32375),

Gene: JeppNRM_52 Start: 32390, Stop: 32202, Start Num: 24

Candidate Starts for JeppNRM_52:

(Start: 24 @32390 has 76 MA's), (33, 32354), (46, 32276),

Gene: Jerm_50 Start: 32880, Stop: 32671, Start Num: 26

Candidate Starts for Jerm_50:

(12, 32994), (13, 32982), (Start: 26 @32880 has 164 MA's), (51, 32724),

Gene: Jiawan_46 Start: 32355, Stop: 32143, Start Num: 27

Candidate Starts for Jiawan_46:

(5, 32613), (6, 32607), (12, 32475), (13, 32463), (Start: 27 @32355 has 35 MA's), (39, 32298), (40, 32295), (51, 32205),

Gene: Jobu08_50 Start: 32321, Stop: 32133, Start Num: 24

Candidate Starts for Jobu08_50:

(Start: 24 @32321 has 76 MA's), (33, 32285), (46, 32207),

Gene: Jordennis_49 Start: 30803, Stop: 30594, Start Num: 24
Candidate Starts for Jordennis_49:
(Start: 24 @30803 has 76 MA's), (30, 30785), (34, 30761), (51, 30644),

Gene: Joselito_49 Start: 31910, Stop: 31698, Start Num: 26
Candidate Starts for Joselito_49:
(10, 32057), (Start: 26 @31910 has 164 MA's), (39, 31847),

Gene: JoshKayV_50 Start: 32961, Stop: 32752, Start Num: 26
Candidate Starts for JoshKayV_50:
(12, 33075), (13, 33063), (Start: 26 @32961 has 164 MA's), (45, 32853), (51, 32805),

Gene: Journey13_42 Start: 30735, Stop: 30526, Start Num: 26
Candidate Starts for Journey13_42:
(12, 30855), (13, 30843), (Start: 26 @30735 has 164 MA's), (32, 30708), (39, 30672), (51, 30579), (57, 30537),

Gene: Jsquared_46 Start: 31228, Stop: 31022, Start Num: 26
Candidate Starts for Jsquared_46:
(Start: 26 @31228 has 164 MA's), (Start: 31 @31207 has 1 MA's), (43, 31141), (51, 31072),

Gene: KADY_51 Start: 32520, Stop: 32332, Start Num: 24
Candidate Starts for KADY_51:
(Start: 24 @32520 has 76 MA's), (33, 32484), (46, 32406),

Gene: Kalb97_52 Start: 32388, Stop: 32200, Start Num: 24
Candidate Starts for Kalb97_52:
(Start: 24 @32388 has 76 MA's), (33, 32352), (46, 32274),

Gene: Kalnoky_52 Start: 32386, Stop: 32198, Start Num: 24
Candidate Starts for Kalnoky_52:
(Start: 24 @32386 has 76 MA's), (33, 32350), (46, 32272),

Gene: Kalpine_46 Start: 32595, Stop: 32392, Start Num: 26
Candidate Starts for Kalpine_46:
(Start: 26 @32595 has 164 MA's), (30, 32577), (37, 32547), (51, 32439),

Gene: Kazan_51 Start: 31352, Stop: 31143, Start Num: 26
Candidate Starts for Kazan_51:
(13, 31460), (Start: 26 @31352 has 164 MA's), (30, 31334), (34, 31310), (51, 31193),

Gene: Kerberos_50 Start: 32112, Stop: 31906, Start Num: 26
Candidate Starts for Kerberos_50:
(Start: 26 @32112 has 164 MA's), (36, 32064), (51, 31953),

Gene: Keziacharles14_48 Start: 33355, Stop: 33137, Start Num: 28
Candidate Starts for Keziacharles14_48:
(13, 33457), (15, 33445), (Start: 28 @33355 has 1 MA's), (39, 33298), (40, 33295), (44, 33271), (51, 33205),

Gene: KingCyrus_50 Start: 34078, Stop: 33869, Start Num: 26
Candidate Starts for KingCyrus_50:
(12, 34192), (13, 34180), (Start: 26 @34078 has 164 MA's), (51, 33922),

Gene: Kinmap_46 Start: 31629, Stop: 31423, Start Num: 26
Candidate Starts for Kinmap_46:
(4, 31902), (Start: 26 @31629 has 164 MA's), (35, 31587), (37, 31581),

Gene: Kipper29_50 Start: 31365, Stop: 31156, Start Num: 26
Candidate Starts for Kipper29_50:
(13, 31473), (Start: 26 @31365 has 164 MA's), (30, 31347), (34, 31323), (51, 31206),

Gene: Koduck_48 Start: 31520, Stop: 31314, Start Num: 26
Candidate Starts for Koduck_48:
(Start: 26 @31520 has 164 MA's), (Start: 31 @31499 has 1 MA's), (37, 31472), (51, 31364),

Gene: Koko_51 Start: 31485, Stop: 31279, Start Num: 26
Candidate Starts for Koko_51:
(13, 31593), (Start: 26 @31485 has 164 MA's), (37, 31437), (51, 31329),

Gene: L5_47 Start: 31595, Stop: 31386, Start Num: 26
Candidate Starts for L5_47:
(Start: 26 @31595 has 164 MA's), (Start: 31 @31574 has 1 MA's), (37, 31547), (51, 31436),

