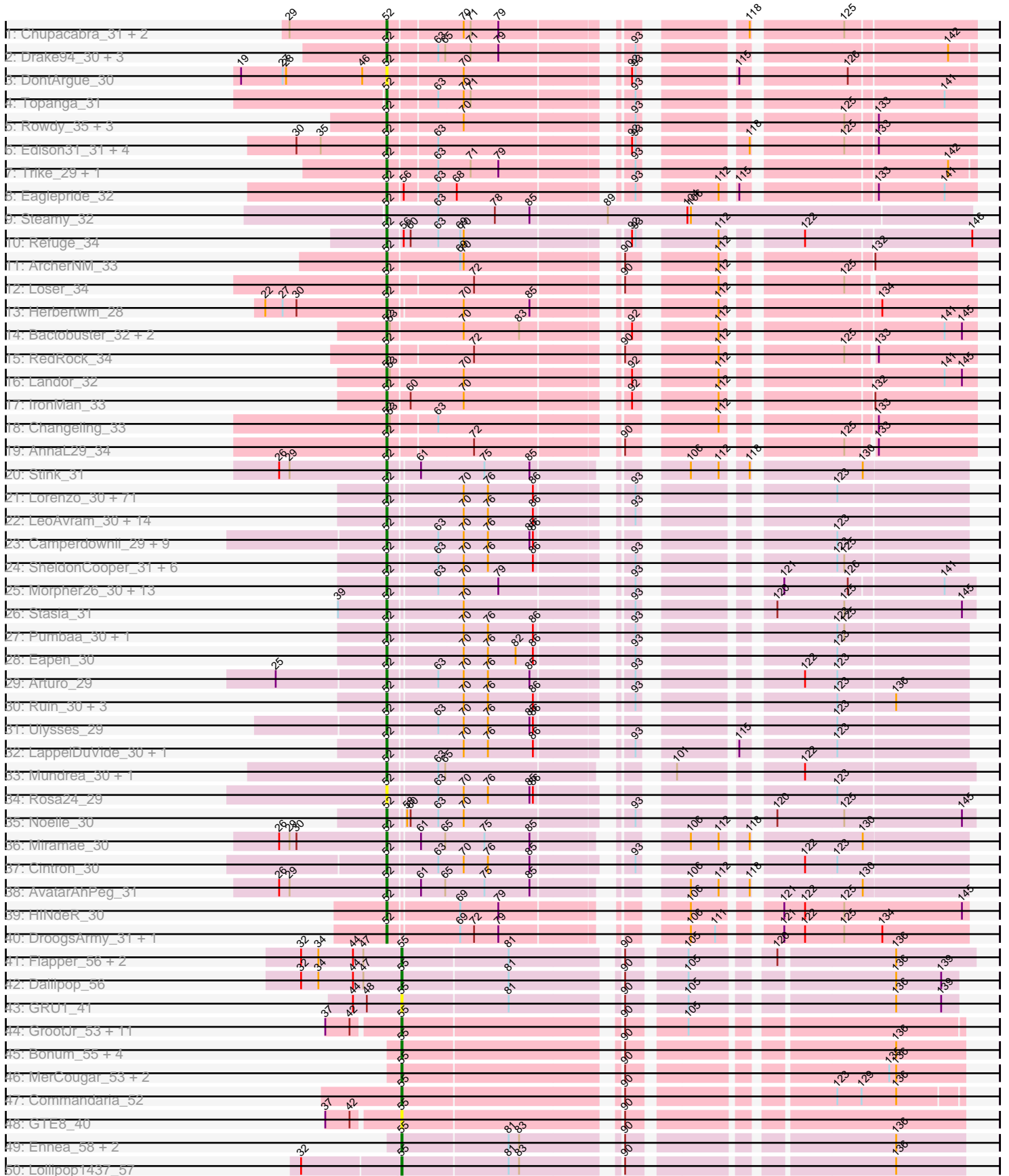
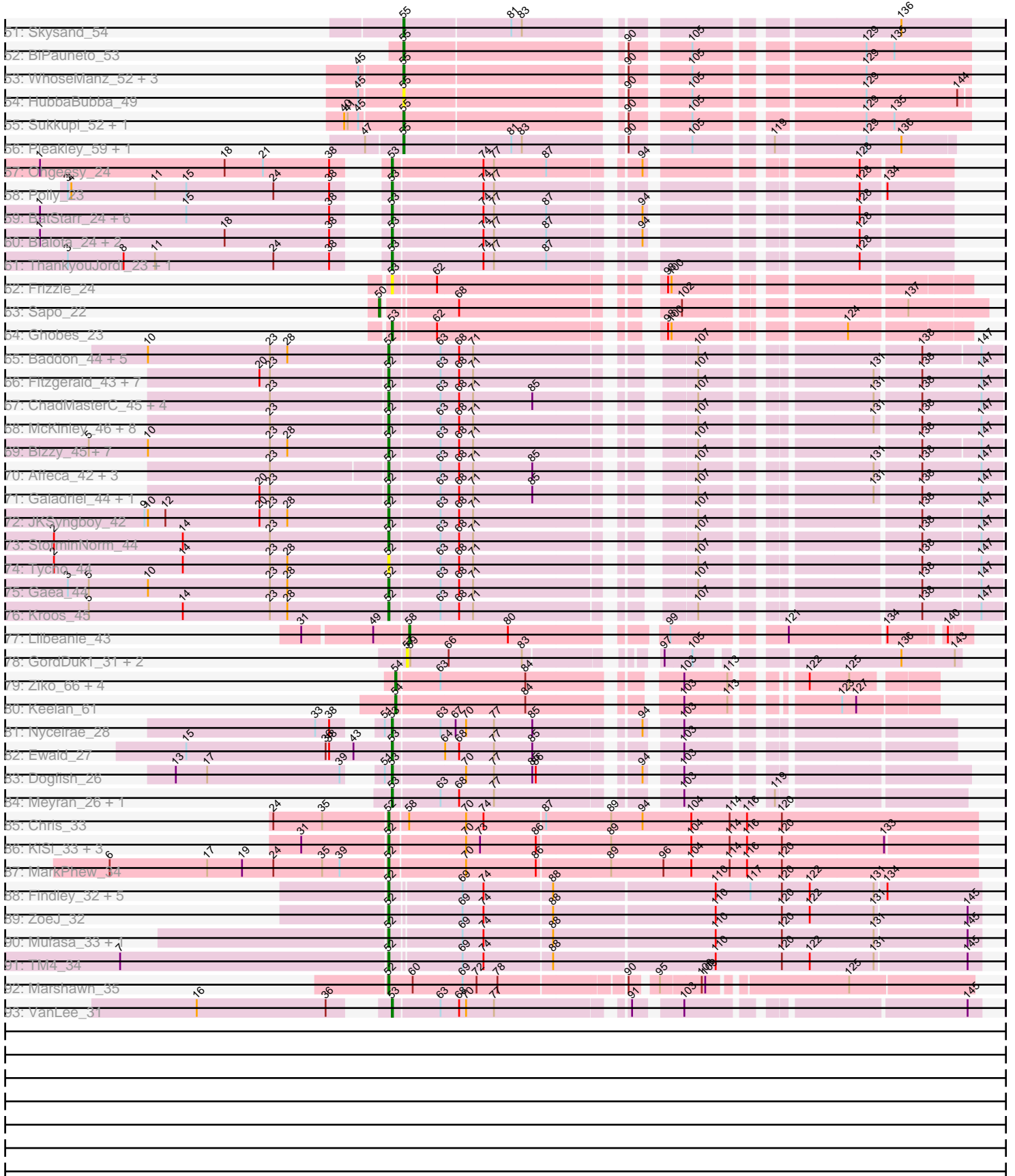


Pham 181924



Pham 181924



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 181924 Report

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

Pham number 181924 has 314 members, 24 are drafts.

Phages represented in each track:

- Track 1 : Chupacabra_31, Goose_31, OKCentral2016_31
- Track 2 : Drake94_30, PeaceMeal1_30, KittenMittens_30, Poompha_30
- Track 3 : DontArgue_30
- Track 4 : Topanga_31
- Track 5 : Rowdy_35, RhynO_32, Shapes_35, DustyMartin_35
- Track 6 : Edison31_31, Kristoff_32, WalterMcMickey_31, Twister_31, Rebeuca_32
- Track 7 : Trike_29, Severus_30
- Track 8 : Eaglepride_32
- Track 9 : Steamy_32
- Track 10 : Refuge_34
- Track 11 : ArcherNM_33
- Track 12 : Loser_34
- Track 13 : Herbertwm_28
- Track 14 : Bactobuster_32, Jaan_34, Phaded_34
- Track 15 : RedRock_34
- Track 16 : Landor_32
- Track 17 : IronMan_33
- Track 18 : Changeling_33
- Track 19 : AnnaL29_34
- Track 20 : Stink_31
- Track 21 : Lorenzo_30, Florean_30, Cocoaberry_30, TroyPia_30, Kingmustik0402_30, Bartimeaus_30, Avle17_30, Bombshell_30, ICleared_30, Koreni_29, Dhanush_30, Gadost_30, Taquarus_30, Alberto7_31, Relief_30, Bruiser_29, Pipcraft_30, CentreCat_30, OKaNui_31, TinaFeyge_30, Flux_30, Funston_30, Caelakin_30, Albee_30, Citius_30, HamSlice_29, Lemur_30, NotAPhaseMom_30, Eris_29, LittleB_30, Lunsford_31, Annyong_30, Eros_30, Chaph_30, Medusa_30, Druantia_30, Wander_30, Sparxx_30, ChampagnePapi_31, Baby16_30, TiroTheta9_30, Sabertooth_30, Blackmoor_30, Iceman_31, Maverick_30, Scamp_30, Houdini22_30, NorthStar_30, Mazhar510_30, Melvin_30, Peaches_30, TygerBlood_30, Romney_30, Wilbur_30, Roosevelt_30, Holli_30, Clarenza_30, Millski_29, PeterPeter_30, Deano_30, Burger_29, Palestino_29, YoSam321_30, Spino_30, JoongJeon_30, BubbleTrouble_30, Broseidon_30, JetBlade_30, Connomayer_30, MeeZee_30, Wizard007_30, Phelipe_30
- Track 22 : LeoAvram_30, Maxo_30, LittleGuy_30, BellusTerra_30, Eurydice_30, Nebs_30, Commander_30, Phontbonne_30, Polymorphads_30, Morrow_30, Kampy_30, Abdiel_29, Nyxis_30, Jaykayelowell_30, Ohfah_30

- Track 23 : Camperdownii_29, Kyee_30, DirtyDunning_30, Thanksgivukkah_30, Phighter1804_30, Tinybot_29, Kratark_30, LochMonster_30, Iracema64_31, KFPoly_30
- Track 24 : SheldonCooper_31, BangNhom_30, Cerulean_31, Obama12_31, Happiness_30, Eagle_29, LHTSCC_31
- Track 25 : Morpher26_30, Perplexer_30, Shygu2_30, Datway_30, PetiteSangsue_30, Badger_30, Cici_30, Bumblebee11_30, Backyardigan_30, Xena_30, AbbysRanger_30, Wile_30, Katalie136_30, Achebe_29
- Track 26 : Stasia_31
- Track 27 : Pumbaa_30, Shaka_30
- Track 28 : Eapen_30
- Track 29 : Arturo_29
- Track 30 : Ruin_30, Nemo27_30, Kremtemulon_30, Phacado_30
- Track 31 : Ulysses_29
- Track 32 : LappelDuVide_30, Skipitt_30
- Track 33 : Mundrea_30, Cindaradix_29
- Track 34 : Rosa24_29
- Track 35 : Noelle_30
- Track 36 : Miramae_30
- Track 37 : Cintron_30
- Track 38 : AvatarAhPeg_31
- Track 39 : HINdeR_30
- Track 40 : DroogsArmy_31, Timshel_31
- Track 41 : Flapper_56, GTE5_43, Turuncu_56
- Track 42 : Dalipop_56
- Track 43 : GRU1_41
- Track 44 : GrootJr_53, NatB6_51, Phomeo_50, Kurt_51, KidneyBean_51, Jifall16_50, Emianna_51, Tracker_51, Arti_51, Wheezy_51, Foxboro_52, NovumRegina_51
- Track 45 : Bonum_55, Kabluna_55, SuperSulley_53, Buggaboo_53, NosilaM_55
- Track 46 : MerCougar_53, Outis_53, StarStruck_53
- Track 47 : Commandaria_52
- Track 48 : GTE8_40
- Track 49 : Ennea_58, Float294_54, Patio_55
- Track 50 : Lollipop1437_57
- Track 51 : Skysand_54
- Track 52 : BiPauneto_53
- Track 53 : WhoseManz_52, IDyn_52, Marietta_53, NadineRae_51
- Track 54 : HubbaBubba_49
- Track 55 : Sukkupi_52, Yndexa_52
- Track 56 : Pleakley_59, Fury_59
- Track 57 : Ohgeesy_24
- Track 58 : Polly_23
- Track 59 : BatStarr_24, Nymphadora_24, TimTam_24, Bosnia_24, Hugley_24, Herod_24, Eviarto_24
- Track 60 : Bialota_24, Madeline_24, Zirinka_24
- Track 61 : ThankyouJordi_23, WelcomeAyanna_23
- Track 62 : Frizzle_24
- Track 63 : Sapo_22
- Track 64 : Ghobes_23
- Track 65 : Baddon_44, Gustavo_44, Saronaya_44, Derg_42, YorkOnyx_45, Ashertheman_45

