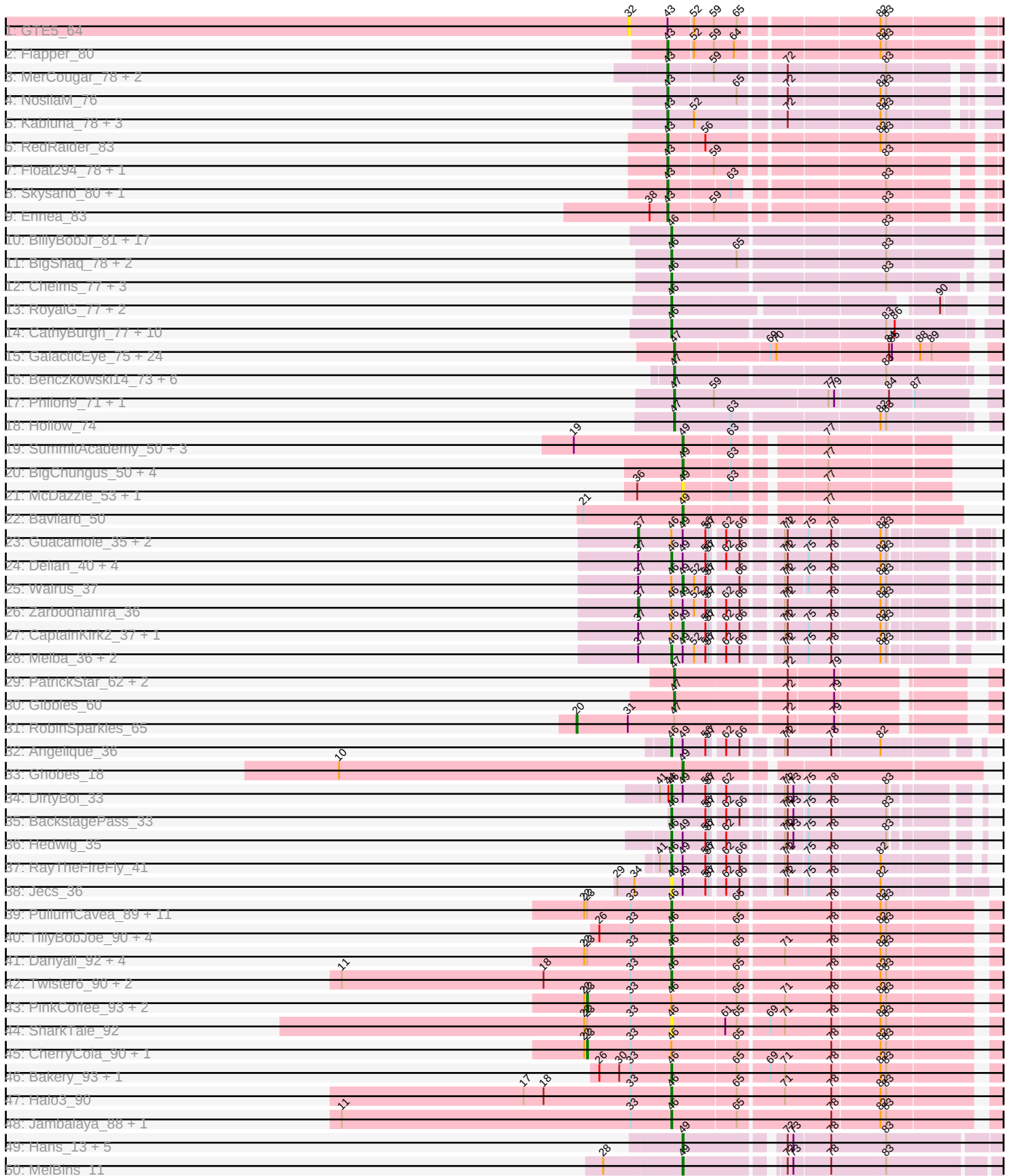
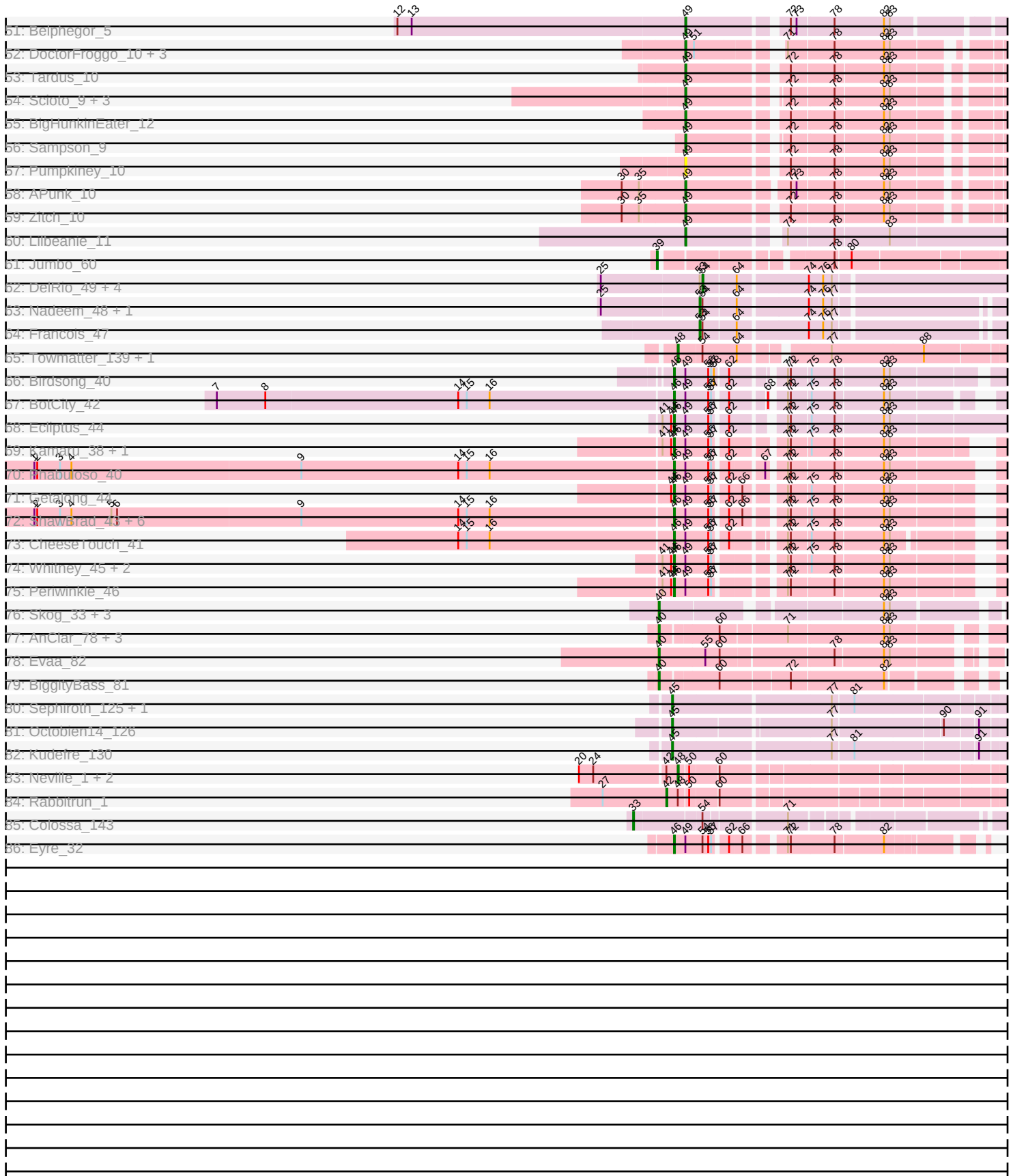






Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly 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 328646 Report

This analysis was run 09/05/26 on database version 662.

Pham number 328646 has 238 members, 16 are drafts.

Phages represented in each track:

- Track 1 : GTE5_64
- Track 2 : Flapper_80
- Track 3 : MerCougar_78, Outis_76, StarStruck_76
- Track 4 : NosilaM_76
- Track 5 : Kabluna_78, SuperSulley_77, Buggaboo_77, Bonum_79
- Track 6 : RedRaider_83
- Track 7 : Float294_78, Lollipop1437_79
- Track 8 : Skysand_80, Patio_78
- Track 9 : Ennea_83
- Track 10 : BillyBobJr_81, Sombrero_78, BirksAndSocks_81, Butterball_79, Sam12_76, Adgers_80, Exiguo_76, Gorko_76, Poland_81, Beaver_80, Jellybones_78, FelixAlejandro_81, Msay19_81, Worcestershire_76, Squibbles_76, Boneham_80, CinnamonToast_81, RemRem_78
- Track 11 : BigShaq_78, BenoitCattle_77, Cr te_77
- Track 12 : Chelms_77, Dakiti_78, Linetti_77, PierreThree_76
- Track 13 : RoyalG_77, Diabla_82, SteveFrench_76
- Track 14 : CathyBurgh_77, Barbochs_74, Kelzog_78, GourdThymes_77, Monty_76, Hotorobo_77, Breezic_77, John316_80, Flakey_76, Ekhein_77, Lizzo_77
- Track 15 : GalacticEye_75, Berries_75, Hello_74, Guillaume_74, Damp_75, Charianelly_75, MrWormie_75, Minos_76, Hail2Pitt_73, Kaseim_75, Newt_76, Lidong_75, Bianmat_75, Teal_74, Luker_76, Jams_75, Jormungandr_74, Woes_74, Nimi13_74, Sticker17_75, Harambe_74, Anamika_74, Lahirium_74, Neoevie_74, Shelley_75
- Track 16 : Benczkowski14_73, Niagara_73, Kvothe_72, Tredge_73, Katyusha_72, Teech_74, Teatealatte_74
- Track 17 : Philon9_71, Vitaenoi_71
- Track 18 : Hollow_74
- Track 19 : SummitAcademy_50, CocoaPuff_51, PotPie_50, Balloona_50
- Track 20 : BigChungus_50, Yucky_53, Vine_53, Feastonyeet_50, SheckWes_54
- Track 21 : McDazzle_53, ElJefes_52
- Track 22 : Bavidard_50
- Track 23 : Guacamole_35, Hitter_38, MintFen_37
- Track 24 : Delian_40, Mellie_34, JasperJr_35, Obliviate_33, PhrostedPhlake_40
- Track 25 : Walrus_37
- Track 26 : Zarbodnamra_36
- Track 27 : CaptainKirk2_37, UmaThurman_32
- Track 28 : Melba_36, BlingBling_34, Archis_40