Gene: LBerry_52 Start: 32493, Stop: 32305, Start Num: 24
Candidate Starts for LBerry_52:
(Start: 24 @32493 has 76 MA's), (33, 32457), (46, 32379),

Gene: LadyBird_52 Start: 32952, Stop: 32743, Start Num: 26
Candidate Starts for LadyBird_52:
(1, 33336), (11, 33072), (Start: 26 @32952 has 164 MA's), (51, 32796),

Gene: Landor_48 Start: 33557, Stop: 33354, Start Num: 26
Candidate Starts for Landor_48:
(13, 33659), (15, 33647), (18, 33608), (Start: 26 @33557 has 164 MA's), (30, 33539), (Start: 31 @33536 has 1 MA's), (34, 33518), (35, 33515), (51, 33401),

Gene: Larenn_47 Start: 32493, Stop: 32284, Start Num: 26
Candidate Starts for Larenn_47:
(13, 32595), (Start: 26 @32493 has 164 MA's), (51, 32337),

Gene: LarryKay_51 Start: 32522, Stop: 32334, Start Num: 24
Candidate Starts for LarryKay_51:
(Start: 24 @32522 has 76 MA's), (33, 32486), (46, 32408),

Gene: Leogania_48 Start: 33507, Stop: 33295, Start Num: 26
Candidate Starts for Leogania_48:
(Start: 26 @33507 has 164 MA's), (37, 33459), (42, 33423), (51, 33351), (52, 33339),

Gene: Leviathan_50 Start: 32936, Stop: 32727, Start Num: 26
Candidate Starts for Leviathan_50:
(12, 33050), (13, 33038), (Start: 26 @32936 has 164 MA's), (51, 32780),

Gene: LilTurb_49 Start: 32769, Stop: 32560, Start Num: 26
Candidate Starts for LilTurb_49:
(12, 32883), (13, 32871), (Start: 26 @32769 has 164 MA's), (51, 32613),

Gene: Lilbunny_49 Start: 31138, Stop: 30932, Start Num: 26
Candidate Starts for Lilbunny_49:
(13, 31246), (Start: 26 @31138 has 164 MA's), (34, 31099), (37, 31090), (39, 31075), (51, 30982),

Gene: Lilleskat_46 Start: 32272, Stop: 32060, Start Num: 27
Candidate Starts for Lilleskat_46:
(5, 32530), (6, 32524), (12, 32392), (13, 32380), (Start: 27 @32272 has 35 MA's), (39, 32215), (40, 32212), (51, 32122),

Gene: LoneWolf_48 Start: 32078, Stop: 31863, Start Num: 27
Candidate Starts for LoneWolf_48:
(19, 32144), (Start: 27 @32078 has 35 MA's), (39, 32018), (40, 32015), (51, 31925), (56, 31889),

Gene: Loser_50 Start: 33295, Stop: 33092, Start Num: 26
Candidate Starts for Loser_50:
(Start: 26 @33295 has 164 MA's), (37, 33247), (51, 33139),

Gene: Louie6_50 Start: 32521, Stop: 32333, Start Num: 24
Candidate Starts for Louie6_50:
(Start: 24 @32521 has 76 MA's), (33, 32485), (46, 32407),

Gene: Luchador_53 Start: 34634, Stop: 34419, Start Num: 26
Candidate Starts for Luchador_53:
(Start: 26 @34634 has 164 MA's), (42, 34547), (43, 34544), (44, 34541), (51, 34475),

Gene: Lucivia_49 Start: 31959, Stop: 31747, Start Num: 26
Candidate Starts for Lucivia_49:
(10, 32106), (Start: 26 @31959 has 164 MA's), (39, 31896),

Gene: Lucyedi_49 Start: 32067, Stop: 31858, Start Num: 26
Candidate Starts for Lucyedi_49:
(Start: 26 @32067 has 164 MA's), (36, 32019), (39, 32001), (51, 31914),

Gene: LugYA_54 Start: 32490, Stop: 32302, Start Num: 24
Candidate Starts for LugYA_54:
(Start: 24 @32490 has 76 MA's), (33, 32454), (46, 32376),

Gene: MaCh_49 Start: 31897, Stop: 31685, Start Num: 26
Candidate Starts for MaCh_49:
(Start: 26 @31897 has 164 MA's), (39, 31834),

Gene: Mabel_48 Start: 31499, Stop: 31287, Start Num: 26
Candidate Starts for Mabel_48:
(Start: 26 @31499 has 164 MA's), (39, 31436),

Gene: Mainiac_51 Start: 32483, Stop: 32295, Start Num: 24
Candidate Starts for Mainiac_51:
(Start: 24 @32483 has 76 MA's), (33, 32447), (46, 32369),

Gene: MajorMajor_47 Start: 31270, Stop: 31082, Start Num: 31
Candidate Starts for MajorMajor_47:
(10, 31444), (Start: 26 @31291 has 164 MA's), (Start: 31 @31270 has 1 MA's), (51, 31132),

Gene: Malec_48 Start: 33057, Stop: 32848, Start Num: 26
Candidate Starts for Malec_48:
(13, 33159), (Start: 26 @33057 has 164 MA's), (51, 32901),