- Track 66 : Fitzgerald_43, Nordenberg_39, Tangent_45, Brandonk123_46, BobBob_42, Charming_45, Rofo_45, Sanjuju_43
- Track 67 : ChadMasterC_45, MoontowerMania_44, Barsten_45, Jabberwocky_43, Shivanishola_44
- Track 68 : McKinley_46, Love_48, Kamashten_42, Vivi2_47, Geodirt_43, Thing3_42, Kewpiedoll_44, Fosterous_42, Stultus_43
- Track 69 : Bizzy_45, SchottB_43, Baumdotcom_43, Tangerine_44, Flatwoods_45, Kwobi_45, Ribeye_45, LilHam_42
- Track 70 : Affeca_42, Angelicage_42, Lennon_44, Sitar_44
- Track 71 : Galadriel_44, Paries_47
- Track 72 : JKSyngboy_42
- Track 73 : StorminNorm_44
- Track 74 : Tycho_44
- Track 75 : Gaea_44
- Track 76 : Kroos_45
- Track 77 : Lilbeanie_43
- Track 78 : GordDuk1_31, Gmala1_31, GordTnk2_31
- Track 79 : Ziko_66, Fryberger_63, Ronaldo_66, Guey18_69, Volt_66
- Track 80 : Keelan_61
- Track 81 : Nyceirae_28
- Track 82 : Ewald_27
- Track 83 : Dogfish_26
- Track 84 : Meyran_26, Vordorf_27
- Track 85 : Chris_33
- Track 86 : KiSi_33, Oscar_33, LeMond_33, Scarlett_33
- Track 87 : MarkPhew_34
- Track 88 : Findley_32, DismalStressor_32, Strobilo_32, Milly_32, DismalFunk_32, Marcoliusprime_32
- Track 89 : ZoeJ_32
- Track 90 : Mufasa_33, BoostSeason_33
- Track 91 : TM4_34
- Track 92 : Marshawn_35
- Track 93 : VanLee_31

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

The start number called the most often in the published annotations is 52, it was called in 226 of the 290 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AbbysRanger_30, Abdiel_29, Achebe_29, Affeca_42, Albee_30, Alberto7_31, Angelicage_42, AnnaL29_34, Annyong_30, ArcherNM_33, Arturo_29, Ashertheman_45, AvatarAhPeg_31, Avle17_30, Baby16_30, Backyardigan_30, Bactobuster_32, Baddon_44, Badger_30, BangNhom_30, Barsten_45, Bartimeaus_30, Baumdotcom_43, BellusTerra_30, Bizzy_45, Blackmoor_30, BobBob_42, Bombshell_30, BoostSeason_33, Brandonk123_46, Broseidon_30, Bruiser_29, BubbleTrouble_30, Bumblebee11_30, Burger_29, Caelakin_30, Camperdownii_29, CentreCat_30, Cerulean_31, ChadMasterC_45, ChampagnePapi_31, Changeling_33, Chaph_30, Charming_45, Chris_33, Chupacabra_31, Cici_30, Cindaradix_29, Cintron_30, Citius_30, Clarenza_30,

Cocoaberry_30, Commander_30, Connomayer_30, Datway_30, Deano_30, Derg_42, Dhanush_30, DirtyDunning_30, DismalFunk_32, DismalStressor_32, DontArgue_30, Drake94_30, DroogsArmy_31, Druantia_30, DustyMartin_35, Eagle_29, Eaglepride_32, Eapen_30, Edison31_31, Eris_29, Eros_30, Eurydice_30, Findley_32, Fitzgerald_43, Flatwoods_45, Florean_30, Flux_30, Fosterous_42, Funston_30, Gadost_30, Gaea_44, Galadriel_44, Geodirt_43, Goose_31, Gustavo_44, HINdeR_30, HamSlice_29, Happiness_30, Herbertwm_28, Holli_30, Houdini22_30, ICleared_30, Iceman_31, Iracema64_31, IronMan_33, JKSyngboy_42, Jaan_34, Jabberwocky_43, Jaykayelowell_30, JetBlade_30, JoongJeon_30, KFPoly_30, Kamashten_42, Kampy_30, Katalie136_30, Kewpiedoll_44, KiSi_33, Kingmustik0402_30, KittenMittens_30, Koreni_29, Kratark_30, Kremtemulon_30, Kristoff_32, Kroos_45, Kwobi_45, Kyee_30, LHTSCC_31, Landor_32, LappelDuVide_30, LeMond_33, Lemur_30, Lennon_44, LeoAvram_30, LilHam_42, LittleB_30, LittleGuy_30, LochMonster_30, Lorenzo_30, Loser_34, Love_48, Lunsford_31, Marcoliusprime_32, MarkPhew_34, Marshawn_35, Maverick_30, Maxo_30, Mazhar510_30, McKinley_46, Medusa_30, MeeZee_30, Melvin_30, Millski_29, Milly_32, Miramae_30, MoontowerMania_44, Morpher26_30, Morrow_30, Mufasa_33, Mundrea_30, Nebs_30, Nemo27_30, Noelle_30, Nordenberg_39, NorthStar_30, NotAPhaseMom_30, Nyxis_30, OKCentral2016_31, OKaNui_31, Obama12_31, Ohfah_30, Oscar_33, Palestino_29, Paries_47, PeaceMeal1_30, Peaches_30, Perplexer_30, PeterPeter_30, PetiteSangsue_30, Phacado_30, Phaded_34, Phelipe_30, Phighter1804_30, Phontbonne_30, Pipcraft_30, Polymorphads_30, Poompha_30, Pumbaa_30, Rebeuca_32, RedRock_34, Refuge_34, Relief_30, RhynO_32, Ribeye_45, Rofo_45, Romney_30, Roosevelt_30, Rosa24_29, Rowdy_35, Ruin_30, Sabertooth_30, Sanjuju_43, Saronaya_44, Scamp_30, Scarlett_33, SchottB_43, Severus_30, Shaka_30, Shapes_35, SheldonCooper_31, Shivanishola_44, Shygu2_30, Sitar_44, Skipitt_30, Sparxx_30, Spino_30, Stasia_31, Steamy_32, Stink_31, StorminNorm_44, Strobilo_32, Stultus_43, TM4_34, Tangent_45, Tangerine_44, Taquarus_30, Thanksgivukkah_30, Thing3_42, Timshel_31, TinaFeyge_30, Tinybot_29, TiroTheta9_30, Topanga_31, Trike_29, TroyPia_30, Twister_31, Tycho_44, TygerBlood_30, Ulysses_29, Vivi2_47, WalterMcMickey_31, Wander_30, Wilbur_30, Wile_30, Wizard007_30, Xena_30, YoSam321_30, YorkOnyx_45, ZoeJ_32,

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

-

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

- Arti_51, BatStarr_24, BiPauneto_53, Bialota_24, Bonum_55, Bosnia_24, Buggaboo_53, Commandaria_52, Dalilpop_56, Dogfish_26, Emianna_51, Ennea_58, Eviarto_24, Ewald_27, Flapper_56, Float294_54, Foxboro_52, Frizzle_24, Fryberger_63, Fury_59, GRU1_41, GTE5_43, GTE8_40, Ghobes_23, Gmala1_31, GordDuk1_31, GordTnk2_31, GrootJr_53, Guey18_69, Herod_24, HubbaBubba_49, Hugley_24, IDyn_52, Jifall16_50, Kabluna_55, Keelan_61, KidneyBean_51, Kurt_51, Lilbeanie_43, Lollipop1437_57, Madeline_24, Marietta_53, MerCougar_53, Meyran_26, NadineRae_51, NatB6_51, NosilaM_55, NovumRegina_51, Nyceirae_28, Nymphadora_24, Ohgeesy_24, Outis_53, Patio_55, Phomeo_50, Pleakley_59, Polly_23, Ronaldo_66, Sapo_22, Skysand_54, StarStruck_53, Sukkupi_52, SuperSulley_53, ThankyouJordi_23, TimTam_24, Tracker_51, Turuncu_56, VanLee_31, Volt_66, Vordorf_27, WelcomeAyanna_23, Wheezy_51, WhoseManz_52, Yndexa_52, Ziko_66, Zirinka_24,

Summary by start number:

Start 50:

- Found in 1 of 314 (0.3%) of genes in pham
- Manual Annotations of this start: 1 of 290
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sapo_22 (DA),

Start 52:

- Found in 239 of 314 (76.1%) of genes in pham
- Manual Annotations of this start: 226 of 290
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbysRanger_30 (A4), Abdiel_29 (A4), Achebe_29 (A4), Affeca_42 (DE1), Albee_30 (A4), Alberto7_31 (A4), Angelicage_42 (DE1), AnnaL29_34 (A2), Annyong_30 (A4), ArcherNM_33 (A2), Arturo_29 (A4), Ashertheman_45 (DE1), AvatarAhPeg_31 (A4), Avle17_30 (A4), Baby16_30 (A4), Backyardigan_30 (A4), Bactobuster_32 (A2), Baddon_44 (DE1), Badger_30 (A4), BangNhom_30 (A4), Barsten_45 (DE1), Bartimeaus_30 (A4), Baumdotcom_43 (DE1), BellusTerra_30 (A4), Bizzy_45 (DE1), Blackmoor_30 (A4), BobBob_42 (DE1), Bombshell_30 (A4), BoostSeason_33 (K2), Brandonk123_46 (DE1), Broseidon_30 (A4), Bruiser_29 (A4), BubbleTrouble_30 (A4), Bumblebee11_30 (A4), Burger_29 (A4), Caelakin_30 (A4), Camperdownii_29 (A4), CentreCat_30 (A4), Cerulean_31 (A4), ChadMasterC_45 (DE1), ChampagnePapi_31 (A4), Changeling_33 (A2), Chaph_30 (A4), Charming_45 (DE1), Chris_33 (K1), Chupacabra_31 (A10), Cici_30 (A4), Cindaradix_29 (A4), Cintron_30 (A4), Citius_30 (A4), Clarenza_30 (A4), Cocoaberry_30 (A4), Commander_30 (A4), Connomayer_30 (A4), Datway_30 (A4), Deano_30 (A4), Derg_42 (DE1), Dhanush_30 (A4), DirtyDunning_30 (A4), DismalFunk_32 (K2), DismalStressor_32 (K2), DontArgue_30 (A10), Drake94_30 (A10), DroogsArmy_31 (A7), Druantia_30 (A4), DustyMartin_35 (A10), Eagle_29 (A4), Eaglepride_32 (A10), Eapen_30 (A4), Edison31_31 (A10), Eris_29 (A4), Eros_30 (A4), Eurydice_30 (A4), Findley_32 (K2), Fitzgerald_43 (DE1), Flatwoods_45 (DE1), Florean_30 (A4), Flux_30 (A4), Fosterous_42 (DE1), Funston_30 (A4), Gadost_30 (A4), Gaea_44 (DE1), Galadriel_44 (DE1), Geodirt_43 (DE1), Goose_31 (A10), Gustavo_44 (DE1), HINdeR_30 (A7), HamSlice_29 (A4), Happiness_30 (A4), Herbertwm_28 (A2), Holli_30 (A4), Houdini22_30 (A4), ICleared_30 (A4), Iceman_31 (A4), Iracema64_31 (A4), IronMan_33 (A2), JKSyngboy_42 (DE1), Jaan_34 (A2), Jabberwocky_43 (DE1), Jaykayelowell_30 (A4), JetBlade_30 (A4), JoongJeon_30 (A4), KFPoly_30 (A4), Kamashten_42 (DE1), Kamy_30 (A4), Katalie136_30 (A4), Kewpiedoll_44 (DE1), KiSi_33 (K1), Kingmustik0402_30 (A4), KittenMittens_30 (A10), Koreni_29 (A4), Kratark_30 (A4), Kremtemulon_30 (A4), Kristoff_32 (A10), Kroos_45 (DE1), Kwobi_45 (DE1), Kyee_30 (A4), LHTSCC_31 (A4), Landor_32 (A2), LappelDuVide_30 (A4), LeMond_33 (K1), Lemur_30 (A4), Lennon_44 (DE1), LeoAvram_30 (A4), LilHam_42 (DE1), LittleB_30 (A4), LittleGuy_30 (A4), LochMonster_30 (A4), Lorenzo_30 (A4), Loser_34 (A2), Love_48 (DE1), Lunsford_31 (A4), Marcoliusprime_32 (K2), MarkPhew_34 (K1), Marshawn_35 (K6), Maverick_30 (A4), Maxo_30 (A4), Mazhar510_30 (A4), McKinley_46 (DE1), Medusa_30 (A4), MeeZee_30 (A4), Melvin_30 (A4), Millski_29 (A4), Milly_32 (K2), Miramae_30 (A4), MoontowerMania_44 (DE1), Morpher26_30 (A4), Morrow_30 (A4), Mufasa_33 (K2), Mundrea_30 (A4), Nebs_30 (A4), Nemo27_30 (A4), Noelle_30 (A4), Nordenberg_39 (DE1), NorthStar_30 (A4), NotAPhaseMom_30 (A4), Nyxis_30 (A4), OKCentral2016_31 (A10), OKaNui_31 (A4), Obama12_31 (A4), Ohfah_30 (A4), Oscar_33 (K1), Palestino_29 (A4), Paries_47 (DE1), PeaceMeal1_30 (A10), Peaches_30 (A4), Perplexer_30 (A4), PeterPeter_30 (A4), PetiteSangsue_30 (A4), Phacado_30 (A4), Phaded_34 (A2), Phelipe_30 (A4),

Phighter1804_30 (A4), Phontbonne_30 (A4), Pipcraft_30 (A4), Polymorphads_30 (A4), Poompha_30 (A10), Pumbaa_30 (A4), Rebeuca_32 (A10), RedRock_34 (A2), Refuge_34 (A12), Relief_30 (A4), RhynO_32 (A10), Ribeye_45 (DE1), Rofo_45 (DE1), Romney_30 (A4), Roosevelt_30 (A4), Rosa24_29 (A4), Rowdy_35 (A10), Ruin_30 (A4), Sabertooth_30 (A4), Sanjuju_43 (DE1), Saronaya_44 (DE1), Scamp_30 (A4), Scarlett_33 (K1), SchottB_43 (DE1), Severus_30 (A10), Shaka_30 (A4), Shapes_35 (A10), SheldonCooper_31 (A4), Shivanishola_44 (DE1), Shygu2_30 (A4), Sitar_44 (DE1), Skipitt_30 (A4), Sparxx_30 (A4), Spino_30 (A4), Stasia_31 (A4), Steamy_32 (A12), Stink_31 (A4), StorminNorm_44 (DE1), Strobilo_32 (K2), Stultus_43 (DE1), TM4_34 (K2), Tangent_45 (DE1), Tangerine_44 (DE1), Taquarus_30 (A4), Thanksgivukkah_30 (A4), Thing3_42 (DE1), Timshel_31 (A7), TinaFeyge_30 (A4), Tinybot_29 (A4), TiroTheta9_30 (A4), Topanga_31 (A10), Trike_29 (A10), TroyPia_30 (A4), Twister_31 (A10), Tycho_44 (DE1), TygerBlood_30 (A4), Ulysses_29 (A4), Vivi2_47 (DE1), WalterMcMickey_31 (A10), Wander_30 (A4), Wilbur_30 (A4), Wile_30 (A4), Wizard007_30 (A4), Xena_30 (A4), YoSam321_30 (A4), YorkOnyx_45 (DE1), ZoeJ_32 (K2),