- Track 29 : PatrickStar_62, Orchid_61, Kampe_62
- Track 30 : Gibbles_60
- Track 31 : RobinSparkles_65
- Track 32 : Angelique_36
- Track 33 : Ghobes_18
- Track 34 : DirtyBoi_33
- Track 35 : BackstagePass_33
- Track 36 : Hedwig_35
- Track 37 : RayTheFireFly_41
- Track 38 : Jecs_36
- Track 39 : PullumCavea_89, Wizard_86, Fireball_94, Arri_91, Gezellig_87, Phlop_88, KimmyK_89, Valary_92, Portcullis_91, Shinji_90, JohnPork_92, Sendy_93
- Track 40 : TillyBobJoe_90, SmokingBunny_92, Salvador_91, Evamon_91, Togo_91
- Track 41 : Danyall_92, YungMoney_91, Nubi_94, Mutzi_91, Barb_95
- Track 42 : Twister6_90, VanDeWege_93, RogerDodger_94
- Track 43 : PinkCoffee_93, CoveyB_93, ClamChowder_94
- Track 44 : SharkTale_92
- Track 45 : CherryCola_90, Egi03_89
- Track 46 : Bakery_93, Sixsevenium_90
- Track 47 : Halo3_90
- Track 48 : Jambalaya_88, Savbucketdawg_86
- Track 49 : Hans_13, Phauci_4, Phinally_11, Leonard_11, Inspectinfecti_12, Ali17_9
- Track 50 : MelBins_11
- Track 51 : Belphegor_5
- Track 52 : DoctorFroggo_10, Verity_10, Zipp_10, Delrey21_10
- Track 53 : Tardus_10
- Track 54 : Scioto_9, Natkenzie_9, Abblin_9, ViaConlectus_9
- Track 55 : BigHunkinEater_12
- Track 56 : Sampson_9
- Track 57 : Pumpkiney_10
- Track 58 : APunk_10
- Track 59 : Zitch_10
- Track 60 : Lilbeanie_11
- Track 61 : Jumbo_60
- Track 62 : DelRio_49, GrandSlam_48, Hamood_48, Chop_48, Parada_48
- Track 63 : Nadeem_48, Ayotoya_48
- Track 64 : Francois_47
- Track 65 : Towmatter_139, Daredevil_142
- Track 66 : Birdsong_40
- Track 67 : BotCity_42
- Track 68 : Ecliptus_44
- Track 69 : Kamaru_38, LitninMcQueen_37
- Track 70 : Phabuloso_40
- Track 71 : Getalong_44
- Track 72 : ShawBrad_43, Frickyeah_43, Holliday_42, Phistory_43, Crater_40, Lutum_43, Kenna_42
- Track 73 : CheeseTouch_41
- Track 74 : Whitney_45, BENtherdunthat_42, Budski_42
- Track 75 : Periwinkle_46
- Track 76 : Skog_33, CherryTomatoes_206, Pupper_204, SCentae_203
- Track 77 : AnClar_78, Sisko_81, LittleMunchkin_81, Yago84_80
- Track 78 : Evaa_82
- Track 79 : BiggityBass_81

- Track 80 : Sephiroth_125, Syleon_130
- Track 81 : Octobien14_126
- Track 82 : Kudefre_130
- Track 83 : Neville_1, LilJank_1, Trax_1
- Track 84 : Rabbitrun_1
- Track 85 : Colossa_143
- Track 86 : Eyre_32

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

The start number called the most often in the published annotations is 46, it was called in 94 of the 222 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adgers_80, Angelique_36, Archis_40, Arri_91, BENTherdunthat_42, BackstagePass_33, Bakery_93, Barb_95, Barbochs_74, Beaver_80, BenoitCattle_77, BigShaq_78, BillyBobJr_81, Birdsong_40, BirksAndSocks_81, BlingBling_34, Boneham_80, BotCity_42, Breezic_77, Budski_42, Butterball_79, CathyBurgh_77, CheeseTouch_41, Chelms_77, CinnamonToast_81, Crater_40, Crete_77, Dakiti_78, Danyall_92, Delian_40, Diabla_82, DirtyBoi_33, Ecliptus_44, Ekhein_77, Evamon_91, Exiguo_76, Eyre_32, FelixAlejandro_81, Fireball_94, Flakey_76, Frickyeah_43, Getalong_44, Gezellig_87, Gorko_76, GourdThymes_77, Halo3_90, Hedwig_35, Holliday_42, Hotorobo_77, Jambalaya_88, JasperJr_35, Jecs_36, Jellybones_78, John316_80, JohnPork_92, Kamaru_38, Kelzog_78, Kenna_42, KimmyK_89, Linetti_77, LitninMcQueen_37, Lizzo_77, Lutum_43, Melba_36, Mellie_34, Monty_76, Msay19_81, Mutzi_91, Nubi_94, Obliviate_33, Periwinkle_46, Phabuloso_40, Phistory_43, Phlop_88, PhrostedPhlake_40, PierreThree_76, Poland_81, Portcullis_91, PullumCavea_89, RayTheFireFly_41, RemRem_78, RogerDodger_94, RoyalG_77, Salvador_91, Sam12_76, Savbucketdawg_86, Sendy_93, SharkTale_92, ShawBrad_43, Shinji_90, Sixsevenium_90, SmokingBunny_92, Sombrero_78, Squibbles_76, SteveFrench_76, TillyBobJoe_90, Togo_91, Twister6_90, Valary_92, VanDeWege_93, Whitney_45, Wizard_86, Worcestershire_76, YungMoney_91,

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

- CaptainKirk2_37, CherryCola_90, ClamChowder_94, CoveyB_93, Egi03_89, Guacamole_35, Hitter_38, MintFen_37, PinkCoffee_93, UmaThurman_32, Walrus_37, Zarbodnamra_36,

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

- APunk_10, Abblin_9, Ali17_9, AnClar_78, Anamika_74, Ayotoya_48, Balloona_50, Bavidard_50, Belphegor_5, Benczkowski14_73, Berries_75, Bianmat_75, BigChungus_50, BigHunkinEater_12, BiggityBass_81, Bonum_79, Buggaboo_77, Charianelly_75, CherryTomatoes_206, Chop_48, CocoaPuff_51, Colossa_143, Damp_75, Daredevil_142, DelRio_49, Delrey21_10, DoctorFroggo_10, ElJefes_52, Ennea_83, Evaa_82, Feastonyeet_50, Flapper_80, Float294_78, Francois_47, GTE5_64, GalacticEye_75, Ghobes_18, Gibbles_60, GrandSlam_48, Guillaume_74, Hail2Pitt_73, Hamood_48, Hans_13, Harambe_74, Hello_74, Hollow_74, Inspectinfecti_12, Jams_75, Jormungandr_74, Jumbo_60, Kabluna_78, Kampe_62, Kaseim_75, Katyusha_72, Kudefre_130, Kvothe_72, Lahirium_74, Leonard_11, Lidong_75, LilJank_1, Lilbeanie_11, LittleMunchkin_81, Lollipop1437_79, Luker_76,

McDazzle_53, MelBins_11, MerCougar_78, Minos_76, MrWormie_75, Nadeem_48, Natkenzie_9, Neoevie_74, Neville_1, Newt_76, Niagara_73, Nimi13_74, NosilaM_76, Octobien14_126, Orchid_61, Outis_76, Parada_48, Patio_78, PatrickStar_62, Phauci_4, Philon9_71, Phinally_11, PotPie_50, Pumpkiney_10, Pupper_204, Rabbitrun_1, RedRaider_83, RobinSparkles_65, SCentae_203, Sampson_9, Scioto_9, Sephiroth_125, SheckWes_54, Shelley_75, Sisko_81, Skog_33, Skysand_80, StarStruck_76, Sticker17_75, SummitAcademy_50, SuperSulley_77, Syleon_130, Tardus_10, Teal_74, Teatealatte_74, Teech_74, Towmatter_139, Trax_1, Tredge_73, Verity_10, ViaConlectus_9, Vine_53, Vitaenoi_71, Woes_74, Yago84_80, Yucky_53, Zipp_10, Zitch_10,