Gene: Maminiaina_47 Start: 32071, Stop: 31844, Start Num: 27
Candidate Starts for Maminiaina_47:
(12, 32191), (13, 32179), (Start: 27 @32071 has 35 MA's), (Start: 31 @32053 has 1 MA's), (32, 32047), (39, 32011), (40, 32008), (51, 31918),

Gene: Manu_51 Start: 32389, Stop: 32201, Start Num: 24
Candidate Starts for Manu_51:
(Start: 24 @32389 has 76 MA's), (33, 32353), (46, 32275),

Gene: MarQuardt_51 Start: 32491, Stop: 32303, Start Num: 24
Candidate Starts for MarQuardt_51:
(Start: 24 @32491 has 76 MA's), (33, 32455), (46, 32377),

Gene: Marie_51 Start: 32489, Stop: 32301, Start Num: 24
Candidate Starts for Marie_51:
(Start: 24 @32489 has 76 MA's), (33, 32453), (46, 32375),

Gene: Marius_52 Start: 32386, Stop: 32198, Start Num: 24
Candidate Starts for Marius_52:
(Start: 24 @32386 has 76 MA's), (33, 32350), (46, 32272),

Gene: McFly_50 Start: 31346, Stop: 31137, Start Num: 26
Candidate Starts for McFly_50:
(13, 31454), (Start: 26 @31346 has 164 MA's), (30, 31328), (34, 31304), (51, 31187),

Gene: MiculUcigas_48 Start: 32290, Stop: 32078, Start Num: 26
Candidate Starts for MiculUcigas_48:
(13, 32392), (15, 32380), (Start: 26 @32290 has 164 MA's), (51, 32134),

Gene: Miko_45 Start: 32443, Stop: 32240, Start Num: 26
Candidate Starts for Miko_45:
(Start: 26 @32443 has 164 MA's), (30, 32425), (Start: 31 @32422 has 1 MA's), (37, 32395), (51, 32287), (57, 32251),

Gene: Misomonster_52 Start: 32519, Stop: 32331, Start Num: 24
Candidate Starts for Misomonster_52:
(Start: 24 @32519 has 76 MA's), (33, 32483), (46, 32405),

Gene: MissWhite_47 Start: 30815, Stop: 30645, Start Num: 26
Candidate Starts for MissWhite_47:
(12, 30935), (Start: 26 @30815 has 164 MA's), (32, 30788), (39, 30752), (51, 30659),

Gene: MoneyMay_51 Start: 32489, Stop: 32301, Start Num: 24
Candidate Starts for MoneyMay_51:
(Start: 24 @32489 has 76 MA's), (33, 32453), (46, 32375),

Gene: Mulciber_48 Start: 31461, Stop: 31249, Start Num: 26
Candidate Starts for Mulciber_48:

(Start: 26 @31461 has 164 MA's), (39, 31398),

Gene: Munch_49 Start: 31910, Stop: 31698, Start Num: 26

Candidate Starts for Munch_49:

(10, 32057), (Start: 26 @31910 has 164 MA's), (39, 31847),

Gene: Myxus_48 Start: 32318, Stop: 32106, Start Num: 27

Candidate Starts for Myxus_48:

(5, 32576), (6, 32570), (12, 32438), (13, 32426), (Start: 27 @32318 has 35 MA's), (39, 32261), (40, 32258), (51, 32168),

Gene: NaSiaTalie_48 Start: 32387, Stop: 32175, Start Num: 26

Candidate Starts for NaSiaTalie_48:

(13, 32489), (15, 32477), (Start: 26 @32387 has 164 MA's), (51, 32231),

Gene: NearlyHeadless_45 Start: 31124, Stop: 30942, Start Num: 24

Candidate Starts for NearlyHeadless_45:

(Start: 24 @31124 has 76 MA's), (29, 31112), (38, 31067), (41, 31037), (49, 30977),

Gene: Neeharika16_49 Start: 30806, Stop: 30597, Start Num: 26

Candidate Starts for Neeharika16_49:

(13, 30914), (Start: 26 @30806 has 164 MA's), (30, 30788), (34, 30764), (51, 30647),

Gene: Newrala_50 Start: 31357, Stop: 31148, Start Num: 26

Candidate Starts for Newrala_50:

(13, 31465), (Start: 26 @31357 has 164 MA's), (30, 31339), (34, 31315), (51, 31198),

Gene: NothingSpecial_46 Start: 32902, Stop: 32702, Start Num: 26

Candidate Starts for NothingSpecial_46:

(12, 33016), (13, 33004), (15, 32992), (Start: 26 @32902 has 164 MA's), (37, 32854), (42, 32818), (50, 32746),

Gene: Odin_47 Start: 31075, Stop: 30872, Start Num: 26

Candidate Starts for Odin_47:

(Start: 26 @31075 has 164 MA's), (30, 31057), (35, 31033), (51, 30919),

Gene: Onglai_46 Start: 30659, Stop: 30447, Start Num: 27

Candidate Starts for Onglai_46:

(5, 30917), (6, 30911), (12, 30779), (13, 30767), (Start: 27 @30659 has 35 MA's), (39, 30602), (40, 30599), (51, 30509),

Gene: Orange_48 Start: 31459, Stop: 31247, Start Num: 26

Candidate Starts for Orange_48:

(Start: 26 @31459 has 164 MA's), (39, 31396),

Gene: P28Green_52 Start: 32492, Stop: 32304, Start Num: 24

Candidate Starts for P28Green_52:

(Start: 24 @32492 has 76 MA's), (33, 32456), (46, 32378),

Gene: PackMan_47 Start: 32318, Stop: 32106, Start Num: 27

Candidate Starts for PackMan_47:

(5, 32576), (6, 32570), (12, 32438), (13, 32426), (Start: 27 @32318 has 35 MA's), (39, 32261), (40, 32258), (51, 32168),

Gene: PainterBoy_49 Start: 32003, Stop: 31794, Start Num: 26
Candidate Starts for PainterBoy_49:
(Start: 26 @32003 has 164 MA's), (36, 31955), (39, 31937), (51, 31850),

Gene: Pawn_51 Start: 32393, Stop: 32205, Start Num: 24
Candidate Starts for Pawn_51:
(Start: 24 @32393 has 76 MA's), (33, 32357), (46, 32279),

Gene: Penny1_52 Start: 32493, Stop: 32305, Start Num: 24
Candidate Starts for Penny1_52:
(Start: 24 @32493 has 76 MA's), (33, 32457), (46, 32379),

Gene: Petersenfast_47 Start: 31466, Stop: 31254, Start Num: 26
Candidate Starts for Petersenfast_47:
(Start: 26 @31466 has 164 MA's), (39, 31403),

Gene: Ph8s_50 Start: 31708, Stop: 31499, Start Num: 26
Candidate Starts for Ph8s_50:
(13, 31816), (15, 31804), (Start: 26 @31708 has 164 MA's), (32, 31681), (36, 31663), (39, 31645), (40, 31642), (51, 31552),

Gene: Phaded_49 Start: 33539, Stop: 33336, Start Num: 26
Candidate Starts for Phaded_49:
(18, 33590), (Start: 26 @33539 has 164 MA's), (30, 33521), (Start: 31 @33518 has 1 MA's), (34, 33500), (35, 33497), (51, 33383),

Gene: Phaeder_48 Start: 32318, Stop: 32106, Start Num: 27
Candidate Starts for Phaeder_48:
(5, 32576), (6, 32570), (12, 32438), (13, 32426), (Start: 27 @32318 has 35 MA's), (39, 32261), (40, 32258), (51, 32168),

Gene: Pharaoh_42 Start: 31876, Stop: 31682, Start Num: 27
Candidate Starts for Pharaoh_42:
(Start: 27 @31876 has 35 MA's), (39, 31816), (49, 31738), (51, 31723),

Gene: Phillis_47 Start: 31667, Stop: 31485, Start Num: 24
Candidate Starts for Phillis_47:
(Start: 24 @31667 has 76 MA's), (29, 31655), (38, 31610), (41, 31580), (49, 31520),

Gene: PhishRPhriends_49 Start: 31567, Stop: 31379, Start Num: 24
Candidate Starts for PhishRPhriends_49:
(Start: 24 @31567 has 76 MA's), (33, 31531), (46, 31453),

Gene: Phlei_37 Start: 31812, Stop: 31606, Start Num: 26
Candidate Starts for Phlei_37:
(Start: 26 @31812 has 164 MA's), (47, 31692), (48, 31674), (51, 31656),

Gene: Phoebe_52 Start: 32482, Stop: 32294, Start Num: 24
Candidate Starts for Phoebe_52:
(Start: 24 @32482 has 76 MA's), (33, 32446), (46, 32368),

Gene: Phonnegut_48 Start: 32367, Stop: 32155, Start Num: 27

Candidate Starts for Phonnegut_48:

(5, 32625), (6, 32619), (12, 32487), (13, 32475), (Start: 27 @32367 has 35 MA's), (39, 32310), (40, 32307), (51, 32217),

Gene: Phoxy_51 Start: 32517, Stop: 32329, Start Num: 24

Candidate Starts for Phoxy_51:

(Start: 24 @32517 has 76 MA's), (33, 32481), (46, 32403),

Gene: Phranny_52 Start: 32375, Stop: 32187, Start Num: 24

Candidate Starts for Phranny_52:

(Start: 24 @32375 has 76 MA's), (33, 32339), (46, 32261),

Gene: Pioneer_48 Start: 32367, Stop: 32155, Start Num: 27

Candidate Starts for Pioneer_48:

(5, 32625), (6, 32619), (12, 32487), (13, 32475), (Start: 27 @32367 has 35 MA's), (39, 32310), (40, 32307), (51, 32217),

Gene: Piro94_48 Start: 32731, Stop: 32528, Start Num: 26

Candidate Starts for Piro94_48:

(13, 32833), (15, 32821), (Start: 26 @32731 has 164 MA's), (30, 32713), (43, 32644), (51, 32575), (55, 32551),

Gene: Pmask_50 Start: 31358, Stop: 31149, Start Num: 26

Candidate Starts for Pmask_50:

(13, 31466), (Start: 26 @31358 has 164 MA's), (30, 31340), (34, 31316), (51, 31199),

Gene: Pomar16_50 Start: 32153, Stop: 31947, Start Num: 26

Candidate Starts for Pomar16_50:

(Start: 26 @32153 has 164 MA's), (36, 32105), (51, 31994),

Gene: PotatoSplit_53 Start: 32493, Stop: 32305, Start Num: 24

Candidate Starts for PotatoSplit_53:

(Start: 24 @32493 has 76 MA's), (33, 32457), (46, 32379),

Gene: Power_47 Start: 32356, Stop: 32147, Start Num: 26

Candidate Starts for Power_47:

(12, 32470), (13, 32458), (Start: 26 @32356 has 164 MA's), (51, 32200),

Gene: Priamo_51 Start: 30975, Stop: 30766, Start Num: 26

Candidate Starts for Priamo_51:

(Start: 26 @30975 has 164 MA's), (30, 30957), (34, 30933), (51, 30816),

Gene: Priya_48 Start: 32385, Stop: 32173, Start Num: 27

Candidate Starts for Priya_48:

(5, 32643), (6, 32637), (12, 32505), (13, 32493), (Start: 27 @32385 has 35 MA's), (39, 32328), (40, 32325), (51, 32235),

Gene: Pukovnik_47 Start: 33141, Stop: 32941, Start Num: 26

Candidate Starts for Pukovnik_47:

(13, 33243), (Start: 26 @33141 has 164 MA's), (Start: 31 @33120 has 1 MA's), (34, 33102), (35, 33099), (43, 33054), (51, 32985),

Gene: PurpleHaze_51 Start: 32388, Stop: 32200, Start Num: 24

Candidate Starts for PurpleHaze_51:
(Start: 24 @32388 has 76 MA's), (33, 32352), (46, 32274),

Gene: Qobbit_48 Start: 32347, Stop: 32135, Start Num: 27
Candidate Starts for Qobbit_48:
(5, 32605), (6, 32599), (12, 32467), (13, 32455), (Start: 27 @32347 has 35 MA's), (39, 32290), (40, 32287), (51, 32197),

Gene: QueenB2_47 Start: 32316, Stop: 32107, Start Num: 26
Candidate Starts for QueenB2_47:
(12, 32430), (13, 32418), (Start: 26 @32316 has 164 MA's), (39, 32253), (51, 32160),

Gene: QueenBeesly_48 Start: 32303, Stop: 32094, Start Num: 26
Candidate Starts for QueenBeesly_48:
(12, 32417), (13, 32405), (Start: 26 @32303 has 164 MA's), (51, 32147),

Gene: Quokka_46 Start: 31270, Stop: 31082, Start Num: 31
Candidate Starts for Quokka_46:
(10, 31444), (Start: 26 @31291 has 164 MA's), (Start: 31 @31270 has 1 MA's), (51, 31132),

Gene: Rachaly_47 Start: 32620, Stop: 32489, Start Num: 26
Candidate Starts for Rachaly_47:
(Start: 26 @32620 has 164 MA's), (30, 32602), (Start: 31 @32599 has 1 MA's), (37, 32572),

Gene: Rahalelujah_47 Start: 31625, Stop: 31404, Start Num: 27
Candidate Starts for Rahalelujah_47:
(11, 31760), (14, 31736), (Start: 27 @31625 has 35 MA's), (39, 31565), (40, 31562), (51, 31472),

Gene: Reba_51 Start: 32048, Stop: 31860, Start Num: 24
Candidate Starts for Reba_51:
(Start: 24 @32048 has 76 MA's), (33, 32012), (46, 31934),

Gene: RedRock_50 Start: 33508, Stop: 33305, Start Num: 26
Candidate Starts for RedRock_50:
(Start: 26 @33508 has 164 MA's), (37, 33460), (51, 33352),

Gene: Refuge_47 Start: 33529, Stop: 33323, Start Num: 26
Candidate Starts for Refuge_47:
(13, 33637), (Start: 26 @33529 has 164 MA's), (32, 33502), (35, 33487), (39, 33466), (40, 33463), (47, 33409), (51, 33373),

Gene: Retro23_49 Start: 32710, Stop: 32501, Start Num: 26
Candidate Starts for Retro23_49:
(12, 32824), (13, 32812), (Start: 26 @32710 has 164 MA's), (51, 32554),

Gene: Rifter_51 Start: 30909, Stop: 30703, Start Num: 26
Candidate Starts for Rifter_51:
(13, 31017), (Start: 26 @30909 has 164 MA's), (34, 30870), (37, 30861), (39, 30846), (51, 30753),

Gene: Roary_46 Start: 31334, Stop: 31152, Start Num: 24
Candidate Starts for Roary_46:
(Start: 24 @31334 has 76 MA's), (29, 31322), (38, 31277), (41, 31247), (49, 31187),

Gene: Roksolana_51 Start: 31394, Stop: 31185, Start Num: 24
Candidate Starts for Roksolana_51:
(Start: 24 @31394 has 76 MA's), (30, 31376), (34, 31352), (51, 31235),

Gene: Rummer_50 Start: 32520, Stop: 32332, Start Num: 24
Candidate Starts for Rummer_50:
(Start: 24 @32520 has 76 MA's), (33, 32484), (46, 32406),

Gene: RyeScarlet_49 Start: 32342, Stop: 32130, Start Num: 27
Candidate Starts for RyeScarlet_49:
(5, 32600), (6, 32594), (12, 32462), (13, 32450), (Start: 27 @32342 has 35 MA's), (39, 32285), (40, 32282), (51, 32192),