Start 53:

- Found in 27 of 314 (8.6%) of genes in pham
- Manual Annotations of this start: 19 of 290
- Called 81.5% of time when present
- Phage (with cluster) where this start called: BatStarr_24 (CZ1), Bialota_24 (CZ1), Bosnia_24 (CZ1), Dogfish_26 (DT), Eviarto_24 (CZ1), Ewald_27 (DT), Frizzle_24 (DA), Ghobes_23 (DA), Herod_24 (CZ1), Hugley_24 (CZ1), Madeline_24 (CZ1), Meyran_26 (DT), Nyceirae_28 (DT), Nymphadora_24 (CZ1), Ohgeesy_24 (CZ), Polly_23 (CZ1), ThankyouJordi_23 (CZ1), TimTam_24 (CZ1), VanLee_31 (singleton), Vordorf_27 (DT), WelcomeAyanna_23 (CZ1), Zirinka_24 (CZ1),

Start 54:

- Found in 6 of 314 (1.9%) of genes in pham
- Manual Annotations of this start: 6 of 290
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Fryberger_63 (DP), Guey18_69 (DP), Keelan_61 (DP), Ronaldo_66 (DP), Volt_66 (DP), Ziko_66 (DP),

Start 55:

- Found in 42 of 314 (13.4%) of genes in pham
- Manual Annotations of this start: 37 of 290
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arti_51 (CR2), BiPauneto_53 (CR4), Bonum_55 (CR2), Buggaboo_53 (CR2), Commandaria_52 (CR2), Dalilpop_56 (CR1), Emianna_51 (CR2), Ennea_58 (CR3), Flapper_56 (CR1), Float294_54 (CR3), Foxboro_52 (CR2), Fury_59 (CR5), GRU1_41 (CR1), GTE5_43 (CR1), GTE8_40 (CR2), GrootJr_53 (CR2), HubbaBubba_49 (CR4), IDyn_52 (CR4), Jifall16_50 (CR2), Kabluna_55 (CR2), KidneyBean_51 (CR2), Kurt_51 (CR2), Lollipop1437_57 (CR3), Marietta_53 (CR4), MerCougar_53 (CR2), NadineRae_51 (CR4), NatB6_51 (CR2), NosilaM_55 (CR2), NovumRegina_51 (CR2), Outis_53 (CR2), Patio_55 (CR3), Phomeo_50 (CR2), Pleakley_59 (CR5), Skysand_54 (CR3), StarStruck_53 (CR2), Sukkupi_52 (CR4), SuperSulley_53 (CR2), Tracker_51 (CR2), Turuncu_56 (CR1), Wheezy_51 (CR2), WhoseManz_52 (CR4), Yndexa_52 (CR4),

Start 57:

- Found in 3 of 314 (1.0%) of genes in pham

- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gmala1_31 (DF1), GordDuk1_31 (DF1), GordTnk2_31 (DF1),

Start 58:

- Found in 3 of 314 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 290
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Lilbeanie_43 (DE5),

Summary by clusters:

There are 22 clusters represented in this pham: singleton, CZ1, DA, K2, K1, K6, DT, DP, A10, A12, DF1, A2, A4, A7, CZ, CR2, CR3, CR1, CR4, CR5, DE1, DE5,

Info for manual annotations of cluster A10:

- Start number 52 was manually annotated 17 times for cluster A10.

Info for manual annotations of cluster A12:

- Start number 52 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A2:

- Start number 52 was manually annotated 11 times for cluster A2.

Info for manual annotations of cluster A4:

- Start number 52 was manually annotated 137 times for cluster A4.

Info for manual annotations of cluster A7:

- Start number 52 was manually annotated 3 times for cluster A7.

Info for manual annotations of cluster CR1:

- Start number 55 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 55 was manually annotated 20 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 55 was manually annotated 5 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 55 was manually annotated 7 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 55 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster CZ:

- Start number 53 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 53 was manually annotated 12 times for cluster CZ1.

Info for manual annotations of cluster DA:

- Start number 50 was manually annotated 1 time for cluster DA.
- Start number 53 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DE1:

- Start number 52 was manually annotated 39 times for cluster DE1.

Info for manual annotations of cluster DE5:

- Start number 58 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DP:

- Start number 54 was manually annotated 6 times for cluster DP.

Info for manual annotations of cluster DT:

- Start number 53 was manually annotated 4 times for cluster DT.

Info for manual annotations of cluster K1:

- Start number 52 was manually annotated 6 times for cluster K1.

Info for manual annotations of cluster K2:

- Start number 52 was manually annotated 10 times for cluster K2.

Info for manual annotations of cluster K6:

- Start number 52 was manually annotated 1 time for cluster K6.

Gene Information:

Gene: AbbysRanger_30 Start: 22547, Stop: 22978, Start Num: 52

Candidate Starts for AbbysRanger_30:

(Start: 52 @22547 has 226 MA's), (63, 22586), (70, 22607), (79, 22637), (93, 22730), (121, 22820), (126, 22874), (141, 22952),

Gene: Abdiel_29 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for Abdiel_29:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698),

Gene: Achebe_29 Start: 22530, Stop: 22961, Start Num: 52

Candidate Starts for Achebe_29:

(Start: 52 @22530 has 226 MA's), (63, 22569), (70, 22590), (79, 22620), (93, 22713), (121, 22803), (126, 22857), (141, 22935),

Gene: Affeca_42 Start: 39008, Stop: 39457, Start Num: 52

Candidate Starts for Affeca_42:

(23, 38912), (Start: 52 @39008 has 226 MA's), (63, 39050), (68, 39065), (71, 39077), (85, 39128), (107, 39230), (131, 39353), (138, 39389), (147, 39440),

Gene: Albee_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Albee_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Alberto7_31 Start: 22820, Stop: 23248, Start Num: 52

Candidate Starts for Alberto7_31:
(Start: 52 @22820 has 226 MA's), (70, 22880), (76, 22901), (86, 22940), (93, 23003), (123, 23138),

Gene: Angelicage_42 Start: 39426, Stop: 39875, Start Num: 52
Candidate Starts for Angelicage_42:
(23, 39330), (Start: 52 @39426 has 226 MA's), (63, 39468), (68, 39483), (71, 39495), (85, 39546),
(107, 39648), (131, 39771), (138, 39807), (147, 39858),

Gene: AnnaL29_34 Start: 24675, Stop: 25103, Start Num: 52
Candidate Starts for AnnaL29_34:
(Start: 52 @24675 has 226 MA's), (72, 24744), (90, 24849), (125, 24999), (133, 25020),

Gene: Annyong_30 Start: 22519, Stop: 22947, Start Num: 52
Candidate Starts for Annyong_30:
(Start: 52 @22519 has 226 MA's), (70, 22579), (76, 22600), (86, 22639), (93, 22702), (123, 22837),

Gene: ArcherNM_33 Start: 24619, Stop: 25053, Start Num: 52
Candidate Starts for ArcherNM_33:
(Start: 52 @24619 has 226 MA's), (69, 24679), (70, 24682), (90, 24796), (112, 24859), (132, 24967),

Gene: Arti_51 Start: 39161, Stop: 39586, Start Num: 55
Candidate Starts for Arti_51:
(37, 39104), (42, 39125), (Start: 55 @39161 has 37 MA's), (90, 39332), (105, 39374),

Gene: Arturo_29 Start: 22627, Stop: 23055, Start Num: 52
Candidate Starts for Arturo_29:
(25, 22534), (Start: 52 @22627 has 226 MA's), (63, 22666), (70, 22687), (76, 22708), (85, 22744), (93,
22810), (122, 22918), (123, 22945),

Gene: Ashertheman_45 Start: 39429, Stop: 39875, Start Num: 52
Candidate Starts for Ashertheman_45:
(10, 39222), (23, 39327), (28, 39342), (Start: 52 @39429 has 226 MA's), (63, 39471), (68, 39486), (71,
39498), (107, 39651), (138, 39810), (147, 39858),

Gene: AvatarAhPeg_31 Start: 22800, Stop: 23225, Start Num: 52
Candidate Starts for AvatarAhPeg_31:
(26, 22707), (29, 22716), (Start: 52 @22800 has 226 MA's), (61, 22824), (65, 22845), (75, 22878), (85,
22917), (106, 23010), (112, 23034), (118, 23052), (130, 23136),

Gene: Avle17_30 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for Avle17_30:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Baby16_30 Start: 22527, Stop: 22955, Start Num: 52
Candidate Starts for Baby16_30:
(Start: 52 @22527 has 226 MA's), (70, 22587), (76, 22608), (86, 22647), (93, 22710), (123, 22845),

Gene: Backyardigan_30 Start: 22542, Stop: 22973, Start Num: 52
Candidate Starts for Backyardigan_30:
(Start: 52 @22542 has 226 MA's), (63, 22581), (70, 22602), (79, 22632), (93, 22725), (121, 22815),
(126, 22869), (141, 22947),

Gene: Bactobuster_32 Start: 24432, Stop: 24866, Start Num: 52

Candidate Starts for Bactobuster_32:

(Start: 52 @24432 has 226 MA's), (Start: 53 @24435 has 19 MA's), (70, 24495), (83, 24543), (92, 24615), (112, 24672), (141, 24840), (145, 24855),

Gene: Baddon_44 Start: 39967, Stop: 40413, Start Num: 52

Candidate Starts for Baddon_44:

(10, 39760), (23, 39865), (28, 39880), (Start: 52 @39967 has 226 MA's), (63, 40009), (68, 40024), (71, 40036), (107, 40189), (138, 40348), (147, 40396),

Gene: Badger_30 Start: 22531, Stop: 22962, Start Num: 52

Candidate Starts for Badger_30:

(Start: 52 @22531 has 226 MA's), (63, 22570), (70, 22591), (79, 22621), (93, 22714), (121, 22804), (126, 22858), (141, 22936),

Gene: BangNhom_30 Start: 22832, Stop: 23260, Start Num: 52

Candidate Starts for BangNhom_30:

(Start: 52 @22832 has 226 MA's), (63, 22871), (70, 22892), (76, 22913), (86, 22952), (93, 23015), (123, 23150), (125, 23156),

Gene: Barsten_45 Start: 39581, Stop: 40030, Start Num: 52

Candidate Starts for Barsten_45:

(23, 39482), (Start: 52 @39581 has 226 MA's), (63, 39623), (68, 39638), (71, 39650), (85, 39701), (107, 39803), (131, 39926), (138, 39962), (147, 40013),

Gene: Bartimeaus_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Bartimeaus_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: BatStarr_24 Start: 21899, Stop: 22312, Start Num: 53

Candidate Starts for BatStarr_24:

(1, 21629), (15, 21755), (38, 21878), (Start: 53 @21899 has 19 MA's), (74, 21974), (77, 21983), (87, 22028), (94, 22091), (128, 22238),

Gene: Baumdotcom_43 Start: 38818, Stop: 39264, Start Num: 52

Candidate Starts for Baumdotcom_43:

(5, 38560), (10, 38611), (23, 38716), (28, 38731), (Start: 52 @38818 has 226 MA's), (63, 38860), (68, 38875), (71, 38887), (107, 39040), (138, 39199), (147, 39247),

Gene: BellusTerra_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for BellusTerra_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698),

Gene: BiPauneto_53 Start: 38687, Stop: 39115, Start Num: 55

Candidate Starts for BiPauneto_53:

(Start: 55 @38687 has 37 MA's), (90, 38858), (105, 38900), (129, 39026), (135, 39050),

Gene: Bialota_24 Start: 21911, Stop: 22324, Start Num: 53

Candidate Starts for Bialota_24:

(1, 21641), (18, 21800), (38, 21890), (Start: 53 @21911 has 19 MA's), (74, 21986), (77, 21995), (87, 22040), (94, 22103), (128, 22250),

Gene: Bizzy_45 Start: 39124, Stop: 39570, Start Num: 52

Candidate Starts for Bizzy_45:

(5, 38866), (10, 38917), (23, 39022), (28, 39037), (Start: 52 @39124 has 226 MA's), (63, 39166), (68, 39181), (71, 39193), (107, 39346), (138, 39505), (147, 39553),

Gene: Blackmoor_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Blackmoor_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: BobBob_42 Start: 38700, Stop: 39149, Start Num: 52

Candidate Starts for BobBob_42:

(20, 38592), (23, 38601), (Start: 52 @38700 has 226 MA's), (63, 38742), (68, 38757), (71, 38769), (107, 38922), (131, 39045), (138, 39081), (147, 39132),

Gene: Bombshell_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Bombshell_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Bonum_55 Start: 39814, Stop: 40242, Start Num: 55

Candidate Starts for Bonum_55:

(Start: 55 @39814 has 37 MA's), (90, 39985), (136, 40183),

Gene: BoostSeason_33 Start: 26994, Stop: 27485, Start Num: 52

Candidate Starts for BoostSeason_33:

(Start: 52 @26994 has 226 MA's), (69, 27051), (74, 27069), (88, 27126), (110, 27261), (120, 27318), (131, 27396), (145, 27474),

Gene: Bosnia_24 Start: 21899, Stop: 22312, Start Num: 53

Candidate Starts for Bosnia_24:

(1, 21629), (15, 21755), (38, 21878), (Start: 53 @21899 has 19 MA's), (74, 21974), (77, 21983), (87, 22028), (94, 22091), (128, 22238),

Gene: Brandonk123_46 Start: 39835, Stop: 40284, Start Num: 52

Candidate Starts for Brandonk123_46:

(20, 39727), (23, 39736), (Start: 52 @39835 has 226 MA's), (63, 39877), (68, 39892), (71, 39904), (107, 40057), (131, 40180), (138, 40216), (147, 40267),

Gene: Broseidon_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Broseidon_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Bruiser_29 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Bruiser_29:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: BubbleTrouble_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for BubbleTrouble_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Buggaboo_53 Start: 40293, Stop: 40721, Start Num: 55

Candidate Starts for Buggaboo_53:

(Start: 55 @40293 has 37 MA's), (90, 40464), (136, 40662),

Gene: Bumblebee11_30 Start: 22533, Stop: 22964, Start Num: 52

Candidate Starts for Bumblebee11_30:

(Start: 52 @22533 has 226 MA's), (63, 22572), (70, 22593), (79, 22623), (93, 22716), (121, 22806), (126, 22860), (141, 22938),

Gene: Burger_29 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Burger_29:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Caelakin_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Caelakin_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Camperdownii_29 Start: 22137, Stop: 22565, Start Num: 52

Candidate Starts for Camperdownii_29:

(Start: 52 @22137 has 226 MA's), (63, 22176), (70, 22197), (76, 22218), (85, 22254), (86, 22257), (123, 22455),

Gene: CentreCat_30 Start: 22519, Stop: 22947, Start Num: 52

Candidate Starts for CentreCat_30:

(Start: 52 @22519 has 226 MA's), (70, 22579), (76, 22600), (86, 22639), (93, 22702), (123, 22837),

Gene: Cerulean_31 Start: 22833, Stop: 23261, Start Num: 52

Candidate Starts for Cerulean_31:

(Start: 52 @22833 has 226 MA's), (63, 22872), (70, 22893), (76, 22914), (86, 22953), (93, 23016), (123, 23151), (125, 23157),

Gene: ChadMasterC_45 Start: 40980, Stop: 41429, Start Num: 52

Candidate Starts for ChadMasterC_45:

(23, 40881), (Start: 52 @40980 has 226 MA's), (63, 41022), (68, 41037), (71, 41049), (85, 41100), (107, 41202), (131, 41325), (138, 41361), (147, 41412),

Gene: ChampagnePapi_31 Start: 22832, Stop: 23260, Start Num: 52

Candidate Starts for ChampagnePapi_31:

(Start: 52 @22832 has 226 MA's), (70, 22892), (76, 22913), (86, 22952), (93, 23015), (123, 23150),

Gene: Changeling_33 Start: 24673, Stop: 25104, Start Num: 52

Candidate Starts for Changeling_33:

(Start: 52 @24673 has 226 MA's), (Start: 53 @24676 has 19 MA's), (63, 24712), (112, 24910), (133, 25021),

Gene: Chaph_30 Start: 22527, Stop: 22955, Start Num: 52

Candidate Starts for Chaph_30:

(Start: 52 @22527 has 226 MA's), (70, 22587), (76, 22608), (86, 22647), (93, 22710), (123, 22845),

Gene: Charming_45 Start: 39336, Stop: 39785, Start Num: 52

Candidate Starts for Charming_45:

(20, 39228), (23, 39237), (Start: 52 @39336 has 226 MA's), (63, 39378), (68, 39393), (71, 39405), (107, 39558), (131, 39681), (138, 39717), (147, 39768),

Gene: Chris_33 Start: 27363, Stop: 27860, Start Num: 52

Candidate Starts for Chris_33:

(24, 27267), (35, 27309), (Start: 52 @27363 has 226 MA's), (Start: 58 @27378 has 1 MA's), (70, 27426), (74, 27441), (87, 27492), (89, 27546), (94, 27573), (104, 27615), (114, 27648), (116, 27663), (120, 27693),

Gene: Chupacabra_31 Start: 22824, Stop: 23255, Start Num: 52
Candidate Starts for Chupacabra_31:
(29, 22740), (Start: 52 @22824 has 226 MA's), (70, 22884), (71, 22890), (79, 22914), (118, 23079),
(125, 23148),

Gene: Cici_30 Start: 22527, Stop: 22958, Start Num: 52
Candidate Starts for Cici_30:
(Start: 52 @22527 has 226 MA's), (63, 22566), (70, 22587), (79, 22617), (93, 22710), (121, 22800),
(126, 22854), (141, 22932),

Gene: Cindaradix_29 Start: 22245, Stop: 22676, Start Num: 52
Candidate Starts for Cindaradix_29:
(Start: 52 @22245 has 226 MA's), (63, 22284), (65, 22290), (101, 22443), (122, 22533),

Gene: Cintron_30 Start: 22563, Stop: 22991, Start Num: 52
Candidate Starts for Cintron_30:
(Start: 52 @22563 has 226 MA's), (63, 22602), (70, 22623), (76, 22644), (85, 22680), (93, 22746),
(122, 22854), (123, 22881),

Gene: Citius_30 Start: 22533, Stop: 22961, Start Num: 52
Candidate Starts for Citius_30:
(Start: 52 @22533 has 226 MA's), (70, 22593), (76, 22614), (86, 22653), (93, 22716), (123, 22851),

Gene: Clarenza_30 Start: 22515, Stop: 22943, Start Num: 52
Candidate Starts for Clarenza_30:
(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (123, 22833),

Gene: Cocoaberry_30 Start: 22522, Stop: 22950, Start Num: 52
Candidate Starts for Cocoaberry_30:
(Start: 52 @22522 has 226 MA's), (70, 22582), (76, 22603), (86, 22642), (93, 22705), (123, 22840),

Gene: Commandaria_52 Start: 40288, Stop: 40710, Start Num: 55
Candidate Starts for Commandaria_52:
(Start: 55 @40288 has 37 MA's), (90, 40459), (123, 40606), (129, 40627), (136, 40657),

Gene: Commander_30 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for Commander_30:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701),

Gene: Connomayer_30 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for Connomayer_30:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Dalilpop_56 Start: 41448, Stop: 41870, Start Num: 55
Candidate Starts for Dalilpop_56:
(32, 41364), (34, 41379), (44, 41409), (47, 41418), (Start: 55 @41448 has 37 MA's), (81, 41538), (90,
41619), (105, 41661), (136, 41817), (139, 41856),

Gene: Datway_30 Start: 22542, Stop: 22973, Start Num: 52
Candidate Starts for Datway_30:
(Start: 52 @22542 has 226 MA's), (63, 22581), (70, 22602), (79, 22632), (93, 22725), (121, 22815),
(126, 22869), (141, 22947),

Gene: Deano_30 Start: 22526, Stop: 22954, Start Num: 52

Candidate Starts for Deano_30:

(Start: 52 @22526 has 226 MA's), (70, 22586), (76, 22607), (86, 22646), (93, 22709), (123, 22844),

Gene: Derg_42 Start: 38716, Stop: 39162, Start Num: 52

Candidate Starts for Derg_42:

(10, 38509), (23, 38614), (28, 38629), (Start: 52 @38716 has 226 MA's), (63, 38758), (68, 38773), (71, 38785), (107, 38938), (138, 39097), (147, 39145),

Gene: Dhanush_30 Start: 22521, Stop: 22949, Start Num: 52

Candidate Starts for Dhanush_30:

(Start: 52 @22521 has 226 MA's), (70, 22581), (76, 22602), (86, 22641), (93, 22704), (123, 22839),

Gene: DirtyDunning_30 Start: 22511, Stop: 22939, Start Num: 52

Candidate Starts for DirtyDunning_30:

(Start: 52 @22511 has 226 MA's), (63, 22550), (70, 22571), (76, 22592), (85, 22628), (86, 22631), (123, 22829),

Gene: DismalFunk_32 Start: 26906, Stop: 27397, Start Num: 52

Candidate Starts for DismalFunk_32:

(Start: 52 @26906 has 226 MA's), (69, 26963), (74, 26981), (88, 27038), (110, 27173), (117, 27203), (120, 27230), (122, 27254), (131, 27308), (134, 27317),

Gene: DismalStressor_32 Start: 26906, Stop: 27397, Start Num: 52

Candidate Starts for DismalStressor_32:

(Start: 52 @26906 has 226 MA's), (69, 26963), (74, 26981), (88, 27038), (110, 27173), (117, 27203), (120, 27230), (122, 27254), (131, 27308), (134, 27317),

Gene: Dogfish_26 Start: 22166, Stop: 22594, Start Num: 53

Candidate Starts for Dogfish_26:

(13, 22007), (17, 22034), (39, 22148), (51, 22160), (Start: 53 @22166 has 19 MA's), (70, 22226), (77, 22250), (85, 22283), (86, 22286), (94, 22358), (103, 22382),

Gene: DontArgue_30 Start: 21211, Stop: 21642, Start Num: 52

Candidate Starts for DontArgue_30:

(19, 21085), (27, 21121), (28, 21124), (46, 21190), (Start: 52 @21211 has 226 MA's), (70, 21271), (92, 21391), (93, 21394), (115, 21457), (126, 21538),

Gene: Drake94_30 Start: 20956, Stop: 21384, Start Num: 52

Candidate Starts for Drake94_30:

(Start: 52 @20956 has 226 MA's), (63, 20995), (65, 21001), (71, 21022), (79, 21046), (93, 21139), (142, 21364),

Gene: DroogsArmy_31 Start: 25323, Stop: 25751, Start Num: 52

Candidate Starts for DroogsArmy_31:

(Start: 52 @25323 has 226 MA's), (69, 25380), (72, 25392), (79, 25413), (106, 25533), (111, 25554), (121, 25593), (122, 25611), (125, 25644), (134, 25677),

Gene: Druantia_30 Start: 22519, Stop: 22947, Start Num: 52

Candidate Starts for Druantia_30:

(Start: 52 @22519 has 226 MA's), (70, 22579), (76, 22600), (86, 22639), (93, 22702), (123, 22837),

Gene: DustyMartin_35 Start: 22921, Stop: 23352, Start Num: 52
Candidate Starts for DustyMartin_35:
(Start: 52 @22921 has 226 MA's), (70, 22981), (93, 23104), (125, 23245), (133, 23269),

Gene: Eagle_29 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for Eagle_29:
(Start: 52 @22518 has 226 MA's), (63, 22557), (70, 22578), (76, 22599), (86, 22638), (93, 22701),
(123, 22836), (125, 22842),

Gene: Eaglepride_32 Start: 22834, Stop: 23265, Start Num: 52
Candidate Starts for Eaglepride_32:
(Start: 52 @22834 has 226 MA's), (56, 22846), (63, 22873), (68, 22888), (93, 23017), (112, 23071),
(115, 23080), (133, 23182), (141, 23239),

Gene: Eapen_30 Start: 22517, Stop: 22945, Start Num: 52
Candidate Starts for Eapen_30:
(Start: 52 @22517 has 226 MA's), (70, 22577), (76, 22598), (82, 22622), (86, 22637), (93, 22700),
(123, 22835),

Gene: Edison31_31 Start: 22864, Stop: 23295, Start Num: 52
Candidate Starts for Edison31_31:
(30, 22786), (35, 22807), (Start: 52 @22864 has 226 MA's), (63, 22903), (92, 23044), (93, 23047),
(118, 23119), (125, 23188), (133, 23212),

Gene: Emianna_51 Start: 40153, Stop: 40578, Start Num: 55
Candidate Starts for Emianna_51:
(37, 40096), (42, 40117), (Start: 55 @40153 has 37 MA's), (90, 40324), (105, 40366),

Gene: Ennea_58 Start: 41167, Stop: 41595, Start Num: 55
Candidate Starts for Ennea_58:
(Start: 55 @41167 has 37 MA's), (81, 41257), (83, 41266), (90, 41338), (136, 41536),

Gene: Eris_29 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for Eris_29:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Eros_30 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for Eros_30:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Eurydice_30 Start: 22515, Stop: 22943, Start Num: 52
Candidate Starts for Eurydice_30:
(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698),

Gene: Eviarto_24 Start: 21899, Stop: 22312, Start Num: 53
Candidate Starts for Eviarto_24:
(1, 21629), (15, 21755), (38, 21878), (Start: 53 @21899 has 19 MA's), (74, 21974), (77, 21983), (87,
22028), (94, 22091), (128, 22238),

Gene: Ewald_27 Start: 22552, Stop: 22968, Start Num: 53
Candidate Starts for Ewald_27:
(15, 22375), (36, 22495), (38, 22498), (43, 22519), (Start: 53 @22552 has 19 MA's), (64, 22594), (68,
22606), (77, 22636), (85, 22669), (103, 22768),

Gene: Findley_32 Start: 26898, Stop: 27389, Start Num: 52

Candidate Starts for Findley_32:

(Start: 52 @26898 has 226 MA's), (69, 26955), (74, 26973), (88, 27030), (110, 27165), (117, 27195), (120, 27222), (122, 27246), (131, 27300), (134, 27309),

Gene: Fitzgerald_43 Start: 40238, Stop: 40687, Start Num: 52

Candidate Starts for Fitzgerald_43:

(20, 40130), (23, 40139), (Start: 52 @40238 has 226 MA's), (63, 40280), (68, 40295), (71, 40307), (107, 40460), (131, 40583), (138, 40619), (147, 40670),

Gene: Flapper_56 Start: 40879, Stop: 41316, Start Num: 55

Candidate Starts for Flapper_56:

(32, 40795), (34, 40810), (44, 40840), (47, 40849), (Start: 55 @40879 has 37 MA's), (81, 40969), (90, 41050), (105, 41092), (120, 41152), (136, 41248),

Gene: Flatwoods_45 Start: 39068, Stop: 39514, Start Num: 52

Candidate Starts for Flatwoods_45:

(5, 38810), (10, 38861), (23, 38966), (28, 38981), (Start: 52 @39068 has 226 MA's), (63, 39110), (68, 39125), (71, 39137), (107, 39290), (138, 39449), (147, 39497),

Gene: Float294_54 Start: 40609, Stop: 41037, Start Num: 55

Candidate Starts for Float294_54:

(Start: 55 @40609 has 37 MA's), (81, 40699), (83, 40708), (90, 40780), (136, 40978),

Gene: Florean_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for Florean_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (123, 22833),