Summary by start number:

Start 20:

- Found in 4 of 238 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 222
- Called 25.0% of time when present
- Phage (with cluster) where this start called: RobinSparkles_65 (CX),

Start 23:

- Found in 23 of 238 (9.7%) of genes in pham
- Manual Annotations of this start: 5 of 222
- Called 21.7% of time when present
- Phage (with cluster) where this start called: CherryCola_90 (DC1), ClamChowder_94 (DC1), CoveyB_93 (DC1), Egi03_89 (DC1), PinkCoffee_93 (DC1),

Start 32:

- Found in 1 of 238 (0.4%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GTE5_64 (CR1),

Start 33:

- Found in 37 of 238 (15.5%) of genes in pham
- Manual Annotations of this start: 1 of 222
- Called 2.7% of time when present
- Phage (with cluster) where this start called: Colossa_143 (KA),

Start 37:

- Found in 15 of 238 (6.3%) of genes in pham
- Manual Annotations of this start: 4 of 222
- Called 26.7% of time when present
- Phage (with cluster) where this start called: Guacamole_35 (CV), Hitter_38 (CV), MintFen_37 (CV), Zarbodnamra_36 (CV),

Start 39:

- Found in 1 of 238 (0.4%) of genes in pham
- Manual Annotations of this start: 1 of 222
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jumbo_60 (DF3),

Start 40:

- Found in 10 of 238 (4.2%) of genes in pham

- Manual Annotations of this start: 10 of 222
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AnClar_78 (DR), BiggityBass_81 (DR), CherryTomatoes_206 (DO), Evaa_82 (DR), LittleMunchkin_81 (DR), Pupper_204 (DO), SCentae_203 (DO), Sisko_81 (DR), Skog_33 (DO), Yago84_80 (DR),

Start 42:

- Found in 4 of 238 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 222
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Rabbitrun_1 (DU2),

Start 43:

- Found in 16 of 238 (6.7%) of genes in pham
- Manual Annotations of this start: 15 of 222
- Called 93.8% of time when present
- Phage (with cluster) where this start called: Bonum_79 (CR2), Buggaboo_77 (CR2), Ennea_83 (CR3), Flapper_80 (CR1), Float294_78 (CR3), Kabluna_78 (CR2), Lollipop1437_79 (CR3), MerCougar_78 (CR2), NosilaM_76 (CR2), Outis_76 (CR2), Patio_78 (CR3), RedRaider_83 (CR3), Skysand_80 (CR3), StarStruck_76 (CR2), SuperSulley_77 (CR2),

Start 45:

- Found in 4 of 238 (1.7%) of genes in pham
- Manual Annotations of this start: 4 of 222
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kudrefre_130 (DU1), Octobien14_126 (DU1), Sephiroth_125 (DU1), Syleon_130 (DU1),

Start 46:

- Found in 116 of 238 (48.7%) of genes in pham
- Manual Annotations of this start: 94 of 222
- Called 89.7% of time when present
- Phage (with cluster) where this start called: Adgers_80 (CS2), Angelique_36 (CY1), Archis_40 (CV), Arri_91 (DC1), BENtherdunthat_42 (DN1), BackstagePass_33 (DB), Bakery_93 (DC1), Barb_95 (DC1), Barbochs_74 (CS2), Beaver_80 (CS2), BenoitCattle_77 (CS2), BigShaq_78 (CS2), BillyBobJr_81 (CS2), Birdsong_40 (DN), BirksAndSocks_81 (CS2), BlingBling_34 (CV), Boneham_80 (CS2), BotCity_42 (DN), Breezic_77 (CS2), Budski_42 (DN), Butterball_79 (CS2), CathyBurgh_77 (CS2), CheeseTouch_41 (DN1), Chelms_77 (CS2), CinnamonToast_81 (CS2), Crater_40 (DN3), Crete_77 (CS2), Dakiti_78 (CS2), Danyall_92 (DC1), Delian_40 (CV), Diabla_82 (CS2), DirtyBoi_33 (DB), Ecliptus_44 (DN), Ekhein_77 (CS2), Evamon_91 (DC1), Exiguo_76 (CS2), Eyre_32 (singleton), FelixAlejandro_81 (CS2), Fireball_94 (DC1), Flakey_76 (CS2), Frickyeah_43 (DN1), Getalong_44 (DN1), Gezellig_87 (DC1), Gorko_76 (CS2), GourdThymes_77 (CS2), Halo3_90 (DC1), Hedwig_35 (DB), Holliday_42 (DN1), Hotorobo_77 (CS2), Jambalaya_88 (DC1), JasperJr_35 (CV), Jecs_36 (DB), Jellybones_78 (CS2), John316_80 (CS2), JohnPork_92 (DC1), Kamaru_38 (DN1), Kelzog_78 (CS2), Kenna_42 (DN1), KimmyK_89 (DC1), Linetti_77 (CS2), LitninMcQueen_37 (DN1), Lizzo_77 (CS2), Lutum_43 (DN1), Melba_36 (CV), Mellie_34 (CV), Monty_76 (CS2), Msay19_81 (CS2), Mutzi_91 (DC1), Nubi_94 (DC1), Obliviate_33 (CV), Periwinkle_46 (DN1), Phabuloso_40 (DN1), Phistory_43 (DN1), Phlop_88 (DC1), PhrostedPhlake_40 (CV), PierreThree_76 (CS2), Poland_81 (CS2), Portcullis_91 (DC1), PullumCavea_89

(DC1), RayTheFireFly_41 (DB), RemRem_78 (CS2), RogerDodger_94 (DC1), RoyalG_77 (CS2), Salvador_91 (DC1), Sam12_76 (CS2), Savbucketdawg_86 (DC1), Sendy_93 (DC1), SharkTale_92 (DC1), ShawBrad_43 (DN1), Shinji_90 (DC1), Sixsevenium_90 (DC1), SmokingBunny_92 (DC1), Sombrero_78 (CS2), Squibbles_76 (CS2), SteveFrench_76 (CS2), TillyBobJoe_90 (DC1), Togo_91 (DC1), Twister6_90 (DC1), Valary_92 (DC1), VanDeWege_93 (DC1), Whitney_45 (DN1), Wizard_86 (DC1), Worcestershire_76 (CS2), YungMoney_91 (DC1),

Start 47:

- Found in 40 of 238 (16.8%) of genes in pham
- Manual Annotations of this start: 39 of 222
- Called 97.5% of time when present
- Phage (with cluster) where this start called: Anamika_74 (CS3), Benczkowski14_73 (CS4), Berries_75 (CS3), Bianmat_75 (CS3), Charianelly_75 (CS3), Damp_75 (CS3), GalacticEye_75 (CS3), Gibbles_60 (CX), Guillaume_74 (CS3), Hail2Pitt_73 (CS3), Harambe_74 (CS3), Hello_74 (CS3), Hollow_74 (CS4), Jams_75 (CS3), Jormungandr_74 (CS3), Kampe_62 (CX), Kaseim_75 (CS3), Katyusha_72 (CS4), Kvothe_72 (CS4), Lahirium_74 (CS3), Lidong_75 (CS3), Luker_76 (CS3), Minos_76 (CS3), MrWormie_75 (CS3), Neoevie_74 (CS3), Newt_76 (CS3), Niagara_73 (CS4), Nimi13_74 (CS3), Orchid_61 (CX), PatrickStar_62 (CX), Philon9_71 (CS4), Shelley_75 (CS3), Sticker17_75 (CS3), Teal_74 (CS3), Teatealatte_74 (CS4), Teech_74 (CS4), Tredge_73 (CS4), Vitaenoi_71 (CS4), Woes_74 (CS3),

Start 48:

- Found in 6 of 238 (2.5%) of genes in pham
- Manual Annotations of this start: 5 of 222
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Daredevil_142 (DL), LilJank_1 (DU2), Neville_1 (DU2), Towmatter_139 (DL), Trax_1 (DU2),

Start 49:

- Found in 76 of 238 (31.9%) of genes in pham
- Manual Annotations of this start: 34 of 222
- Called 51.3% of time when present
- Phage (with cluster) where this start called: APunk_10 (DE4), Abblin_9 (DE4), Ali17_9 (DE2), Balloona_50 (CT), Bavilard_50 (CT), Belphegor_5 (DE2), BigChungus_50 (CT), BigHunkinEater_12 (DE4), CaptainKirk2_37 (CV), CocoaPuff_51 (CT), Delrey21_10 (DE4), DoctorFroggo_10 (DE4), ElJefes_52 (CT), Feastonyet_50 (CT), Ghobes_18 (DA), Hans_13 (DE2), Inspectinfecti_12 (DE2), Leonard_11 (DE2), Lilbeanie_11 (DE5), McDazzle_53 (CT), MelBins_11 (DE2), Natkenzie_9 (DE4), Phauci_4 (DE2), Phinally_11 (DE2), PotPie_50 (CT), Pumpkiney_10 (DE4), Sampson_9 (DE4), Scioto_9 (DE4), SheckWes_54 (CT), SummitAcademy_50 (CT), Tardus_10 (DE4), UmaThurman_32 (CV), Verity_10 (DE4), ViaConlectus_9 (DE4), Vine_53 (CT), Walrus_37 (CV), Yucky_53 (CT), Zipp_10 (DE4), Zitch_10 (DE4),