Gene: Sabia_51 Start: 32483, Stop: 32295, Start Num: 24
Candidate Starts for Sabia_51:
(Start: 24 @32483 has 76 MA's), (33, 32447), (46, 32369),

Gene: Sabinator_50 Start: 32488, Stop: 32300, Start Num: 24
Candidate Starts for Sabinator_50:
(Start: 24 @32488 has 76 MA's), (33, 32452), (46, 32374),

Gene: Sachima_45 Start: 32252, Stop: 32040, Start Num: 27
Candidate Starts for Sachima_45:
(5, 32510), (6, 32504), (12, 32372), (13, 32360), (Start: 27 @32252 has 35 MA's), (39, 32195), (40, 32192), (51, 32102),

Gene: Saintus_40 Start: 28055, Stop: 27873, Start Num: 24
Candidate Starts for Saintus_40:
(20, 28109), (22, 28073), (Start: 24 @28055 has 76 MA's), (29, 28043), (38, 27998), (41, 27968), (49, 27908),

Gene: Salz_47 Start: 31437, Stop: 31225, Start Num: 26
Candidate Starts for Salz_47:
(Start: 26 @31437 has 164 MA's), (39, 31374),

Gene: Scherzo_48 Start: 32556, Stop: 32344, Start Num: 27
Candidate Starts for Scherzo_48:
(5, 32814), (6, 32808), (12, 32676), (13, 32664), (Start: 27 @32556 has 35 MA's), (39, 32499), (40, 32496), (51, 32406),

Gene: SemperFi_49 Start: 32571, Stop: 32362, Start Num: 26
Candidate Starts for SemperFi_49:
(12, 32685), (13, 32673), (Start: 26 @32571 has 164 MA's), (51, 32415),

Gene: Serenity_48 Start: 31452, Stop: 31246, Start Num: 26
Candidate Starts for Serenity_48:
(10, 31605), (Start: 26 @31452 has 164 MA's), (Start: 31 @31431 has 1 MA's), (51, 31296),

Gene: Sham4_48 Start: 31465, Stop: 31253, Start Num: 26
Candidate Starts for Sham4_48:
(Start: 26 @31465 has 164 MA's), (39, 31402),

Gene: SheaKeira_47 Start: 31905, Stop: 31681, Start Num: 27

Candidate Starts for SheaKeira_47:

(3, 32196), (7, 32154), (8, 32124), (15, 32001), (Start: 27 @31905 has 35 MA's), (32, 31884), (39, 31848), (40, 31845), (51, 31755),

Gene: Smeadley_46 Start: 31500, Stop: 31318, Start Num: 24

Candidate Starts for Smeadley_46:

(Start: 24 @31500 has 76 MA's), (29, 31488), (38, 31443), (41, 31413), (49, 31353),

Gene: Smeagan_51 Start: 33023, Stop: 32814, Start Num: 26

Candidate Starts for Smeagan_51:

(12, 33137), (13, 33125), (Start: 26 @33023 has 164 MA's), (51, 32867),

Gene: SmellyB_50 Start: 31346, Stop: 31137, Start Num: 26

Candidate Starts for SmellyB_50:

(13, 31454), (Start: 26 @31346 has 164 MA's), (30, 31328), (34, 31304), (51, 31187),

Gene: SnapTap_48 Start: 32382, Stop: 32173, Start Num: 26

Candidate Starts for SnapTap_48:

(12, 32496), (13, 32484), (Start: 26 @32382 has 164 MA's), (51, 32226),

Gene: Snape_48 Start: 31463, Stop: 31251, Start Num: 26

Candidate Starts for Snape_48:

(Start: 26 @31463 has 164 MA's), (39, 31400),

Gene: Snickers_51 Start: 32463, Stop: 32275, Start Num: 24

Candidate Starts for Snickers_51:

(Start: 24 @32463 has 76 MA's), (33, 32427), (46, 32349),

Gene: SoYo_51 Start: 32401, Stop: 32213, Start Num: 24

Candidate Starts for SoYo_51:

(Start: 24 @32401 has 76 MA's), (33, 32365), (46, 32287),

Gene: SoilDragon_51 Start: 31937, Stop: 31749, Start Num: 24

Candidate Starts for SoilDragon_51:

(Start: 24 @31937 has 76 MA's), (33, 31901), (46, 31823),

Gene: SororFago_51 Start: 33958, Stop: 33743, Start Num: 26

Candidate Starts for SororFago_51:

(Start: 26 @33958 has 164 MA's), (43, 33868), (44, 33865), (51, 33799),

Gene: Soshari_53 Start: 32516, Stop: 32328, Start Num: 24

Candidate Starts for Soshari_53:

(Start: 24 @32516 has 76 MA's), (33, 32480), (46, 32402),

Gene: Spike509_51 Start: 32517, Stop: 32329, Start Num: 24

Candidate Starts for Spike509_51:

(Start: 24 @32517 has 76 MA's), (33, 32481), (46, 32403),

Gene: Spouty_48 Start: 32384, Stop: 32172, Start Num: 27

Candidate Starts for Spouty_48:

(5, 32642), (6, 32636), (12, 32504), (13, 32492), (Start: 27 @32384 has 35 MA's), (39, 32327), (40, 32324), (51, 32234),

Gene: Stagni_51 Start: 32492, Stop: 32304, Start Num: 24

Candidate Starts for Stagni_51:

(Start: 24 @32492 has 76 MA's), (33, 32456), (46, 32378),

Gene: StarStuff_50 Start: 32115, Stop: 31909, Start Num: 26

Candidate Starts for StarStuff_50:

(Start: 26 @32115 has 164 MA's), (36, 32067), (51, 31956),

Gene: Steamy_44 Start: 31813, Stop: 31595, Start Num: 26

Candidate Starts for Steamy_44:

(Start: 26 @31813 has 164 MA's), (Start: 31 @31792 has 1 MA's), (36, 31765), (43, 31723), (44, 31720),

Gene: StepMih_51 Start: 32483, Stop: 32295, Start Num: 24

Candidate Starts for StepMih_51:

(Start: 24 @32483 has 76 MA's), (33, 32447), (46, 32369),

Gene: Stephig9_46 Start: 31338, Stop: 31156, Start Num: 24

Candidate Starts for Stephig9_46:

(Start: 24 @31338 has 76 MA's), (29, 31326), (38, 31281), (41, 31251), (49, 31191),

Gene: Sunhee_51 Start: 32274, Stop: 32071, Start Num: 26

Candidate Starts for Sunhee_51:

(Start: 26 @32274 has 164 MA's), (43, 32187), (51, 32118),

Gene: SuperAwesome_50 Start: 31357, Stop: 31148, Start Num: 26

Candidate Starts for SuperAwesome_50:

(13, 31465), (Start: 26 @31357 has 164 MA's), (30, 31339), (34, 31315), (51, 31198),

Gene: SuperCallie99_49 Start: 31230, Stop: 31021, Start Num: 26

Candidate Starts for SuperCallie99_49:

(13, 31338), (Start: 26 @31230 has 164 MA's), (30, 31212), (34, 31188), (51, 31071),

Gene: Superchunk_47 Start: 30926, Stop: 30723, Start Num: 26

Candidate Starts for Superchunk_47:

(Start: 26 @30926 has 164 MA's), (30, 30908), (35, 30884), (51, 30770),

Gene: SweetiePie_48 Start: 32511, Stop: 32302, Start Num: 26

Candidate Starts for SweetiePie_48:

(12, 32625), (13, 32613), (Start: 26 @32511 has 164 MA's), (51, 32355),

Gene: SwirlSquare_53 Start: 31593, Stop: 31390, Start Num: 26

Candidate Starts for SwirlSquare_53:

(13, 31701), (15, 31689), (Start: 26 @31593 has 164 MA's), (39, 31530), (40, 31527), (51, 31437),

Gene: TarsusIV_46 Start: 32170, Stop: 31961, Start Num: 26

Candidate Starts for TarsusIV_46:

(21, 32188), (Start: 26 @32170 has 164 MA's), (30, 32152), (51, 32014), (54, 31987),

Gene: Taurus_52 Start: 32489, Stop: 32301, Start Num: 24

Candidate Starts for Taurus_52:

(Start: 24 @32489 has 76 MA's), (33, 32453), (46, 32375),

Gene: Tiffany_51 Start: 32375, Stop: 32187, Start Num: 24
Candidate Starts for Tiffany_51:
(Start: 24 @32375 has 76 MA's), (33, 32339), (46, 32261),

Gene: Timothy_48 Start: 31440, Stop: 31228, Start Num: 26
Candidate Starts for Timothy_48:
(Start: 26 @31440 has 164 MA's), (39, 31377),

Gene: TinyTimmy_48 Start: 31483, Stop: 31271, Start Num: 26
Candidate Starts for TinyTimmy_48:
(Start: 26 @31483 has 164 MA's), (39, 31420),

Gene: Toaka_47 Start: 31887, Stop: 31669, Start Num: 27
Candidate Starts for Toaka_47:
(2, 32235), (23, 31899), (Start: 27 @31887 has 35 MA's), (39, 31827), (40, 31824), (51, 31734),

Gene: Tomathan_50 Start: 32112, Stop: 31906, Start Num: 26
Candidate Starts for Tomathan_50:
(Start: 26 @32112 has 164 MA's), (36, 32064), (51, 31953),

Gene: ToneTone_47 Start: 31070, Stop: 30864, Start Num: 26
Candidate Starts for ToneTone_47:
(13, 31178), (Start: 26 @31070 has 164 MA's), (34, 31031), (37, 31022), (39, 31007), (51, 30914),

Gene: Travvers_50 Start: 32112, Stop: 31906, Start Num: 26
Candidate Starts for Travvers_50:
(Start: 26 @32112 has 164 MA's), (36, 32064), (51, 31953),

Gene: Trixie_46 Start: 32430, Stop: 32230, Start Num: 26
Candidate Starts for Trixie_46:
(Start: 26 @32430 has 164 MA's), (30, 32412), (37, 32382), (42, 32346), (51, 32274),

Gene: Trooper_49 Start: 32735, Stop: 32523, Start Num: 26
Candidate Starts for Trooper_49:
(13, 32837), (15, 32825), (Start: 26 @32735 has 164 MA's), (43, 32648), (51, 32579),

Gene: Tubs_48 Start: 32318, Stop: 32106, Start Num: 27
Candidate Starts for Tubs_48:
(5, 32576), (6, 32570), (12, 32438), (13, 32426), (Start: 27 @32318 has 35 MA's), (39, 32261), (40, 32258), (51, 32168),