Gene: Flux_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Flux_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Fosterous_42 Start: 38797, Stop: 39246, Start Num: 52

Candidate Starts for Fosterous_42:

(23, 38698), (Start: 52 @38797 has 226 MA's), (63, 38839), (68, 38854), (71, 38866), (107, 39019), (131, 39142), (138, 39178), (147, 39229),

Gene: Foxboro_52 Start: 40659, Stop: 41084, Start Num: 55

Candidate Starts for Foxboro_52:

(37, 40602), (42, 40623), (Start: 55 @40659 has 37 MA's), (90, 40830), (105, 40872),

Gene: Frizzle_24 Start: 19556, Stop: 19969, Start Num: 53

Candidate Starts for Frizzle_24:

(Start: 53 @19556 has 19 MA's), (62, 19589), (98, 19748), (100, 19751),

Gene: Fryberger_63 Start: 35468, Stop: 35857, Start Num: 54

Candidate Starts for Fryberger_63:

(Start: 54 @35468 has 6 MA's), (63, 35504), (84, 35576), (103, 35681), (113, 35717), (122, 35759), (125, 35792),

Gene: Funston_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Funston_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Fury_59 Start: 39331, Stop: 39744, Start Num: 55

Candidate Starts for Fury_59:

(47, 39304), (Start: 55 @39331 has 37 MA's), (81, 39421), (83, 39430), (90, 39502), (105, 39544), (119, 39598), (129, 39670), (136, 39700),

Gene: GRU1_41 Start: 32426, Stop: 32848, Start Num: 55

Candidate Starts for GRU1_41:

(44, 32387), (48, 32399), (Start: 55 @32426 has 37 MA's), (81, 32516), (90, 32597), (105, 32639), (136, 32795), (139, 32834),

Gene: GTE5_43 Start: 33736, Stop: 34173, Start Num: 55

Candidate Starts for GTE5_43:

(32, 33652), (34, 33667), (44, 33697), (47, 33706), (Start: 55 @33736 has 37 MA's), (81, 33826), (90, 33907), (105, 33949), (120, 34009), (136, 34105),

Gene: GTE8_40 Start: 33411, Stop: 33839, Start Num: 55

Candidate Starts for GTE8_40:

(37, 33354), (42, 33375), (Start: 55 @33411 has 37 MA's), (90, 33582),

Gene: Gadost_30 Start: 22522, Stop: 22950, Start Num: 52

Candidate Starts for Gadost_30:

(Start: 52 @22522 has 226 MA's), (70, 22582), (76, 22603), (86, 22642), (93, 22705), (123, 22840),

Gene: Gaea_44 Start: 38712, Stop: 39158, Start Num: 52

Candidate Starts for Gaea_44:

(3, 38436), (5, 38454), (10, 38505), (23, 38610), (28, 38625), (Start: 52 @38712 has 226 MA's), (63, 38754), (68, 38769), (71, 38781), (107, 38934), (138, 39093), (147, 39141),

Gene: Galadriel_44 Start: 39604, Stop: 40053, Start Num: 52

Candidate Starts for Galadriel_44:

(20, 39496), (23, 39505), (Start: 52 @39604 has 226 MA's), (63, 39646), (68, 39661), (71, 39673), (85, 39724), (107, 39826), (131, 39949), (138, 39985), (147, 40036),

Gene: Geodirt_43 Start: 40216, Stop: 40665, Start Num: 52

Candidate Starts for Geodirt_43:

(23, 40117), (Start: 52 @40216 has 226 MA's), (63, 40258), (68, 40273), (71, 40285), (107, 40438), (131, 40561), (138, 40597), (147, 40648),

Gene: Ghobes_23 Start: 19556, Stop: 19969, Start Num: 53

Candidate Starts for Ghobes_23:

(Start: 53 @19556 has 19 MA's), (62, 19589), (98, 19748), (100, 19751), (124, 19874),

Gene: Gmala1_31 Start: 36456, Stop: 36854, Start Num: 57

Candidate Starts for Gmala1_31:

(57, 36456), (59, 36459), (66, 36492), (83, 36555), (97, 36636), (105, 36657), (136, 36804), (143, 36849),

Gene: Goose_31 Start: 22825, Stop: 23256, Start Num: 52

Candidate Starts for Goose_31:

(29, 22741), (Start: 52 @22825 has 226 MA's), (70, 22885), (71, 22891), (79, 22915), (118, 23080), (125, 23149),

Gene: GordDuk1_31 Start: 36394, Stop: 36792, Start Num: 57

Candidate Starts for GordDuk1_31:

(57, 36394), (59, 36397), (66, 36430), (83, 36493), (97, 36574), (105, 36595), (136, 36742), (143, 36787),

Gene: GordTnk2_31 Start: 36363, Stop: 36761, Start Num: 57

Candidate Starts for GordTnk2_31:

(57, 36363), (59, 36366), (66, 36399), (83, 36462), (97, 36543), (105, 36564), (136, 36711), (143, 36756),

Gene: GrootJr_53 Start: 39535, Stop: 39960, Start Num: 55

Candidate Starts for GrootJr_53:

(37, 39478), (42, 39499), (Start: 55 @39535 has 37 MA's), (90, 39706), (105, 39748),

Gene: Guey18_69 Start: 36988, Stop: 37377, Start Num: 54

Candidate Starts for Guey18_69:

(Start: 54 @36988 has 6 MA's), (63, 37024), (84, 37096), (103, 37201), (113, 37237), (122, 37279), (125, 37312),

Gene: Gustavo_44 Start: 38884, Stop: 39330, Start Num: 52

Candidate Starts for Gustavo_44:

(10, 38677), (23, 38782), (28, 38797), (Start: 52 @38884 has 226 MA's), (63, 38926), (68, 38941), (71, 38953), (107, 39106), (138, 39265), (147, 39313),

Gene: HINdeR_30 Start: 25427, Stop: 25855, Start Num: 52

Candidate Starts for HINdeR_30:

(Start: 52 @25427 has 226 MA's), (69, 25484), (79, 25517), (106, 25637), (121, 25697), (122, 25715), (125, 25748), (145, 25850),

Gene: HamSlice_29 Start: 22516, Stop: 22944, Start Num: 52

Candidate Starts for HamSlice_29:

(Start: 52 @22516 has 226 MA's), (70, 22576), (76, 22597), (86, 22636), (93, 22699), (123, 22834),

Gene: Happiness_30 Start: 22524, Stop: 22952, Start Num: 52

Candidate Starts for Happiness_30:

(Start: 52 @22524 has 226 MA's), (63, 22563), (70, 22584), (76, 22605), (86, 22644), (93, 22707), (123, 22842), (125, 22848),

Gene: Herbertwm_28 Start: 21463, Stop: 21894, Start Num: 52

Candidate Starts for Herbertwm_28:

(22, 21358), (27, 21373), (30, 21385), (Start: 52 @21463 has 226 MA's), (70, 21523), (85, 21580), (112, 21700), (134, 21814),

Gene: Herod_24 Start: 21899, Stop: 22312, Start Num: 53

Candidate Starts for Herod_24:

(1, 21629), (15, 21755), (38, 21878), (Start: 53 @21899 has 19 MA's), (74, 21974), (77, 21983), (87, 22028), (94, 22091), (128, 22238),

Gene: Holli_30 Start: 22308, Stop: 22736, Start Num: 52

Candidate Starts for Holli_30:

(Start: 52 @22308 has 226 MA's), (70, 22368), (76, 22389), (86, 22428), (93, 22491), (123, 22626),

Gene: Houdini22_30 Start: 22522, Stop: 22950, Start Num: 52

Candidate Starts for Houdini22_30:

(Start: 52 @22522 has 226 MA's), (70, 22582), (76, 22603), (86, 22642), (93, 22705), (123, 22840),

Gene: HubbaBubba_49 Start: 35702, Stop: 36127, Start Num: 55

Candidate Starts for HubbaBubba_49:

(45, 35669), (Start: 55 @35702 has 37 MA's), (90, 35873), (105, 35915), (129, 36041), (144, 36119),

Gene: Hugley_24 Start: 21899, Stop: 22312, Start Num: 53

Candidate Starts for Hugley_24:

(1, 21629), (15, 21755), (38, 21878), (Start: 53 @21899 has 19 MA's), (74, 21974), (77, 21983), (87, 22028), (94, 22091), (128, 22238),

Gene: ICleared_30 Start: 22516, Stop: 22944, Start Num: 52

Candidate Starts for ICleared_30:

(Start: 52 @22516 has 226 MA's), (70, 22576), (76, 22597), (86, 22636), (93, 22699), (123, 22834),

Gene: IDyn_52 Start: 37131, Stop: 37559, Start Num: 55

Candidate Starts for IDyn_52:

(45, 37098), (Start: 55 @37131 has 37 MA's), (90, 37302), (105, 37344), (129, 37470),

Gene: Iceman_31 Start: 22807, Stop: 23235, Start Num: 52

Candidate Starts for Iceman_31:

(Start: 52 @22807 has 226 MA's), (70, 22867), (76, 22888), (86, 22927), (93, 22990), (123, 23125),

Gene: Iracema64_31 Start: 22826, Stop: 23254, Start Num: 52

Candidate Starts for Iracema64_31:

(Start: 52 @22826 has 226 MA's), (63, 22865), (70, 22886), (76, 22907), (85, 22943), (86, 22946), (123, 23144),

Gene: IronMan_33 Start: 24398, Stop: 24832, Start Num: 52

Candidate Starts for IronMan_33:

(Start: 52 @24398 has 226 MA's), (60, 24416), (70, 24461), (92, 24581), (112, 24638), (132, 24746),

Gene: JKSyngboy_42 Start: 39483, Stop: 39929, Start Num: 52

Candidate Starts for JKSyngboy_42:

(9, 39273), (10, 39276), (12, 39291), (20, 39372), (23, 39381), (28, 39396), (Start: 52 @39483 has 226 MA's), (63, 39525), (68, 39540), (71, 39552), (107, 39705), (138, 39864), (147, 39912),

Gene: Jaan_34 Start: 24787, Stop: 25221, Start Num: 52

Candidate Starts for Jaan_34:

(Start: 52 @24787 has 226 MA's), (Start: 53 @24790 has 19 MA's), (70, 24850), (83, 24898), (92, 24970), (112, 25027), (141, 25195), (145, 25210),

Gene: Jabberwocky_43 Start: 40642, Stop: 41091, Start Num: 52

Candidate Starts for Jabberwocky_43:

(23, 40543), (Start: 52 @40642 has 226 MA's), (63, 40684), (68, 40699), (71, 40711), (85, 40762), (107, 40864), (131, 40987), (138, 41023), (147, 41074),

Gene: Jaykayelowell_30 Start: 22514, Stop: 22942, Start Num: 52

Candidate Starts for Jaykayelowell_30:

(Start: 52 @22514 has 226 MA's), (70, 22574), (76, 22595), (86, 22634), (93, 22697),

Gene: JetBlade_30 Start: 22515, Stop: 22943, Start Num: 52
Candidate Starts for JetBlade_30:
(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (123, 22833),

Gene: Jifall16_50 Start: 39807, Stop: 40232, Start Num: 55
Candidate Starts for Jifall16_50:
(37, 39750), (42, 39771), (Start: 55 @39807 has 37 MA's), (90, 39978), (105, 40020),

Gene: JoongJeon_30 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for JoongJeon_30:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: KFPoly_30 Start: 22515, Stop: 22943, Start Num: 52
Candidate Starts for KFPoly_30:
(Start: 52 @22515 has 226 MA's), (63, 22554), (70, 22575), (76, 22596), (85, 22632), (86, 22635),
(123, 22833),

Gene: Kabluna_55 Start: 39229, Stop: 39657, Start Num: 55
Candidate Starts for Kabluna_55:
(Start: 55 @39229 has 37 MA's), (90, 39400), (136, 39598),

Gene: Kamashten_42 Start: 38577, Stop: 39026, Start Num: 52
Candidate Starts for Kamashten_42:
(23, 38478), (Start: 52 @38577 has 226 MA's), (63, 38619), (68, 38634), (71, 38646), (107, 38799),
(131, 38922), (138, 38958), (147, 39009),

Gene: Kampy_30 Start: 22516, Stop: 22944, Start Num: 52
Candidate Starts for Kampy_30:
(Start: 52 @22516 has 226 MA's), (70, 22576), (76, 22597), (86, 22636), (93, 22699),

Gene: Katalie136_30 Start: 22533, Stop: 22964, Start Num: 52
Candidate Starts for Katalie136_30:
(Start: 52 @22533 has 226 MA's), (63, 22572), (70, 22593), (79, 22623), (93, 22716), (121, 22806),
(126, 22860), (141, 22938),

Gene: Keelan_61 Start: 35707, Stop: 36102, Start Num: 54
Candidate Starts for Keelan_61:
(Start: 54 @35707 has 6 MA's), (84, 35815), (103, 35920), (113, 35956), (123, 36025), (127, 36037),

Gene: Kewpiedoll_44 Start: 39518, Stop: 39967, Start Num: 52
Candidate Starts for Kewpiedoll_44:
(23, 39419), (Start: 52 @39518 has 226 MA's), (63, 39560), (68, 39575), (71, 39587), (107, 39740),
(131, 39863), (138, 39899), (147, 39950),

Gene: KiSi_33 Start: 27241, Stop: 27735, Start Num: 52
Candidate Starts for KiSi_33:
(31, 27169), (Start: 52 @27241 has 226 MA's), (70, 27304), (73, 27316), (86, 27364), (89, 27424),
(104, 27493), (114, 27526), (116, 27541), (120, 27571), (133, 27658),

Gene: KidneyBean_51 Start: 39931, Stop: 40356, Start Num: 55
Candidate Starts for KidneyBean_51:
(37, 39874), (42, 39895), (Start: 55 @39931 has 37 MA's), (90, 40102), (105, 40144),

Gene: Kingmustik0402_30 Start: 22510, Stop: 22938, Start Num: 52
Candidate Starts for Kingmustik0402_30:
(Start: 52 @22510 has 226 MA's), (70, 22570), (76, 22591), (86, 22630), (93, 22693), (123, 22828),