Start 53:

- Found in 8 of 238 (3.4%) of genes in pham
- Manual Annotations of this start: 3 of 222
- Called 37.5% of time when present
- Phage (with cluster) where this start called: Ayotoya_48 (DI), Francois_47 (DI), Nadeem_48 (DI),

Start 54:

- Found in 12 of 238 (5.0%) of genes in pham
- Manual Annotations of this start: 5 of 222
- Called 41.7% of time when present
- Phage (with cluster) where this start called: Chop_48 (DI), DelRio_49 (DI), GrandSlam_48 (DI), Hamood_48 (DI), Parada_48 (DI),

Summary by clusters:

There are 28 clusters represented in this pham: DN, DO, singleton, DI, DB, DL, DA, DR, DF3, DN1, DN3, DU1, DU2, DC1, CS3, CS2, CY1, CX, CS4, CV, CT, CR2, CR3, KA, CR1, DE2, DE4, DE5,

Info for manual annotations of cluster CR1:

- Start number 43 was manually annotated 1 time for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 43 was manually annotated 8 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 43 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CS2:

- Start number 46 was manually annotated 36 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 47 was manually annotated 25 times for cluster CS3.

Info for manual annotations of cluster CS4:

- Start number 47 was manually annotated 10 times for cluster CS4.

Info for manual annotations of cluster CT:

- Start number 49 was manually annotated 8 times for cluster CT.

Info for manual annotations of cluster CV:

- Start number 37 was manually annotated 4 times for cluster CV.
- Start number 46 was manually annotated 8 times for cluster CV.
- Start number 49 was manually annotated 3 times for cluster CV.

Info for manual annotations of cluster CX:

- Start number 20 was manually annotated 1 time for cluster CX.
- Start number 47 was manually annotated 4 times for cluster CX.

Info for manual annotations of cluster CY1:

- Start number 46 was manually annotated 1 time for cluster CY1.

Info for manual annotations of cluster DA:

- Start number 49 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DB:

- Start number 46 was manually annotated 4 times for cluster DB.

Info for manual annotations of cluster DC1:

- Start number 23 was manually annotated 5 times for cluster DC1.
- Start number 46 was manually annotated 26 times for cluster DC1.

Info for manual annotations of cluster DE2:

- Start number 49 was manually annotated 8 times for cluster DE2.

Info for manual annotations of cluster DE4:

- Start number 49 was manually annotated 13 times for cluster DE4.

Info for manual annotations of cluster DE5:

- Start number 49 was manually annotated 1 time for cluster DE5.

Info for manual annotations of cluster DF3:

- Start number 39 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster DI:

- Start number 53 was manually annotated 3 times for cluster DI.
- Start number 54 was manually annotated 5 times for cluster DI.

Info for manual annotations of cluster DL:

- Start number 48 was manually annotated 2 times for cluster DL.

Info for manual annotations of cluster DN:

- Start number 46 was manually annotated 4 times for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 46 was manually annotated 13 times for cluster DN1.

Info for manual annotations of cluster DN3:

- Start number 46 was manually annotated 1 time for cluster DN3.

Info for manual annotations of cluster DO:

- Start number 40 was manually annotated 4 times for cluster DO.

Info for manual annotations of cluster DR:

- Start number 40 was manually annotated 6 times for cluster DR.

Info for manual annotations of cluster DU1:

- Start number 45 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:

- Start number 42 was manually annotated 1 time for cluster DU2.
- Start number 48 was manually annotated 3 times for cluster DU2.

Info for manual annotations of cluster KA:

- Start number 33 was manually annotated 1 time for cluster KA.

Gene Information:

Gene: APunk_10 Start: 5832, Stop: 6140, Start Num: 49

Candidate Starts for APunk_10:

(30, 5769), (35, 5787), (Start: 49 @5832 has 34 MA's), (72, 5928), (73, 5934), (78, 5970), (82, 6018), (83, 6024),

Gene: Abblin_9 Start: 5353, Stop: 5655, Start Num: 49

Candidate Starts for Abblin_9:

(Start: 49 @5353 has 34 MA's), (72, 5443), (78, 5485), (82, 5533), (83, 5539),

Gene: Adgers_80 Start: 60593, Stop: 60273, Start Num: 46

Candidate Starts for Adgers_80:

(Start: 46 @60593 has 94 MA's), (83, 60380),

Gene: Ali17_9 Start: 5663, Stop: 5983, Start Num: 49

Candidate Starts for Ali17_9:

(Start: 49 @5663 has 34 MA's), (72, 5753), (73, 5759), (78, 5795), (83, 5852),

Gene: AnClar_78 Start: 60612, Stop: 60265, Start Num: 40

Candidate Starts for AnClar_78:

(Start: 40 @60612 has 10 MA's), (60, 60555), (71, 60489), (82, 60393), (83, 60387),

Gene: Anamika_74 Start: 60867, Stop: 60544, Start Num: 47

Candidate Starts for Anamika_74:

(Start: 47 @60867 has 39 MA's), (69, 60771), (70, 60765), (84, 60651), (85, 60648), (88, 60621), (89, 60609),

Gene: Angelique_36 Start: 29622, Stop: 29323, Start Num: 46

Candidate Starts for Angelique_36:

(Start: 46 @29622 has 94 MA's), (Start: 49 @29610 has 34 MA's), (56, 29586), (57, 29583), (62, 29571), (66, 29559), (71, 29526), (72, 29523), (78, 29478), (82, 29430),

Gene: Archis_40 Start: 30536, Stop: 30222, Start Num: 46

Candidate Starts for Archis_40:

(Start: 37 @30569 has 4 MA's), (Start: 46 @30536 has 94 MA's), (Start: 49 @30524 has 34 MA's), (52, 30512), (56, 30500), (57, 30497), (62, 30485), (66, 30473), (71, 30440), (72, 30437), (75, 30416), (78, 30392), (82, 30344), (83, 30338),

Gene: Arri_91 Start: 57646, Stop: 57308, Start Num: 46

Candidate Starts for Arri_91:

(22, 57736), (Start: 23 @57733 has 5 MA's), (Start: 33 @57688 has 1 MA's), (Start: 46 @57646 has 94 MA's), (65, 57580), (78, 57487), (82, 57439), (83, 57433),

Gene: Ayotoya_48 Start: 35650, Stop: 35985, Start Num: 53

Candidate Starts for Ayotoya_48:

(25, 35548), (Start: 53 @35650 has 3 MA's), (Start: 54 @35653 has 5 MA's), (64, 35686), (74, 35755), (76, 35770), (77, 35779),

Gene: BENtherdunthat_42 Start: 29776, Stop: 29441, Start Num: 46

Candidate Starts for BENtherdunthat_42:

(41, 29788), (44, 29779), (Start: 46 @29776 has 94 MA's), (Start: 49 @29764 has 34 MA's), (56, 29740), (57, 29737), (71, 29680), (72, 29677), (75, 29659), (78, 29635), (82, 29587), (83, 29581),

Gene: BackstagePass_33 Start: 28562, Stop: 28269, Start Num: 46

Candidate Starts for BackstagePass_33:

(Start: 46 @28562 has 94 MA's), (56, 28526), (57, 28523), (62, 28511), (66, 28499), (71, 28469), (72, 28466), (73, 28460), (75, 28448), (78, 28424), (83, 28367),

Gene: Bakery_93 Start: 59467, Stop: 59129, Start Num: 46

Candidate Starts for Bakery_93:

(26, 59542), (30, 59521), (Start: 33 @59509 has 1 MA's), (Start: 46 @59467 has 94 MA's), (65, 59401), (69, 59371), (71, 59356), (78, 59308), (82, 59260), (83, 59254),

Gene: Balloona_50 Start: 37250, Stop: 37002, Start Num: 49

Candidate Starts for Balloona_50:

(19, 37364), (Start: 49 @37250 has 34 MA's), (63, 37205), (77, 37124),

Gene: Barb_95 Start: 58510, Stop: 58172, Start Num: 46

Candidate Starts for Barb_95:

(22, 58600), (Start: 23 @58597 has 5 MA's), (Start: 33 @58552 has 1 MA's), (Start: 46 @58510 has 94 MA's), (65, 58444), (71, 58399), (78, 58351), (82, 58303), (83, 58297),

Gene: Barbochs_74 Start: 59970, Stop: 59629, Start Num: 46

Candidate Starts for Barbochs_74:

(Start: 46 @59970 has 94 MA's), (83, 59757), (86, 59748),

Gene: Bavilard_50 Start: 37060, Stop: 36800, Start Num: 49

Candidate Starts for Bavilard_50:

(21, 37162), (Start: 49 @37060 has 34 MA's), (77, 36934),

Gene: Beaver_80 Start: 61914, Stop: 61585, Start Num: 46

Candidate Starts for Beaver_80:

(Start: 46 @61914 has 94 MA's), (83, 61701),

Gene: Belphegor_5 Start: 2778, Stop: 3092, Start Num: 49

Candidate Starts for Belphegor_5:

(12, 2478), (13, 2493), (Start: 49 @2778 has 34 MA's), (72, 2871), (73, 2877), (78, 2913), (82, 2964), (83, 2970),

Gene: Benczkowski14_73 Start: 60661, Stop: 60341, Start Num: 47

Candidate Starts for Benczkowski14_73:

(Start: 47 @60661 has 39 MA's), (83, 60451),

Gene: BenoitCattle_77 Start: 60565, Stop: 60242, Start Num: 46

Candidate Starts for BenoitCattle_77:

(Start: 46 @60565 has 94 MA's), (65, 60496), (83, 60346),

Gene: Berries_75 Start: 60839, Stop: 60516, Start Num: 47

Candidate Starts for Berries_75:

(Start: 47 @60839 has 39 MA's), (69, 60743), (70, 60737), (84, 60623), (85, 60620), (88, 60593), (89, 60581),

Gene: Bianmat_75 Start: 60879, Stop: 60556, Start Num: 47

Candidate Starts for Bianmat_75:

(Start: 47 @60879 has 39 MA's), (69, 60783), (70, 60777), (84, 60663), (85, 60660), (88, 60633), (89, 60621),

Gene: BigChungus_50 Start: 37182, Stop: 36934, Start Num: 49

Candidate Starts for BigChungus_50:
(Start: 49 @37182 has 34 MA's), (63, 37137), (77, 37056),

Gene: BigHunkinEater_12 Start: 5283, Stop: 5588, Start Num: 49
Candidate Starts for BigHunkinEater_12:
(Start: 49 @5283 has 34 MA's), (72, 5376), (78, 5418), (82, 5466), (83, 5472),

Gene: BigShaq_78 Start: 60737, Stop: 60411, Start Num: 46
Candidate Starts for BigShaq_78:
(Start: 46 @60737 has 94 MA's), (65, 60668), (83, 60524),

Gene: BiggityBass_81 Start: 62080, Stop: 61751, Start Num: 40
Candidate Starts for BiggityBass_81:
(Start: 40 @62080 has 10 MA's), (60, 62023), (72, 61954), (82, 61861),

Gene: BillyBobJr_81 Start: 62041, Stop: 61709, Start Num: 46
Candidate Starts for BillyBobJr_81:
(Start: 46 @62041 has 94 MA's), (83, 61828),

Gene: Birdsong_40 Start: 30587, Stop: 30261, Start Num: 46
Candidate Starts for Birdsong_40:
(Start: 46 @30587 has 94 MA's), (Start: 49 @30575 has 34 MA's), (56, 30551), (57, 30548), (58, 30545), (62, 30533), (71, 30491), (72, 30488), (75, 30470), (78, 30446), (82, 30398), (83, 30392),

Gene: BirksAndSocks_81 Start: 62036, Stop: 61731, Start Num: 46
Candidate Starts for BirksAndSocks_81:
(Start: 46 @62036 has 94 MA's), (83, 61823),

Gene: BlingBling_34 Start: 30550, Stop: 30248, Start Num: 46
Candidate Starts for BlingBling_34:
(Start: 37 @30583 has 4 MA's), (Start: 46 @30550 has 94 MA's), (Start: 49 @30538 has 34 MA's), (52, 30526), (56, 30514), (57, 30511), (62, 30499), (66, 30487), (71, 30454), (72, 30451), (75, 30430), (78, 30406), (82, 30358), (83, 30352),

Gene: Boneham_80 Start: 61961, Stop: 61656, Start Num: 46
Candidate Starts for Boneham_80:
(Start: 46 @61961 has 94 MA's), (83, 61748),

Gene: Bonum_79 Start: 57724, Stop: 57392, Start Num: 43
Candidate Starts for Bonum_79:
(Start: 43 @57724 has 15 MA's), (52, 57697), (72, 57610), (82, 57520), (83, 57514),

Gene: BotCity_42 Start: 30361, Stop: 30053, Start Num: 46
Candidate Starts for BotCity_42:
(7, 30835), (8, 30784), (14, 30583), (15, 30574), (16, 30550), (Start: 46 @30361 has 94 MA's), (Start: 49 @30349 has 34 MA's), (56, 30325), (57, 30322), (62, 30310), (68, 30280), (71, 30268), (72, 30265), (75, 30247), (78, 30223), (82, 30175), (83, 30169),

Gene: Breezic_77 Start: 60181, Stop: 59828, Start Num: 46
Candidate Starts for Breezic_77:
(Start: 46 @60181 has 94 MA's), (83, 59968), (86, 59959),

Gene: Budski_42 Start: 31521, Stop: 31192, Start Num: 46

Candidate Starts for Budski_42:

(41, 31533), (44, 31524), (Start: 46 @31521 has 94 MA's), (Start: 49 @31509 has 34 MA's), (56, 31485), (57, 31482), (71, 31425), (72, 31422), (75, 31404), (78, 31380), (82, 31332), (83, 31326),

Gene: Buggaboo_77 Start: 58290, Stop: 57958, Start Num: 43

Candidate Starts for Buggaboo_77:

(Start: 43 @58290 has 15 MA's), (52, 58263), (72, 58176), (82, 58086), (83, 58080),

Gene: Butterball_79 Start: 61966, Stop: 61661, Start Num: 46

Candidate Starts for Butterball_79:

(Start: 46 @61966 has 94 MA's), (83, 61753),

Gene: CaptainKirk2_37 Start: 29823, Stop: 29527, Start Num: 49

Candidate Starts for CaptainKirk2_37:

(Start: 37 @29868 has 4 MA's), (Start: 46 @29835 has 94 MA's), (Start: 49 @29823 has 34 MA's), (56, 29799), (57, 29796), (62, 29784), (66, 29772), (71, 29739), (72, 29736), (75, 29715), (78, 29691), (82, 29643), (83, 29637),

Gene: CathyBurgh_77 Start: 60701, Stop: 60336, Start Num: 46

Candidate Starts for CathyBurgh_77:

(Start: 46 @60701 has 94 MA's), (83, 60488), (86, 60479),

Gene: Charianelly_75 Start: 60589, Stop: 60266, Start Num: 47

Candidate Starts for Charianelly_75:

(Start: 47 @60589 has 39 MA's), (69, 60493), (70, 60487), (84, 60373), (85, 60370), (88, 60343), (89, 60331),

Gene: CheeseTouch_41 Start: 28097, Stop: 27792, Start Num: 46

Candidate Starts for CheeseTouch_41:

(14, 28319), (15, 28310), (16, 28286), (Start: 46 @28097 has 94 MA's), (Start: 49 @28085 has 34 MA's), (56, 28061), (57, 28058), (62, 28046), (71, 28004), (72, 28001), (75, 27983), (78, 27959), (82, 27911), (83, 27905),

Gene: Chelms_77 Start: 60667, Stop: 60350, Start Num: 46

Candidate Starts for Chelms_77:

(Start: 46 @60667 has 94 MA's), (83, 60454),

Gene: CherryCola_90 Start: 58146, Stop: 57721, Start Num: 23

Candidate Starts for CherryCola_90:

(22, 58149), (Start: 23 @58146 has 5 MA's), (Start: 33 @58101 has 1 MA's), (Start: 46 @58059 has 94 MA's), (65, 57993), (78, 57900), (82, 57852), (83, 57846),

Gene: CherryTomatoes_206 Start: 140218, Stop: 140541, Start Num: 40

Candidate Starts for CherryTomatoes_206:

(Start: 40 @140218 has 10 MA's), (82, 140422), (83, 140428),

Gene: Chop_48 Start: 35400, Stop: 35738, Start Num: 54

Candidate Starts for Chop_48:

(25, 35295), (Start: 53 @35397 has 3 MA's), (Start: 54 @35400 has 5 MA's), (64, 35433), (74, 35502), (76, 35517), (77, 35526),

Gene: CinnamonToast_81 Start: 62041, Stop: 61709, Start Num: 46

Candidate Starts for CinnamonToast_81:

(Start: 46 @62041 has 94 MA's), (83, 61828),

Gene: ClamChowder_94 Start: 58597, Stop: 58172, Start Num: 23

Candidate Starts for ClamChowder_94:

(22, 58600), (Start: 23 @58597 has 5 MA's), (Start: 33 @58552 has 1 MA's), (Start: 46 @58510 has 94 MA's), (65, 58444), (71, 58399), (78, 58351), (82, 58303), (83, 58297),

Gene: CocoaPuff_51 Start: 37187, Stop: 36939, Start Num: 49

Candidate Starts for CocoaPuff_51:

(19, 37301), (Start: 49 @37187 has 34 MA's), (63, 37142), (77, 37061),

Gene: Colossa_143 Start: 76130, Stop: 75759, Start Num: 33

Candidate Starts for Colossa_143:

(Start: 33 @76130 has 1 MA's), (Start: 54 @76064 has 5 MA's), (71, 75989),

Gene: CoveyB_93 Start: 58084, Stop: 57659, Start Num: 23

Candidate Starts for CoveyB_93:

(22, 58087), (Start: 23 @58084 has 5 MA's), (Start: 33 @58039 has 1 MA's), (Start: 46 @57997 has 94 MA's), (65, 57931), (71, 57886), (78, 57838), (82, 57790), (83, 57784),