Gene: Tucker_50 Start: 30957, Stop: 30751, Start Num: 26
Candidate Starts for Tucker_50:
(13, 31065), (Start: 26 @30957 has 164 MA's), (37, 30909), (51, 30801),

Gene: Turbido_49 Start: 32766, Stop: 32557, Start Num: 26
Candidate Starts for Turbido_49:
(12, 32880), (13, 32868), (Start: 26 @32766 has 164 MA's), (39, 32703), (51, 32610),

Gene: Ugenie5_45 Start: 32555, Stop: 32343, Start Num: 27
Candidate Starts for Ugenie5_45:
(5, 32813), (6, 32807), (12, 32675), (13, 32663), (Start: 27 @32555 has 35 MA's), (39, 32498), (40, 32495), (51, 32405),

Gene: Updawg_49 Start: 32631, Stop: 32419, Start Num: 26
Candidate Starts for Updawg_49:
(13, 32733), (15, 32721), (Start: 26 @32631 has 164 MA's), (51, 32475),

Gene: VA6_48 Start: 32486, Stop: 32277, Start Num: 26
Candidate Starts for VA6_48:
(1, 32870), (11, 32606), (Start: 26 @32486 has 164 MA's), (51, 32330),

Gene: VC3_51 Start: 32552, Stop: 32346, Start Num: 26
Candidate Starts for VC3_51:
(Start: 26 @32552 has 164 MA's), (40, 32483), (43, 32462), (51, 32393), (53, 32369),

Gene: Vanisoa_47 Start: 32916, Stop: 32698, Start Num: 27
Candidate Starts for Vanisoa_47:
(16, 33006), (23, 32925), (Start: 27 @32916 has 35 MA's), (39, 32856), (40, 32853), (51, 32763),

Gene: Vix_51 Start: 32572, Stop: 32384, Start Num: 24
Candidate Starts for Vix_51:
(Start: 24 @32572 has 76 MA's), (33, 32536), (46, 32458),

Gene: VohminGhazi_50 Start: 31347, Stop: 31138, Start Num: 26
Candidate Starts for VohminGhazi_50:
(13, 31455), (Start: 26 @31347 has 164 MA's), (30, 31329), (34, 31305), (51, 31188),

Gene: Whabigail7_49 Start: 32751, Stop: 32542, Start Num: 26
Candidate Starts for Whabigail7_49:
(12, 32865), (13, 32853), (Start: 26 @32751 has 164 MA's), (51, 32595),

Gene: WideWale_49 Start: 32631, Stop: 32419, Start Num: 26
Candidate Starts for WideWale_49:
(13, 32733), (15, 32721), (Start: 26 @32631 has 164 MA's), (51, 32475),

Gene: Wiks_49 Start: 31138, Stop: 30932, Start Num: 26
Candidate Starts for Wiks_49:
(13, 31246), (Start: 26 @31138 has 164 MA's), (34, 31099), (37, 31090), (39, 31075), (51, 30982),

Gene: Wooldri_53 Start: 32401, Stop: 32213, Start Num: 24
Candidate Starts for Wooldri_53:
(Start: 24 @32401 has 76 MA's), (33, 32365), (46, 32287),

Gene: WunderPhul_50 Start: 31136, Stop: 30930, Start Num: 26
Candidate Starts for WunderPhul_50:
(13, 31244), (Start: 26 @31136 has 164 MA's), (34, 31097), (37, 31088), (39, 31073), (51, 30980),

Gene: XianYue_47 Start: 32071, Stop: 31886, Start Num: 31
Candidate Starts for XianYue_47:
(Start: 26 @32092 has 164 MA's), (Start: 31 @32071 has 1 MA's), (34, 32053), (35, 32050), (37, 32044), (51, 31936),

Gene: Yecey3_49 Start: 31785, Stop: 31579, Start Num: 27
Candidate Starts for Yecey3_49:
(12, 31905), (13, 31893), (Start: 27 @31785 has 35 MA's), (39, 31725), (51, 31632),

Gene: Yokurt_50 Start: 31138, Stop: 30932, Start Num: 26

Candidate Starts for Yokurt_50:

(13, 31246), (Start: 26 @31138 has 164 MA's), (34, 31099), (37, 31090), (39, 31075), (51, 30982),

Gene: Zaka_50 Start: 31138, Stop: 30932, Start Num: 26

Candidate Starts for Zaka_50:

(13, 31246), (Start: 26 @31138 has 164 MA's), (34, 31099), (37, 31090), (39, 31075), (51, 30982),

Gene: Zetzy_50 Start: 32052, Stop: 31864, Start Num: 24

Candidate Starts for Zetzy_50:

(Start: 24 @32052 has 76 MA's), (33, 32016), (46, 31938),

Gene: Zimmer_45 Start: 33020, Stop: 32820, Start Num: 26

Candidate Starts for Zimmer_45:

(13, 33128), (17, 33083), (Start: 26 @33020 has 164 MA's), (32, 32993), (35, 32978), (39, 32957), (51, 32864),

Gene: Zulu_50 Start: 30938, Stop: 30732, Start Num: 26

Candidate Starts for Zulu_50:

(13, 31046), (Start: 26 @30938 has 164 MA's), (37, 30890), (51, 30782),