Gene: KittenMittens_30 Start: 20964, Stop: 21392, Start Num: 52
Candidate Starts for KittenMittens_30:
(Start: 52 @20964 has 226 MA's), (63, 21003), (65, 21009), (71, 21030), (79, 21054), (93, 21147),
(142, 21372),

Gene: Koreni_29 Start: 22164, Stop: 22592, Start Num: 52
Candidate Starts for Koreni_29:
(Start: 52 @22164 has 226 MA's), (70, 22224), (76, 22245), (86, 22284), (93, 22347), (123, 22482),

Gene: Kratark_30 Start: 22510, Stop: 22938, Start Num: 52
Candidate Starts for Kratark_30:
(Start: 52 @22510 has 226 MA's), (63, 22549), (70, 22570), (76, 22591), (85, 22627), (86, 22630),
(123, 22828),

Gene: Kremtemulon_30 Start: 22566, Stop: 22994, Start Num: 52
Candidate Starts for Kremtemulon_30:
(Start: 52 @22566 has 226 MA's), (70, 22626), (76, 22647), (86, 22686), (93, 22749), (123, 22884),
(136, 22932),

Gene: Kristoff_32 Start: 23028, Stop: 23459, Start Num: 52
Candidate Starts for Kristoff_32:
(30, 22950), (35, 22971), (Start: 52 @23028 has 226 MA's), (63, 23067), (92, 23208), (93, 23211),
(118, 23283), (125, 23352), (133, 23376),

Gene: Kroos_45 Start: 39624, Stop: 40070, Start Num: 52
Candidate Starts for Kroos_45:
(5, 39366), (14, 39447), (23, 39522), (28, 39537), (Start: 52 @39624 has 226 MA's), (63, 39666), (68,
39681), (71, 39693), (107, 39846), (138, 40005), (147, 40053),

Gene: Kurt_51 Start: 40168, Stop: 40593, Start Num: 55
Candidate Starts for Kurt_51:
(37, 40111), (42, 40132), (Start: 55 @40168 has 37 MA's), (90, 40339), (105, 40381),

Gene: Kwobi_45 Start: 39610, Stop: 40056, Start Num: 52
Candidate Starts for Kwobi_45:
(5, 39352), (10, 39403), (23, 39508), (28, 39523), (Start: 52 @39610 has 226 MA's), (63, 39652), (68,
39667), (71, 39679), (107, 39832), (138, 39991), (147, 40039),

Gene: Kyee_30 Start: 22516, Stop: 22944, Start Num: 52
Candidate Starts for Kyee_30:
(Start: 52 @22516 has 226 MA's), (63, 22555), (70, 22576), (76, 22597), (85, 22633), (86, 22636),
(123, 22834),

Gene: LHTSCC_31 Start: 22832, Stop: 23260, Start Num: 52
Candidate Starts for LHTSCC_31:
(Start: 52 @22832 has 226 MA's), (63, 22871), (70, 22892), (76, 22913), (86, 22952), (93, 23015),
(123, 23150), (125, 23156),

Gene: Landor_32 Start: 24439, Stop: 24873, Start Num: 52

Candidate Starts for Landor_32:

(Start: 52 @24439 has 226 MA's), (Start: 53 @24442 has 19 MA's), (70, 24502), (92, 24622), (112, 24679), (141, 24847), (145, 24862),

Gene: LappelDuVide_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for LappelDuVide_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (115, 22761), (123, 22833),

Gene: LeMond_33 Start: 27312, Stop: 27806, Start Num: 52

Candidate Starts for LeMond_33:

(31, 27240), (Start: 52 @27312 has 226 MA's), (70, 27375), (73, 27387), (86, 27435), (89, 27495), (104, 27564), (114, 27597), (116, 27612), (120, 27642), (133, 27729),

Gene: Lemur_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for Lemur_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (123, 22833),

Gene: Lennon_44 Start: 40321, Stop: 40770, Start Num: 52

Candidate Starts for Lennon_44:

(23, 40225), (Start: 52 @40321 has 226 MA's), (63, 40363), (68, 40378), (71, 40390), (85, 40441), (107, 40543), (131, 40666), (138, 40702), (147, 40753),

Gene: LeoAvram_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for LeoAvram_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698),

Gene: LilHam_42 Start: 38211, Stop: 38657, Start Num: 52

Candidate Starts for LilHam_42:

(5, 37953), (10, 38004), (23, 38109), (28, 38124), (Start: 52 @38211 has 226 MA's), (63, 38253), (68, 38268), (71, 38280), (107, 38433), (138, 38592), (147, 38640),

Gene: Lilbeanie_43 Start: 34683, Stop: 35099, Start Num: 58

Candidate Starts for Lilbeanie_43:

(31, 34599), (49, 34656), (Start: 58 @34683 has 1 MA's), (80, 34767), (99, 34878), (121, 34962), (134, 35040), (140, 35082),

Gene: LittleB_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for LittleB_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: LittleGuy_30 Start: 22461, Stop: 22889, Start Num: 52

Candidate Starts for LittleGuy_30:

(Start: 52 @22461 has 226 MA's), (70, 22521), (76, 22542), (86, 22581), (93, 22644),

Gene: LochMonster_30 Start: 22490, Stop: 22918, Start Num: 52

Candidate Starts for LochMonster_30:

(Start: 52 @22490 has 226 MA's), (63, 22529), (70, 22550), (76, 22571), (85, 22607), (86, 22610), (123, 22808),

Gene: Lollipop1437_57 Start: 41155, Stop: 41583, Start Num: 55

Candidate Starts for Lollipop1437_57:

(32, 41074), (Start: 55 @41155 has 37 MA's), (81, 41245), (83, 41254), (90, 41326), (136, 41524),

Gene: Lorenzo_30 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for Lorenzo_30:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Loser_34 Start: 24594, Stop: 25022, Start Num: 52
Candidate Starts for Loser_34:
(Start: 52 @24594 has 226 MA's), (72, 24663), (90, 24768), (112, 24831), (125, 24918),

Gene: Love_48 Start: 40769, Stop: 41218, Start Num: 52
Candidate Starts for Love_48:
(23, 40670), (Start: 52 @40769 has 226 MA's), (63, 40811), (68, 40826), (71, 40838), (107, 40991),
(131, 41114), (138, 41150), (147, 41201),

Gene: Lunsford_31 Start: 22515, Stop: 22943, Start Num: 52
Candidate Starts for Lunsford_31:
(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (123, 22833),

Gene: Madeline_24 Start: 22197, Stop: 22610, Start Num: 53
Candidate Starts for Madeline_24:
(1, 21927), (18, 22086), (38, 22176), (Start: 53 @22197 has 19 MA's), (74, 22272), (77, 22281), (87,
22326), (94, 22389), (128, 22536),

Gene: Marcoliusprime_32 Start: 26906, Stop: 27397, Start Num: 52
Candidate Starts for Marcoliusprime_32:
(Start: 52 @26906 has 226 MA's), (69, 26963), (74, 26981), (88, 27038), (110, 27173), (117, 27203),
(120, 27230), (122, 27254), (131, 27308), (134, 27317),

Gene: Marietta_53 Start: 37025, Stop: 37453, Start Num: 55
Candidate Starts for Marietta_53:
(45, 36992), (Start: 55 @37025 has 37 MA's), (90, 37196), (105, 37238), (129, 37364),

Gene: MarkPhew_34 Start: 27210, Stop: 27707, Start Num: 52
Candidate Starts for MarkPhew_34:
(6, 26973), (17, 27057), (19, 27087), (24, 27114), (35, 27156), (39, 27171), (Start: 52 @27210 has 226
MA's), (70, 27273), (86, 27333), (89, 27393), (96, 27438), (104, 27462), (114, 27495), (116, 27510),
(120, 27540),

Gene: Marshawn_35 Start: 27905, Stop: 28363, Start Num: 52
Candidate Starts for Marshawn_35:
(Start: 52 @27905 has 226 MA's), (60, 27926), (69, 27968), (72, 27980), (78, 27998), (90, 28097), (95,
28115), (108, 28148), (109, 28151), (125, 28259),

Gene: Maverick_30 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for Maverick_30:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Maxo_30 Start: 22516, Stop: 22944, Start Num: 52
Candidate Starts for Maxo_30:
(Start: 52 @22516 has 226 MA's), (70, 22576), (76, 22597), (86, 22636), (93, 22699),

Gene: Mazhar510_30 Start: 22519, Stop: 22947, Start Num: 52
Candidate Starts for Mazhar510_30:

(Start: 52 @22519 has 226 MA's), (70, 22579), (76, 22600), (86, 22639), (93, 22702), (123, 22837),

Gene: McKinley_46 Start: 40142, Stop: 40591, Start Num: 52

Candidate Starts for McKinley_46:

(23, 40043), (Start: 52 @40142 has 226 MA's), (63, 40184), (68, 40199), (71, 40211), (107, 40364), (131, 40487), (138, 40523), (147, 40574),

Gene: Medusa_30 Start: 22519, Stop: 22947, Start Num: 52

Candidate Starts for Medusa_30:

(Start: 52 @22519 has 226 MA's), (70, 22579), (76, 22600), (86, 22639), (93, 22702), (123, 22837),

Gene: MeeZee_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for MeeZee_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Melvin_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Melvin_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: MerCougar_53 Start: 40431, Stop: 40859, Start Num: 55

Candidate Starts for MerCougar_53:

(Start: 55 @40431 has 37 MA's), (90, 40602), (135, 40794), (136, 40800),

Gene: Meyran_26 Start: 23021, Stop: 23446, Start Num: 53

Candidate Starts for Meyran_26:

(Start: 53 @23021 has 19 MA's), (63, 23060), (68, 23075), (77, 23105), (103, 23237), (119, 23297),

Gene: Millski_29 Start: 22521, Stop: 22949, Start Num: 52

Candidate Starts for Millski_29:

(Start: 52 @22521 has 226 MA's), (70, 22581), (76, 22602), (86, 22641), (93, 22704), (123, 22839),

Gene: Milly_32 Start: 26879, Stop: 27370, Start Num: 52

Candidate Starts for Milly_32:

(Start: 52 @26879 has 226 MA's), (69, 26936), (74, 26954), (88, 27011), (110, 27146), (117, 27176), (120, 27203), (122, 27227), (131, 27281), (134, 27290),

Gene: Miramae_30 Start: 22464, Stop: 22889, Start Num: 52

Candidate Starts for Miramae_30:

(26, 22371), (29, 22380), (30, 22386), (Start: 52 @22464 has 226 MA's), (61, 22488), (65, 22509), (75, 22542), (85, 22581), (106, 22674), (112, 22698), (118, 22716), (130, 22800),

Gene: MoontowerMania_44 Start: 39977, Stop: 40426, Start Num: 52

Candidate Starts for MoontowerMania_44:

(23, 39878), (Start: 52 @39977 has 226 MA's), (63, 40019), (68, 40034), (71, 40046), (85, 40097), (107, 40199), (131, 40322), (138, 40358), (147, 40409),

Gene: Morpher26_30 Start: 22533, Stop: 22964, Start Num: 52

Candidate Starts for Morpher26_30:

(Start: 52 @22533 has 226 MA's), (63, 22572), (70, 22593), (79, 22623), (93, 22716), (121, 22806), (126, 22860), (141, 22938),

Gene: Morrow_30 Start: 22521, Stop: 22949, Start Num: 52

Candidate Starts for Morrow_30:

(Start: 52 @22521 has 226 MA's), (70, 22581), (76, 22602), (86, 22641), (93, 22704),

Gene: Mufasa_33 Start: 26987, Stop: 27478, Start Num: 52

Candidate Starts for Mufasa_33:

(Start: 52 @26987 has 226 MA's), (69, 27044), (74, 27062), (88, 27119), (110, 27254), (120, 27311), (131, 27389), (145, 27467),

Gene: Mundrea_30 Start: 22485, Stop: 22916, Start Num: 52

Candidate Starts for Mundrea_30:

(Start: 52 @22485 has 226 MA's), (63, 22524), (65, 22530), (101, 22683), (122, 22773),

Gene: NadineRae_51 Start: 36272, Stop: 36697, Start Num: 55

Candidate Starts for NadineRae_51:

(45, 36239), (Start: 55 @36272 has 37 MA's), (90, 36443), (105, 36485), (129, 36611),

Gene: NatB6_51 Start: 39225, Stop: 39650, Start Num: 55

Candidate Starts for NatB6_51:

(37, 39168), (42, 39189), (Start: 55 @39225 has 37 MA's), (90, 39396), (105, 39438),

Gene: Nebs_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for Nebs_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698),

Gene: Nemo27_30 Start: 22517, Stop: 22945, Start Num: 52

Candidate Starts for Nemo27_30:

(Start: 52 @22517 has 226 MA's), (70, 22577), (76, 22598), (86, 22637), (93, 22700), (123, 22835), (136, 22883),

Gene: Noelle_30 Start: 22590, Stop: 23024, Start Num: 52

Candidate Starts for Noelle_30:

(Start: 52 @22590 has 226 MA's), (Start: 58 @22602 has 1 MA's), (60, 22605), (63, 22629), (70, 22650), (93, 22773), (120, 22857), (125, 22914), (145, 23013),

Gene: Nordenberg_39 Start: 38962, Stop: 39411, Start Num: 52

Candidate Starts for Nordenberg_39:

(20, 38854), (23, 38863), (Start: 52 @38962 has 226 MA's), (63, 39004), (68, 39019), (71, 39031), (107, 39184), (131, 39307), (138, 39343), (147, 39394),

Gene: NorthStar_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for NorthStar_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: NosilaM_55 Start: 40126, Stop: 40554, Start Num: 55

Candidate Starts for NosilaM_55:

(Start: 55 @40126 has 37 MA's), (90, 40297), (136, 40495),

Gene: NotAPhaseMom_30 Start: 22522, Stop: 22950, Start Num: 52

Candidate Starts for NotAPhaseMom_30:

(Start: 52 @22522 has 226 MA's), (70, 22582), (76, 22603), (86, 22642), (93, 22705), (123, 22840),

Gene: NovumRegina_51 Start: 39534, Stop: 39959, Start Num: 55

Candidate Starts for NovumRegina_51:

(37, 39477), (42, 39498), (Start: 55 @39534 has 37 MA's), (90, 39705), (105, 39747),

Gene: Nyceirae_28 Start: 22758, Stop: 23174, Start Num: 53

Candidate Starts for Nyceirae_28:

(33, 22719), (38, 22731), (51, 22752), (Start: 53 @22758 has 19 MA's), (63, 22797), (67, 22809), (70, 22818), (77, 22842), (85, 22875), (94, 22950), (103, 22974),

Gene: Nymphadora_24 Start: 21899, Stop: 22312, Start Num: 53

Candidate Starts for Nymphadora_24:

(1, 21629), (15, 21755), (38, 21878), (Start: 53 @21899 has 19 MA's), (74, 21974), (77, 21983), (87, 22028), (94, 22091), (128, 22238),

Gene: Nyxis_30 Start: 22461, Stop: 22889, Start Num: 52

Candidate Starts for Nyxis_30:

(Start: 52 @22461 has 226 MA's), (70, 22521), (76, 22542), (86, 22581), (93, 22644),

Gene: OKCentral2016_31 Start: 22531, Stop: 22962, Start Num: 52

Candidate Starts for OKCentral2016_31:

(29, 22447), (Start: 52 @22531 has 226 MA's), (70, 22591), (71, 22597), (79, 22621), (118, 22786), (125, 22855),

Gene: OKaNui_31 Start: 22571, Stop: 22999, Start Num: 52

Candidate Starts for OKaNui_31:

(Start: 52 @22571 has 226 MA's), (70, 22631), (76, 22652), (86, 22691), (93, 22754), (123, 22889),

Gene: Obama12_31 Start: 22834, Stop: 23262, Start Num: 52

Candidate Starts for Obama12_31:

(Start: 52 @22834 has 226 MA's), (63, 22873), (70, 22894), (76, 22915), (86, 22954), (93, 23017), (123, 23152), (125, 23158),

Gene: Ohfah_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for Ohfah_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698),

Gene: Ohgeesy_24 Start: 21522, Stop: 21935, Start Num: 53

Candidate Starts for Ohgeesy_24:

(1, 21252), (18, 21411), (21, 21444), (38, 21501), (Start: 53 @21522 has 19 MA's), (74, 21597), (77, 21606), (87, 21651), (94, 21714), (128, 21861),

Gene: Oscar_33 Start: 27313, Stop: 27807, Start Num: 52

Candidate Starts for Oscar_33:

(31, 27241), (Start: 52 @27313 has 226 MA's), (70, 27376), (73, 27388), (86, 27436), (89, 27496), (104, 27565), (114, 27598), (116, 27613), (120, 27643), (133, 27730),

Gene: Outis_53 Start: 40125, Stop: 40553, Start Num: 55

Candidate Starts for Outis_53:

(Start: 55 @40125 has 37 MA's), (90, 40296), (135, 40488), (136, 40494),

Gene: Palestino_29 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Palestino_29:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Paries_47 Start: 40431, Stop: 40880, Start Num: 52

Candidate Starts for Paries_47:

(20, 40323), (23, 40332), (Start: 52 @40431 has 226 MA's), (63, 40473), (68, 40488), (71, 40500), (85, 40551), (107, 40653), (131, 40776), (138, 40812), (147, 40863),

Gene: Patio_55 Start: 40391, Stop: 40819, Start Num: 55

Candidate Starts for Patio_55:

(Start: 55 @40391 has 37 MA's), (81, 40481), (83, 40490), (90, 40562), (136, 40760),

Gene: PeaceMeal1_30 Start: 20965, Stop: 21393, Start Num: 52

Candidate Starts for PeaceMeal1_30:

(Start: 52 @20965 has 226 MA's), (63, 21004), (65, 21010), (71, 21031), (79, 21055), (93, 21148), (142, 21373),

Gene: Peaches_30 Start: 22517, Stop: 22945, Start Num: 52

Candidate Starts for Peaches_30:

(Start: 52 @22517 has 226 MA's), (70, 22577), (76, 22598), (86, 22637), (93, 22700), (123, 22835),

Gene: Perplexer_30 Start: 22530, Stop: 22961, Start Num: 52

Candidate Starts for Perplexer_30:

(Start: 52 @22530 has 226 MA's), (63, 22569), (70, 22590), (79, 22620), (93, 22713), (121, 22803), (126, 22857), (141, 22935),

Gene: PeterPeter_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for PeterPeter_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: PetiteSangsue_30 Start: 22533, Stop: 22964, Start Num: 52

Candidate Starts for PetiteSangsue_30:

(Start: 52 @22533 has 226 MA's), (63, 22572), (70, 22593), (79, 22623), (93, 22716), (121, 22806), (126, 22860), (141, 22938),

Gene: Phacado_30 Start: 22517, Stop: 22945, Start Num: 52

Candidate Starts for Phacado_30:

(Start: 52 @22517 has 226 MA's), (70, 22577), (76, 22598), (86, 22637), (93, 22700), (123, 22835), (136, 22883),

Gene: Phaded_34 Start: 24786, Stop: 25220, Start Num: 52

Candidate Starts for Phaded_34:

(Start: 52 @24786 has 226 MA's), (Start: 53 @24789 has 19 MA's), (70, 24849), (83, 24897), (92, 24969), (112, 25026), (141, 25194), (145, 25209),

Gene: Phelipe_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Phelipe_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Phighter1804_30 Start: 22493, Stop: 22921, Start Num: 52

Candidate Starts for Phighter1804_30:

(Start: 52 @22493 has 226 MA's), (63, 22532), (70, 22553), (76, 22574), (85, 22610), (86, 22613), (123, 22811),

Gene: Phomeo_50 Start: 39803, Stop: 40228, Start Num: 55

Candidate Starts for Phomeo_50:

(37, 39746), (42, 39767), (Start: 55 @39803 has 37 MA's), (90, 39974), (105, 40016),

Gene: Phontbonne_30 Start: 22462, Stop: 22890, Start Num: 52
Candidate Starts for Phontbonne_30:
(Start: 52 @22462 has 226 MA's), (70, 22522), (76, 22543), (86, 22582), (93, 22645),

Gene: Pipcraft_30 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for Pipcraft_30:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Pleakley_59 Start: 39332, Stop: 39745, Start Num: 55
Candidate Starts for Pleakley_59:
(47, 39305), (Start: 55 @39332 has 37 MA's), (81, 39422), (83, 39431), (90, 39503), (105, 39545),
(119, 39599), (129, 39671), (136, 39701),

Gene: Polly_23 Start: 21339, Stop: 21752, Start Num: 53
Candidate Starts for Polly_23:
(3, 21093), (4, 21096), (11, 21168), (15, 21195), (24, 21270), (38, 21318), (Start: 53 @21339 has 19
MA's), (74, 21414), (77, 21423), (128, 21678), (134, 21696),

Gene: Polymorphads_30 Start: 22515, Stop: 22943, Start Num: 52
Candidate Starts for Polymorphads_30:
(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698),

Gene: Poompha_30 Start: 20963, Stop: 21391, Start Num: 52
Candidate Starts for Poompha_30:
(Start: 52 @20963 has 226 MA's), (63, 21002), (65, 21008), (71, 21029), (79, 21053), (93, 21146),
(142, 21371),

Gene: Pumbaa_30 Start: 22493, Stop: 22921, Start Num: 52
Candidate Starts for Pumbaa_30:
(Start: 52 @22493 has 226 MA's), (70, 22553), (76, 22574), (86, 22613), (93, 22676), (123, 22811),
(125, 22817),

Gene: Rebeuca_32 Start: 23029, Stop: 23460, Start Num: 52
Candidate Starts for Rebeuca_32:
(30, 22951), (35, 22972), (Start: 52 @23029 has 226 MA's), (63, 23068), (92, 23209), (93, 23212),
(118, 23284), (125, 23353), (133, 23377),

Gene: RedRock_34 Start: 24752, Stop: 25180, Start Num: 52
Candidate Starts for RedRock_34:
(Start: 52 @24752 has 226 MA's), (72, 24821), (90, 24926), (112, 24989), (125, 25076), (133, 25097),

Gene: Refuge_34 Start: 25756, Stop: 26211, Start Num: 52
Candidate Starts for Refuge_34:
(Start: 52 @25756 has 226 MA's), (56, 25768), (60, 25774), (63, 25798), (69, 25816), (70, 25819), (92,
25939), (93, 25942), (112, 25996), (122, 26050), (146, 26188),

Gene: Relief_30 Start: 22516, Stop: 22944, Start Num: 52
Candidate Starts for Relief_30:
(Start: 52 @22516 has 226 MA's), (70, 22576), (76, 22597), (86, 22636), (93, 22699), (123, 22834),

Gene: RhynO_32 Start: 23010, Stop: 23441, Start Num: 52
Candidate Starts for RhynO_32:
(Start: 52 @23010 has 226 MA's), (70, 23070), (93, 23193), (125, 23334), (133, 23358),

Gene: Ribeye_45 Start: 40042, Stop: 40488, Start Num: 52

Candidate Starts for Ribeye_45:

(5, 39784), (10, 39835), (23, 39940), (28, 39955), (Start: 52 @40042 has 226 MA's), (63, 40084), (68, 40099), (71, 40111), (107, 40264), (138, 40423), (147, 40471),

Gene: Rofo_45 Start: 39757, Stop: 40206, Start Num: 52

Candidate Starts for Rofo_45:

(20, 39649), (23, 39658), (Start: 52 @39757 has 226 MA's), (63, 39799), (68, 39814), (71, 39826), (107, 39979), (131, 40102), (138, 40138), (147, 40189),

Gene: Romney_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Romney_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Ronaldo_66 Start: 36367, Stop: 36756, Start Num: 54

Candidate Starts for Ronaldo_66:

(Start: 54 @36367 has 6 MA's), (63, 36403), (84, 36475), (103, 36580), (113, 36616), (122, 36658), (125, 36691),

Gene: Roosevelt_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Roosevelt_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Rosa24_29 Start: 22493, Stop: 22921, Start Num: 52

Candidate Starts for Rosa24_29:

(Start: 52 @22493 has 226 MA's), (63, 22532), (70, 22553), (76, 22574), (85, 22610), (86, 22613), (123, 22811),

Gene: Rowdy_35 Start: 22921, Stop: 23352, Start Num: 52

Candidate Starts for Rowdy_35:

(Start: 52 @22921 has 226 MA's), (70, 22981), (93, 23104), (125, 23245), (133, 23269),

Gene: Ruin_30 Start: 22514, Stop: 22942, Start Num: 52

Candidate Starts for Ruin_30:

(Start: 52 @22514 has 226 MA's), (70, 22574), (76, 22595), (86, 22634), (93, 22697), (123, 22832), (136, 22880),

Gene: Sabertooth_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for Sabertooth_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (123, 22833),

Gene: Sanjuju_43 Start: 40371, Stop: 40820, Start Num: 52

Candidate Starts for Sanjuju_43:

(20, 40263), (23, 40272), (Start: 52 @40371 has 226 MA's), (63, 40413), (68, 40428), (71, 40440), (107, 40593), (131, 40716), (138, 40752), (147, 40803),

Gene: Sapo_22 Start: 19503, Stop: 19937, Start Num: 50

Candidate Starts for Sapo_22:

(Start: 50 @19503 has 1 MA's), (68, 19560), (102, 19713), (137, 19872),

Gene: Saronaya_44 Start: 38884, Stop: 39330, Start Num: 52

Candidate Starts for Saronaya_44:

(10, 38677), (23, 38782), (28, 38797), (Start: 52 @38884 has 226 MA's), (63, 38926), (68, 38941), (71, 38953), (107, 39106), (138, 39265), (147, 39313),

Gene: Scamp_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Scamp_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Scarlett_33 Start: 27314, Stop: 27808, Start Num: 52

Candidate Starts for Scarlett_33:

(31, 27242), (Start: 52 @27314 has 226 MA's), (70, 27377), (73, 27389), (86, 27437), (89, 27497), (104, 27566), (114, 27599), (116, 27614), (120, 27644), (133, 27731),

Gene: SchottB_43 Start: 39884, Stop: 40330, Start Num: 52

Candidate Starts for SchottB_43:

(5, 39626), (10, 39677), (23, 39782), (28, 39797), (Start: 52 @39884 has 226 MA's), (63, 39926), (68, 39941), (71, 39953), (107, 40106), (138, 40265), (147, 40313),

Gene: Severus_30 Start: 20963, Stop: 21391, Start Num: 52

Candidate Starts for Severus_30:

(Start: 52 @20963 has 226 MA's), (63, 21002), (71, 21029), (79, 21053), (93, 21146), (142, 21371),

Gene: Shaka_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Shaka_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836), (125, 22842),

Gene: Shapes_35 Start: 22921, Stop: 23352, Start Num: 52

Candidate Starts for Shapes_35:

(Start: 52 @22921 has 226 MA's), (70, 22981), (93, 23104), (125, 23245), (133, 23269),

Gene: SheldonCooper_31 Start: 22833, Stop: 23261, Start Num: 52

Candidate Starts for SheldonCooper_31:

(Start: 52 @22833 has 226 MA's), (63, 22872), (70, 22893), (76, 22914), (86, 22953), (93, 23016), (123, 23151), (125, 23157),

Gene: Shivanishola_44 Start: 38638, Stop: 39087, Start Num: 52

Candidate Starts for Shivanishola_44:

(23, 38539), (Start: 52 @38638 has 226 MA's), (63, 38680), (68, 38695), (71, 38707), (85, 38758), (107, 38860), (131, 38983), (138, 39019), (147, 39070),

Gene: Shygu2_30 Start: 22524, Stop: 22955, Start Num: 52

Candidate Starts for Shygu2_30:

(Start: 52 @22524 has 226 MA's), (63, 22563), (70, 22584), (79, 22614), (93, 22707), (121, 22797), (126, 22851), (141, 22929),

Gene: Sitar_44 Start: 40321, Stop: 40770, Start Num: 52

Candidate Starts for Sitar_44:

(23, 40225), (Start: 52 @40321 has 226 MA's), (63, 40363), (68, 40378), (71, 40390), (85, 40441), (107, 40543), (131, 40666), (138, 40702), (147, 40753),

Gene: Skipitt_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for Skipitt_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (115, 22761), (123, 22833),

Gene: Skysand_54 Start: 40611, Stop: 41039, Start Num: 55

Candidate Starts for Skysand_54:

(Start: 55 @40611 has 37 MA's), (81, 40701), (83, 40710), (136, 40980),

Gene: Sparxx_30 Start: 22516, Stop: 22944, Start Num: 52

Candidate Starts for Sparxx_30:

(Start: 52 @22516 has 226 MA's), (70, 22576), (76, 22597), (86, 22636), (93, 22699), (123, 22834),

Gene: Spino_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Spino_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: StarStruck_53 Start: 40125, Stop: 40553, Start Num: 55

Candidate Starts for StarStruck_53:

(Start: 55 @40125 has 37 MA's), (90, 40296), (135, 40488), (136, 40494),

Gene: Stasia_31 Start: 22953, Stop: 23387, Start Num: 52

Candidate Starts for Stasia_31:

(39, 22911), (Start: 52 @22953 has 226 MA's), (70, 23013), (93, 23136), (120, 23220), (125, 23277), (145, 23376),

Gene: Steamy_32 Start: 23901, Stop: 24398, Start Num: 52

Candidate Starts for Steamy_32:

(Start: 52 @23901 has 226 MA's), (63, 23946), (78, 23994), (85, 24024), (89, 24087), (104, 24156), (106, 24159),

Gene: Stink_31 Start: 22801, Stop: 23226, Start Num: 52

Candidate Starts for Stink_31:

(26, 22708), (29, 22717), (Start: 52 @22801 has 226 MA's), (61, 22825), (75, 22879), (85, 22918), (106, 23011), (112, 23035), (118, 23053), (130, 23137),

Gene: StorminNorm_44 Start: 38975, Stop: 39421, Start Num: 52

Candidate Starts for StorminNorm_44:

(2, 38687), (14, 38798), (23, 38873), (Start: 52 @38975 has 226 MA's), (63, 39017), (68, 39032), (71, 39044), (107, 39197), (138, 39356), (147, 39404),

Gene: Strobilo_32 Start: 26879, Stop: 27370, Start Num: 52

Candidate Starts for Strobilo_32:

(Start: 52 @26879 has 226 MA's), (69, 26936), (74, 26954), (88, 27011), (110, 27146), (117, 27176), (120, 27203), (122, 27227), (131, 27281), (134, 27290),

Gene: Stultus_43 Start: 39274, Stop: 39723, Start Num: 52

Candidate Starts for Stultus_43:

(23, 39175), (Start: 52 @39274 has 226 MA's), (63, 39316), (68, 39331), (71, 39343), (107, 39496), (131, 39619), (138, 39655), (147, 39706),

Gene: Sukkupi_52 Start: 38578, Stop: 39006, Start Num: 55

Candidate Starts for Sukkupi_52:

(40, 38533), (41, 38536), (45, 38545), (Start: 55 @38578 has 37 MA's), (90, 38749), (105, 38791), (129, 38917), (135, 38941),

Gene: SuperSulley_53 Start: 40293, Stop: 40721, Start Num: 55

Candidate Starts for SuperSulley_53:

(Start: 55 @40293 has 37 MA's), (90, 40464), (136, 40662),

Gene: TM4_34 Start: 27085, Stop: 27576, Start Num: 52

Candidate Starts for TM4_34:

(7, 26857), (Start: 52 @27085 has 226 MA's), (69, 27142), (74, 27160), (88, 27217), (110, 27352), (120, 27409), (122, 27433), (131, 27487), (145, 27565),

Gene: Tangent_45 Start: 39348, Stop: 39797, Start Num: 52

Candidate Starts for Tangent_45:

(20, 39240), (23, 39249), (Start: 52 @39348 has 226 MA's), (63, 39390), (68, 39405), (71, 39417), (107, 39570), (131, 39693), (138, 39729), (147, 39780),

Gene: Tangerine_44 Start: 38756, Stop: 39202, Start Num: 52

Candidate Starts for Tangerine_44:

(5, 38498), (10, 38549), (23, 38654), (28, 38669), (Start: 52 @38756 has 226 MA's), (63, 38798), (68, 38813), (71, 38825), (107, 38978), (138, 39137), (147, 39185),

Gene: Taquarus_30 Start: 22521, Stop: 22949, Start Num: 52

Candidate Starts for Taquarus_30:

(Start: 52 @22521 has 226 MA's), (70, 22581), (76, 22602), (86, 22641), (93, 22704), (123, 22839),

Gene: Thanksgivukkah_30 Start: 22519, Stop: 22947, Start Num: 52

Candidate Starts for Thanksgivukkah_30:

(Start: 52 @22519 has 226 MA's), (63, 22558), (70, 22579), (76, 22600), (85, 22636), (86, 22639), (123, 22837),

Gene: ThankyouJordi_23 Start: 21874, Stop: 22287, Start Num: 53

Candidate Starts for ThankyouJordi_23:

(3, 21628), (8, 21676), (11, 21703), (24, 21805), (38, 21853), (Start: 53 @21874 has 19 MA's), (74, 21949), (77, 21958), (87, 22003), (128, 22213),

Gene: Thing3_42 Start: 38577, Stop: 39026, Start Num: 52

Candidate Starts for Thing3_42:

(23, 38478), (Start: 52 @38577 has 226 MA's), (63, 38619), (68, 38634), (71, 38646), (107, 38799), (131, 38922), (138, 38958), (147, 39009),

Gene: TimTam_24 Start: 21899, Stop: 22312, Start Num: 53

Candidate Starts for TimTam_24:

(1, 21629), (15, 21755), (38, 21878), (Start: 53 @21899 has 19 MA's), (74, 21974), (77, 21983), (87, 22028), (94, 22091), (128, 22238),

Gene: Timshel_31 Start: 25553, Stop: 25981, Start Num: 52

Candidate Starts for Timshel_31:

(Start: 52 @25553 has 226 MA's), (69, 25610), (72, 25622), (79, 25643), (106, 25763), (111, 25784), (121, 25823), (122, 25841), (125, 25874), (134, 25907),

Gene: TinaFeyge_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for TinaFeyge_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (123, 22833),

Gene: Tinybot_29 Start: 22495, Stop: 22923, Start Num: 52
Candidate Starts for Tinybot_29:
(Start: 52 @22495 has 226 MA's), (63, 22534), (70, 22555), (76, 22576), (85, 22612), (86, 22615),
(123, 22813),

Gene: TiroTheta9_30 Start: 22515, Stop: 22943, Start Num: 52
Candidate Starts for TiroTheta9_30:
(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (123, 22833),

Gene: Topanga_31 Start: 22953, Stop: 23384, Start Num: 52
Candidate Starts for Topanga_31:
(Start: 52 @22953 has 226 MA's), (63, 22992), (70, 23013), (71, 23019), (93, 23136), (141, 23358),

Gene: Tracker_51 Start: 38952, Stop: 39377, Start Num: 55
Candidate Starts for Tracker_51:
(37, 38895), (42, 38916), (Start: 55 @38952 has 37 MA's), (90, 39123), (105, 39165),

Gene: Trike_29 Start: 20971, Stop: 21399, Start Num: 52
Candidate Starts for Trike_29:
(Start: 52 @20971 has 226 MA's), (63, 21010), (71, 21037), (79, 21061), (93, 21154), (142, 21379),

Gene: TroyPia_30 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for TroyPia_30:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Turuncu_56 Start: 40541, Stop: 40978, Start Num: 55
Candidate Starts for Turuncu_56:
(32, 40457), (34, 40472), (44, 40502), (47, 40511), (Start: 55 @40541 has 37 MA's), (81, 40631), (90,
40712), (105, 40754), (120, 40814), (136, 40910),

Gene: Twister_31 Start: 22862, Stop: 23293, Start Num: 52
Candidate Starts for Twister_31:
(30, 22784), (35, 22805), (Start: 52 @22862 has 226 MA's), (63, 22901), (92, 23042), (93, 23045),
(118, 23117), (125, 23186), (133, 23210),

Gene: Tycho_44 Start: 38843, Stop: 39289, Start Num: 52
Candidate Starts for Tycho_44:
(2, 38555), (14, 38666), (23, 38741), (28, 38756), (Start: 52 @38843 has 226 MA's), (63, 38885), (68,
38900), (71, 38912), (107, 39065), (138, 39224), (147, 39272),

Gene: TygerBlood_30 Start: 22518, Stop: 22946, Start Num: 52
Candidate Starts for TygerBlood_30:
(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Ulysses_29 Start: 22236, Stop: 22664, Start Num: 52
Candidate Starts for Ulysses_29:
(Start: 52 @22236 has 226 MA's), (63, 22275), (70, 22296), (76, 22317), (85, 22353), (86, 22356),
(123, 22554),

Gene: VanLee_31 Start: 26056, Stop: 26493, Start Num: 53
Candidate Starts for VanLee_31:
(16, 25918), (36, 26029), (Start: 53 @26056 has 19 MA's), (63, 26095), (68, 26110), (70, 26116), (77,
26140), (91, 26239), (103, 26272), (145, 26482),

Gene: Vivi2_47 Start: 40374, Stop: 40823, Start Num: 52

Candidate Starts for Vivi2_47:

(23, 40275), (Start: 52 @40374 has 226 MA's), (63, 40416), (68, 40431), (71, 40443), (107, 40596), (131, 40719), (138, 40755), (147, 40806),

Gene: Volt_66 Start: 36531, Stop: 36920, Start Num: 54

Candidate Starts for Volt_66:

(Start: 54 @36531 has 6 MA's), (63, 36567), (84, 36639), (103, 36744), (113, 36780), (122, 36822), (125, 36855),

Gene: Vordorf_27 Start: 22487, Stop: 22912, Start Num: 53

Candidate Starts for Vordorf_27:

(Start: 53 @22487 has 19 MA's), (63, 22526), (68, 22541), (77, 22571), (103, 22703), (119, 22763),

Gene: WalterMcMickey_31 Start: 22862, Stop: 23293, Start Num: 52

Candidate Starts for WalterMcMickey_31:

(30, 22784), (35, 22805), (Start: 52 @22862 has 226 MA's), (63, 22901), (92, 23042), (93, 23045), (118, 23117), (125, 23186), (133, 23210),

Gene: Wander_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Wander_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: WelcomeAyanna_23 Start: 21874, Stop: 22287, Start Num: 53

Candidate Starts for WelcomeAyanna_23:

(3, 21628), (8, 21676), (11, 21703), (24, 21805), (38, 21853), (Start: 53 @21874 has 19 MA's), (74, 21949), (77, 21958), (87, 22003), (128, 22213),

Gene: Wheezy_51 Start: 39157, Stop: 39582, Start Num: 55

Candidate Starts for Wheezy_51:

(37, 39100), (42, 39121), (Start: 55 @39157 has 37 MA's), (90, 39328), (105, 39370),

Gene: WhoseManz_52 Start: 36638, Stop: 37066, Start Num: 55

Candidate Starts for WhoseManz_52:

(45, 36605), (Start: 55 @36638 has 37 MA's), (90, 36809), (105, 36851), (129, 36977),

Gene: Wilbur_30 Start: 22518, Stop: 22946, Start Num: 52

Candidate Starts for Wilbur_30:

(Start: 52 @22518 has 226 MA's), (70, 22578), (76, 22599), (86, 22638), (93, 22701), (123, 22836),

Gene: Wile_30 Start: 22543, Stop: 22974, Start Num: 52

Candidate Starts for Wile_30:

(Start: 52 @22543 has 226 MA's), (63, 22582), (70, 22603), (79, 22633), (93, 22726), (121, 22816), (126, 22870), (141, 22948),

Gene: Wizard007_30 Start: 22520, Stop: 22948, Start Num: 52

Candidate Starts for Wizard007_30:

(Start: 52 @22520 has 226 MA's), (70, 22580), (76, 22601), (86, 22640), (93, 22703), (123, 22838),

Gene: Xena_30 Start: 22530, Stop: 22961, Start Num: 52

Candidate Starts for Xena_30:

(Start: 52 @22530 has 226 MA's), (63, 22569), (70, 22590), (79, 22620), (93, 22713), (121, 22803), (126, 22857), (141, 22935),

Gene: Yndexa_52 Start: 38578, Stop: 39006, Start Num: 55

Candidate Starts for Yndexa_52:

(40, 38533), (41, 38536), (45, 38545), (Start: 55 @38578 has 37 MA's), (90, 38749), (105, 38791), (129, 38917), (135, 38941),

Gene: YoSam321_30 Start: 22515, Stop: 22943, Start Num: 52

Candidate Starts for YoSam321_30:

(Start: 52 @22515 has 226 MA's), (70, 22575), (76, 22596), (86, 22635), (93, 22698), (123, 22833),

Gene: YorkOnyx_45 Start: 39100, Stop: 39546, Start Num: 52

Candidate Starts for YorkOnyx_45:

(10, 38893), (23, 38998), (28, 39013), (Start: 52 @39100 has 226 MA's), (63, 39142), (68, 39157), (71, 39169), (107, 39322), (138, 39481), (147, 39529),

Gene: Ziko_66 Start: 36353, Stop: 36742, Start Num: 54

Candidate Starts for Ziko_66:

(Start: 54 @36353 has 6 MA's), (63, 36389), (84, 36461), (103, 36566), (113, 36602), (122, 36644), (125, 36677),

Gene: Zirinka_24 Start: 21911, Stop: 22324, Start Num: 53

Candidate Starts for Zirinka_24:

(1, 21641), (18, 21800), (38, 21890), (Start: 53 @21911 has 19 MA's), (74, 21986), (77, 21995), (87, 22040), (94, 22103), (128, 22250),

Gene: ZoeJ_32 Start: 26884, Stop: 27375, Start Num: 52

Candidate Starts for ZoeJ_32:

(Start: 52 @26884 has 226 MA's), (69, 26941), (74, 26959), (88, 27016), (110, 27151), (120, 27208), (122, 27232), (131, 27286), (145, 27364),