Gene: Crater_40 Start: 29695, Stop: 29378, Start Num: 46

Candidate Starts for Crater_40:

(1, 30361), (2, 30358), (3, 30334), (4, 30322), (5, 30280), (6, 30274), (9, 30082), (14, 29917), (15, 29908), (16, 29884), (Start: 46 @29695 has 94 MA's), (Start: 49 @29683 has 34 MA's), (56, 29659), (57, 29656), (62, 29644), (66, 29632), (71, 29599), (72, 29596), (75, 29578), (78, 29554), (82, 29506), (83, 29500),

Gene: Crete_77 Start: 60795, Stop: 60469, Start Num: 46

Candidate Starts for Crete_77:

(Start: 46 @60795 has 94 MA's), (65, 60726), (83, 60582),

Gene: Dakiti_78 Start: 61535, Stop: 61218, Start Num: 46

Candidate Starts for Dakiti_78:

(Start: 46 @61535 has 94 MA's), (83, 61322),

Gene: Damp_75 Start: 59753, Stop: 59430, Start Num: 47

Candidate Starts for Damp_75:

(Start: 47 @59753 has 39 MA's), (69, 59657), (70, 59651), (84, 59537), (85, 59534), (88, 59507), (89, 59495),

Gene: Danyall_92 Start: 57691, Stop: 57353, Start Num: 46

Candidate Starts for Danyall_92:

(22, 57781), (Start: 23 @57778 has 5 MA's), (Start: 33 @57733 has 1 MA's), (Start: 46 @57691 has 94 MA's), (65, 57625), (71, 57580), (78, 57532), (82, 57484), (83, 57478),

Gene: Daredevil_142 Start: 80942, Stop: 80583, Start Num: 48

Candidate Starts for Daredevil_142:

(Start: 48 @80942 has 5 MA's), (Start: 54 @80918 has 5 MA's), (64, 80882), (77, 80804), (88, 80708),

Gene: DelRio_49 Start: 36105, Stop: 36449, Start Num: 54

Candidate Starts for DelRio_49:

(25, 36000), (Start: 53 @36102 has 3 MA's), (Start: 54 @36105 has 5 MA's), (64, 36138), (74, 36207), (76, 36222), (77, 36231),

Gene: Delian_40 Start: 29833, Stop: 29525, Start Num: 46

Candidate Starts for Delian_40:

(Start: 37 @29866 has 4 MA's), (Start: 46 @29833 has 94 MA's), (Start: 49 @29821 has 34 MA's), (56, 29797), (57, 29794), (62, 29782), (66, 29770), (71, 29737), (72, 29734), (75, 29713), (78, 29689), (82, 29641), (83, 29635),

Gene: Delrey21_10 Start: 5803, Stop: 6096, Start Num: 49

Candidate Starts for Delrey21_10:

(Start: 49 @5803 has 34 MA's), (51, 5812), (71, 5884), (78, 5929), (82, 5980), (83, 5986),

Gene: Diabla_82 Start: 62036, Stop: 61740, Start Num: 46

Candidate Starts for Diabla_82:

(Start: 46 @62036 has 94 MA's), (90, 61790),

Gene: DirtyBoi_33 Start: 28465, Stop: 28172, Start Num: 46

Candidate Starts for DirtyBoi_33:

(41, 28477), (44, 28468), (Start: 46 @28465 has 94 MA's), (Start: 49 @28453 has 34 MA's), (56, 28429), (57, 28426), (62, 28414), (71, 28372), (72, 28369), (73, 28363), (75, 28351), (78, 28327), (83, 28270),

Gene: DoctorFroggo_10 Start: 5803, Stop: 6096, Start Num: 49

Candidate Starts for DoctorFroggo_10:

(Start: 49 @5803 has 34 MA's), (51, 5812), (71, 5884), (78, 5929), (82, 5980), (83, 5986),

Gene: Ecliptus_44 Start: 32044, Stop: 31706, Start Num: 46

Candidate Starts for Ecliptus_44:

(41, 32056), (44, 32047), (Start: 46 @32044 has 94 MA's), (Start: 49 @32032 has 34 MA's), (56, 32008), (57, 32005), (62, 31993), (71, 31951), (72, 31948), (75, 31930), (78, 31906), (82, 31858), (83, 31852),

Gene: Egi03_89 Start: 57168, Stop: 56743, Start Num: 23

Candidate Starts for Egi03_89:

(22, 57171), (Start: 23 @57168 has 5 MA's), (Start: 33 @57123 has 1 MA's), (Start: 46 @57081 has 94 MA's), (65, 57015), (78, 56922), (82, 56874), (83, 56868),

Gene: Ekhein_77 Start: 59871, Stop: 59527, Start Num: 46

Candidate Starts for Ekhein_77:

(Start: 46 @59871 has 94 MA's), (83, 59658), (86, 59649),

Gene: ElJefes_52 Start: 37726, Stop: 37478, Start Num: 49

Candidate Starts for ElJefes_52:

(36, 37774), (Start: 49 @37726 has 34 MA's), (63, 37681), (77, 37600),

Gene: Ennea_83 Start: 59022, Stop: 58708, Start Num: 43

Candidate Starts for Ennea_83:

(38, 59040), (Start: 43 @59022 has 15 MA's), (59, 58977), (83, 58815),

Gene: Evaa_82 Start: 60219, Stop: 59869, Start Num: 40

Candidate Starts for Evaa_82:

(Start: 40 @60219 has 10 MA's), (55, 60171), (60, 60156), (78, 60045), (82, 59997), (83, 59991),

Gene: Evamon_91 Start: 57458, Stop: 57120, Start Num: 46

Candidate Starts for Evamon_91:

(26, 57530), (Start: 33 @57500 has 1 MA's), (Start: 46 @57458 has 94 MA's), (65, 57392), (78, 57299), (82, 57251), (83, 57245),

Gene: Exiguo_76 Start: 59877, Stop: 59545, Start Num: 46

Candidate Starts for Exiguo_76:

(Start: 46 @59877 has 94 MA's), (83, 59664),

Gene: Eyre_32 Start: 25507, Stop: 25208, Start Num: 46

Candidate Starts for Eyre_32:

(Start: 46 @25507 has 94 MA's), (Start: 49 @25495 has 34 MA's), (Start: 54 @25477 has 5 MA's), (56, 25471), (57, 25468), (62, 25456), (66, 25444), (71, 25411), (72, 25408), (78, 25363), (82, 25315),

Gene: Feastonyeet_50 Start: 37182, Stop: 36934, Start Num: 49

Candidate Starts for Feastonyeet_50:

(Start: 49 @37182 has 34 MA's), (63, 37137), (77, 37056),

Gene: FelixAlejandro_81 Start: 62391, Stop: 62059, Start Num: 46

Candidate Starts for FelixAlejandro_81:

(Start: 46 @62391 has 94 MA's), (83, 62178),

Gene: Fireball_94 Start: 57920, Stop: 57582, Start Num: 46

Candidate Starts for Fireball_94:

(22, 58010), (Start: 23 @58007 has 5 MA's), (Start: 33 @57962 has 1 MA's), (Start: 46 @57920 has 94 MA's), (65, 57854), (78, 57761), (82, 57713), (83, 57707),

Gene: Flakey_76 Start: 60687, Stop: 60322, Start Num: 46

Candidate Starts for Flakey_76:

(Start: 46 @60687 has 94 MA's), (83, 60474), (86, 60465),

Gene: Flapper_80 Start: 58306, Stop: 57980, Start Num: 43

Candidate Starts for Flapper_80:

(Start: 43 @58306 has 15 MA's), (52, 58282), (59, 58261), (64, 58240), (82, 58105), (83, 58099),

Gene: Float294_78 Start: 58928, Stop: 58614, Start Num: 43

Candidate Starts for Float294_78:

(Start: 43 @58928 has 15 MA's), (59, 58883), (83, 58721),

Gene: Francois_47 Start: 34916, Stop: 35251, Start Num: 53

Candidate Starts for Francois_47:

(Start: 53 @34916 has 3 MA's), (Start: 54 @34919 has 5 MA's), (64, 34952), (74, 35021), (76, 35036), (77, 35045),

Gene: Frickyeah_43 Start: 29647, Stop: 29330, Start Num: 46

Candidate Starts for Frickyeah_43:

(1, 30313), (2, 30310), (3, 30286), (4, 30274), (5, 30232), (6, 30226), (9, 30034), (14, 29869), (15, 29860), (16, 29836), (Start: 46 @29647 has 94 MA's), (Start: 49 @29635 has 34 MA's), (56, 29611), (57, 29608), (62, 29596), (66, 29584), (71, 29551), (72, 29548), (75, 29530), (78, 29506), (82, 29458), (83, 29452),

Gene: GTE5_64 Start: 50838, Stop: 50473, Start Num: 32

Candidate Starts for GTE5_64:

(32, 50838), (Start: 43 @50799 has 15 MA's), (52, 50775), (59, 50754), (65, 50730), (82, 50598), (83, 50592),

Gene: GalacticEye_75 Start: 60550, Stop: 60227, Start Num: 47

Candidate Starts for GalacticEye_75:

(Start: 47 @60550 has 39 MA's), (69, 60454), (70, 60448), (84, 60334), (85, 60331), (88, 60304), (89, 60292),

Gene: Getalong_44 Start: 32367, Stop: 32050, Start Num: 46

Candidate Starts for Getalong_44:

(44, 32370), (Start: 46 @32367 has 94 MA's), (Start: 49 @32355 has 34 MA's), (56, 32331), (57, 32328), (62, 32316), (66, 32304), (71, 32271), (72, 32268), (75, 32250), (78, 32226), (82, 32178), (83, 32172),

Gene: Gezellig_87 Start: 57304, Stop: 56966, Start Num: 46

Candidate Starts for Gezellig_87:

(22, 57394), (Start: 23 @57391 has 5 MA's), (Start: 33 @57346 has 1 MA's), (Start: 46 @57304 has 94 MA's), (65, 57238), (78, 57145), (82, 57097), (83, 57091),

Gene: Ghobes_18 Start: 16697, Stop: 16407, Start Num: 49

Candidate Starts for Ghobes_18:

(10, 17057), (Start: 49 @16697 has 34 MA's),

Gene: Gibbles_60 Start: 52361, Stop: 52059, Start Num: 47

Candidate Starts for Gibbles_60:

(Start: 47 @52361 has 39 MA's), (72, 52250), (79, 52205),

Gene: Gorko_76 Start: 59788, Stop: 59468, Start Num: 46

Candidate Starts for Gorko_76:

(Start: 46 @59788 has 94 MA's), (83, 59575),

Gene: GourdThymes_77 Start: 60728, Stop: 60423, Start Num: 46

Candidate Starts for GourdThymes_77:

(Start: 46 @60728 has 94 MA's), (83, 60515), (86, 60506),

Gene: GrandSlam_48 Start: 35400, Stop: 35738, Start Num: 54

Candidate Starts for GrandSlam_48:

(25, 35295), (Start: 53 @35397 has 3 MA's), (Start: 54 @35400 has 5 MA's), (64, 35433), (74, 35502), (76, 35517), (77, 35526),

Gene: Guacamole_35 Start: 30431, Stop: 30090, Start Num: 37

Candidate Starts for Guacamole_35:

(Start: 37 @30431 has 4 MA's), (Start: 46 @30398 has 94 MA's), (Start: 49 @30386 has 34 MA's), (56, 30362), (57, 30359), (62, 30347), (66, 30335), (71, 30302), (72, 30299), (75, 30278), (78, 30254), (82, 30206), (83, 30200),

Gene: Guillaume_74 Start: 60600, Stop: 60277, Start Num: 47

Candidate Starts for Guillaume_74:

(Start: 47 @60600 has 39 MA's), (69, 60504), (70, 60498), (84, 60384), (85, 60381), (88, 60354), (89, 60342),

Gene: Hail2Pitt_73 Start: 61076, Stop: 60753, Start Num: 47

Candidate Starts for Hail2Pitt_73:

(Start: 47 @61076 has 39 MA's), (69, 60980), (70, 60974), (84, 60860), (85, 60857), (88, 60830), (89, 60818),

Gene: Halo3_90 Start: 58179, Stop: 57841, Start Num: 46

Candidate Starts for Halo3_90:

(17, 58332), (18, 58311), (Start: 33 @58221 has 1 MA's), (Start: 46 @58179 has 94 MA's), (65, 58113), (71, 58068), (78, 58020), (82, 57972), (83, 57966),

Gene: Hamood_48 Start: 35400, Stop: 35738, Start Num: 54

Candidate Starts for Hamood_48:

(25, 35295), (Start: 53 @35397 has 3 MA's), (Start: 54 @35400 has 5 MA's), (64, 35433), (74, 35502), (76, 35517), (77, 35526),

Gene: Hans_13 Start: 6198, Stop: 6524, Start Num: 49

Candidate Starts for Hans_13:

(Start: 49 @6198 has 34 MA's), (72, 6291), (73, 6297), (78, 6333), (83, 6390),

Gene: Harambe_74 Start: 60867, Stop: 60544, Start Num: 47

Candidate Starts for Harambe_74:

(Start: 47 @60867 has 39 MA's), (69, 60771), (70, 60765), (84, 60651), (85, 60648), (88, 60621), (89, 60609),

Gene: Hedwig_35 Start: 28932, Stop: 28639, Start Num: 46

Candidate Starts for Hedwig_35:

(Start: 46 @28932 has 94 MA's), (Start: 49 @28920 has 34 MA's), (56, 28896), (57, 28893), (62, 28881), (71, 28839), (72, 28836), (73, 28830), (75, 28818), (78, 28794), (83, 28737),

Gene: Hello_74 Start: 60829, Stop: 60506, Start Num: 47

Candidate Starts for Hello_74:

(Start: 47 @60829 has 39 MA's), (69, 60733), (70, 60727), (84, 60613), (85, 60610), (88, 60583), (89, 60571),

Gene: Hitter_38 Start: 30165, Stop: 29812, Start Num: 37

Candidate Starts for Hitter_38:

(Start: 37 @30165 has 4 MA's), (Start: 46 @30132 has 94 MA's), (Start: 49 @30120 has 34 MA's), (56, 30096), (57, 30093), (62, 30081), (66, 30069), (71, 30036), (72, 30033), (75, 30012), (78, 29988), (82, 29940), (83, 29934),

Gene: Holliday_42 Start: 30222, Stop: 29905, Start Num: 46

Candidate Starts for Holliday_42:

(1, 30888), (2, 30885), (3, 30861), (4, 30849), (5, 30807), (6, 30801), (9, 30609), (14, 30444), (15, 30435), (16, 30411), (Start: 46 @30222 has 94 MA's), (Start: 49 @30210 has 34 MA's), (56, 30186), (57, 30183), (62, 30171), (66, 30159), (71, 30126), (72, 30123), (75, 30105), (78, 30081), (82, 30033), (83, 30027),

Gene: Hollow_74 Start: 60832, Stop: 60512, Start Num: 47

Candidate Starts for Hollow_74:

(Start: 47 @60832 has 39 MA's), (63, 60772), (82, 60628), (83, 60622),

Gene: Hotorobo_77 Start: 60751, Stop: 60410, Start Num: 46

Candidate Starts for Hotorobo_77:

(Start: 46 @60751 has 94 MA's), (83, 60538), (86, 60529),

Gene: Inspectinfecti_12 Start: 6720, Stop: 7040, Start Num: 49
Candidate Starts for Inspectinfecti_12:
(Start: 49 @6720 has 34 MA's), (72, 6810), (73, 6816), (78, 6852), (83, 6909),

Gene: Jambalaya_88 Start: 56761, Stop: 56423, Start Num: 46
Candidate Starts for Jambalaya_88:
(11, 57106), (Start: 33 @56803 has 1 MA's), (Start: 46 @56761 has 94 MA's), (65, 56695), (78, 56602),
(82, 56554), (83, 56548),

Gene: Jams_75 Start: 60039, Stop: 59716, Start Num: 47
Candidate Starts for Jams_75:
(Start: 47 @60039 has 39 MA's), (69, 59943), (70, 59937), (84, 59823), (85, 59820), (88, 59793), (89, 59781),

Gene: JasperJr_35 Start: 30398, Stop: 30090, Start Num: 46
Candidate Starts for JasperJr_35:
(Start: 37 @30431 has 4 MA's), (Start: 46 @30398 has 94 MA's), (Start: 49 @30386 has 34 MA's), (56, 30362), (57, 30359), (62, 30347), (66, 30335), (71, 30302), (72, 30299), (75, 30278), (78, 30254), (82, 30206), (83, 30200),

Gene: Jecs_36 Start: 29006, Stop: 28725, Start Num: 46
Candidate Starts for Jecs_36:
(29, 29063), (34, 29045), (Start: 46 @29006 has 94 MA's), (Start: 49 @28994 has 34 MA's), (56, 28970), (57, 28967), (62, 28955), (66, 28943), (71, 28910), (72, 28907), (75, 28889), (78, 28865), (82, 28817),

Gene: Jellybones_78 Start: 61675, Stop: 61343, Start Num: 46
Candidate Starts for Jellybones_78:
(Start: 46 @61675 has 94 MA's), (83, 61462),

Gene: John316_80 Start: 61839, Stop: 61486, Start Num: 46
Candidate Starts for John316_80:
(Start: 46 @61839 has 94 MA's), (83, 61626), (86, 61617),

Gene: JohnPork_92 Start: 57360, Stop: 57022, Start Num: 46
Candidate Starts for JohnPork_92:
(22, 57450), (Start: 23 @57447 has 5 MA's), (Start: 33 @57402 has 1 MA's), (Start: 46 @57360 has 94 MA's), (65, 57294), (78, 57201), (82, 57153), (83, 57147),

Gene: Jormungandr_74 Start: 60582, Stop: 60259, Start Num: 47
Candidate Starts for Jormungandr_74:
(Start: 47 @60582 has 39 MA's), (69, 60486), (70, 60480), (84, 60366), (85, 60363), (88, 60336), (89, 60324),

Gene: Jumbo_60 Start: 54431, Stop: 54102, Start Num: 39
Candidate Starts for Jumbo_60:
(Start: 39 @54431 has 1 MA's), (78, 54281), (80, 54266),

Gene: Kabluna_78 Start: 57062, Stop: 56721, Start Num: 43
Candidate Starts for Kabluna_78:
(Start: 43 @57062 has 15 MA's), (52, 57035), (72, 56948), (82, 56858), (83, 56852),

Gene: Kamaru_38 Start: 29300, Stop: 28986, Start Num: 46

Candidate Starts for Kamaru_38:

(41, 29312), (44, 29303), (Start: 46 @29300 has 94 MA's), (Start: 49 @29288 has 34 MA's), (56, 29264), (57, 29261), (62, 29249), (71, 29204), (72, 29201), (75, 29183), (78, 29159), (82, 29111), (83, 29105),

Gene: Kampe_62 Start: 52344, Stop: 52042, Start Num: 47

Candidate Starts for Kampe_62:

(Start: 47 @52344 has 39 MA's), (72, 52233), (79, 52188),

Gene: Kaseim_75 Start: 60024, Stop: 59701, Start Num: 47

Candidate Starts for Kaseim_75:

(Start: 47 @60024 has 39 MA's), (69, 59928), (70, 59922), (84, 59808), (85, 59805), (88, 59778), (89, 59766),

Gene: Katyusha_72 Start: 60661, Stop: 60341, Start Num: 47

Candidate Starts for Katyusha_72:

(Start: 47 @60661 has 39 MA's), (83, 60451),

Gene: Kelzog_78 Start: 60628, Stop: 60299, Start Num: 46

Candidate Starts for Kelzog_78:

(Start: 46 @60628 has 94 MA's), (83, 60415), (86, 60406),

Gene: Kenna_42 Start: 30558, Stop: 30241, Start Num: 46

Candidate Starts for Kenna_42:

(1, 31224), (2, 31221), (3, 31197), (4, 31185), (5, 31143), (6, 31137), (9, 30945), (14, 30780), (15, 30771), (16, 30747), (Start: 46 @30558 has 94 MA's), (Start: 49 @30546 has 34 MA's), (56, 30522), (57, 30519), (62, 30507), (66, 30495), (71, 30462), (72, 30459), (75, 30441), (78, 30417), (82, 30369), (83, 30363),

Gene: KimmyK_89 Start: 57751, Stop: 57413, Start Num: 46

Candidate Starts for KimmyK_89:

(22, 57841), (Start: 23 @57838 has 5 MA's), (Start: 33 @57793 has 1 MA's), (Start: 46 @57751 has 94 MA's), (65, 57685), (78, 57592), (82, 57544), (83, 57538),

Gene: Kudfre_130 Start: 70230, Stop: 69889, Start Num: 45

Candidate Starts for Kudfre_130:

(Start: 45 @70230 has 4 MA's), (77, 70071), (81, 70050), (91, 69930),

Gene: Kvothe_72 Start: 60503, Stop: 60183, Start Num: 47

Candidate Starts for Kvothe_72:

(Start: 47 @60503 has 39 MA's), (83, 60293),

Gene: Lahirium_74 Start: 61104, Stop: 60781, Start Num: 47

Candidate Starts for Lahirium_74:

(Start: 47 @61104 has 39 MA's), (69, 61008), (70, 61002), (84, 60888), (85, 60885), (88, 60858), (89, 60846),

Gene: Leonard_11 Start: 6315, Stop: 6635, Start Num: 49

Candidate Starts for Leonard_11:

(Start: 49 @6315 has 34 MA's), (72, 6405), (73, 6411), (78, 6447), (83, 6504),

Gene: Lidong_75 Start: 60839, Stop: 60516, Start Num: 47

Candidate Starts for Lidong_75:

(Start: 47 @60839 has 39 MA's), (69, 60743), (70, 60737), (84, 60623), (85, 60620), (88, 60593), (89, 60581),

Gene: LilJank_1 Start: 535, Stop: 197, Start Num: 48

Candidate Starts for LilJank_1:

(Start: 20 @634 has 1 MA's), (24, 619), (Start: 42 @547 has 1 MA's), (Start: 48 @535 has 5 MA's), (50, 526), (60, 499),

Gene: Lilbeanie_11 Start: 4525, Stop: 4851, Start Num: 49

Candidate Starts for Lilbeanie_11:

(Start: 49 @4525 has 34 MA's), (71, 4612), (78, 4657), (83, 4711),

Gene: Linetti_77 Start: 61689, Stop: 61372, Start Num: 46

Candidate Starts for Linetti_77:

(Start: 46 @61689 has 94 MA's), (83, 61476),

Gene: LitninMcQueen_37 Start: 29049, Stop: 28729, Start Num: 46

Candidate Starts for LitninMcQueen_37:

(41, 29061), (44, 29052), (Start: 46 @29049 has 94 MA's), (Start: 49 @29037 has 34 MA's), (56, 29013), (57, 29010), (62, 28998), (71, 28953), (72, 28950), (75, 28932), (78, 28908), (82, 28860), (83, 28854),

Gene: LittleMunchkin_81 Start: 61979, Stop: 61644, Start Num: 40

Candidate Starts for LittleMunchkin_81:

(Start: 40 @61979 has 10 MA's), (60, 61922), (71, 61856), (82, 61760), (83, 61754),

Gene: Lizzo_77 Start: 60701, Stop: 60336, Start Num: 46

Candidate Starts for Lizzo_77:

(Start: 46 @60701 has 94 MA's), (83, 60488), (86, 60479),

Gene: Lollipop1437_79 Start: 58702, Stop: 58388, Start Num: 43

Candidate Starts for Lollipop1437_79:

(Start: 43 @58702 has 15 MA's), (59, 58657), (83, 58495),

Gene: Luker_76 Start: 61057, Stop: 60734, Start Num: 47

Candidate Starts for Luker_76:

(Start: 47 @61057 has 39 MA's), (69, 60961), (70, 60955), (84, 60841), (85, 60838), (88, 60811), (89, 60799),

Gene: Lutum_43 Start: 30558, Stop: 30241, Start Num: 46

Candidate Starts for Lutum_43:

(1, 31224), (2, 31221), (3, 31197), (4, 31185), (5, 31143), (6, 31137), (9, 30945), (14, 30780), (15, 30771), (16, 30747), (Start: 46 @30558 has 94 MA's), (Start: 49 @30546 has 34 MA's), (56, 30522), (57, 30519), (62, 30507), (66, 30495), (71, 30462), (72, 30459), (75, 30441), (78, 30417), (82, 30369), (83, 30363),

Gene: McDazzle_53 Start: 37720, Stop: 37472, Start Num: 49

Candidate Starts for McDazzle_53:

(36, 37768), (Start: 49 @37720 has 34 MA's), (63, 37675), (77, 37594),

Gene: MelBins_11 Start: 6093, Stop: 6413, Start Num: 49

Candidate Starts for MelBins_11:

(28, 6012), (Start: 49 @6093 has 34 MA's), (72, 6183), (73, 6189), (78, 6225), (83, 6282),

Gene: Melba_36 Start: 30375, Stop: 30085, Start Num: 46

Candidate Starts for Melba_36:

(Start: 37 @30408 has 4 MA's), (Start: 46 @30375 has 94 MA's), (Start: 49 @30363 has 34 MA's), (52, 30351), (56, 30339), (57, 30336), (62, 30324), (66, 30312), (71, 30279), (72, 30276), (75, 30255), (78, 30231), (82, 30183), (83, 30177),

Gene: Mellie_34 Start: 28646, Stop: 28332, Start Num: 46

Candidate Starts for Mellie_34:

(Start: 37 @28679 has 4 MA's), (Start: 46 @28646 has 94 MA's), (Start: 49 @28634 has 34 MA's), (56, 28610), (57, 28607), (62, 28595), (66, 28583), (71, 28550), (72, 28547), (75, 28529), (78, 28505), (82, 28457), (83, 28451),

Gene: MerCougar_78 Start: 58752, Stop: 58420, Start Num: 43

Candidate Starts for MerCougar_78:

(Start: 43 @58752 has 15 MA's), (59, 58707), (72, 58641), (83, 58545),

Gene: Minos_76 Start: 60581, Stop: 60258, Start Num: 47

Candidate Starts for Minos_76:

(Start: 47 @60581 has 39 MA's), (69, 60485), (70, 60479), (84, 60365), (85, 60362), (88, 60335), (89, 60323),

Gene: MintFen_37 Start: 30482, Stop: 30147, Start Num: 37

Candidate Starts for MintFen_37:

(Start: 37 @30482 has 4 MA's), (Start: 46 @30449 has 94 MA's), (Start: 49 @30437 has 34 MA's), (56, 30413), (57, 30410), (62, 30398), (66, 30386), (71, 30353), (72, 30350), (75, 30329), (78, 30305), (82, 30257), (83, 30251),

Gene: Monty_76 Start: 59914, Stop: 59549, Start Num: 46

Candidate Starts for Monty_76:

(Start: 46 @59914 has 94 MA's), (83, 59701), (86, 59692),

Gene: MrWormie_75 Start: 59742, Stop: 59419, Start Num: 47

Candidate Starts for MrWormie_75:

(Start: 47 @59742 has 39 MA's), (69, 59646), (70, 59640), (84, 59526), (85, 59523), (88, 59496), (89, 59484),

Gene: Msay19_81 Start: 62277, Stop: 61945, Start Num: 46

Candidate Starts for Msay19_81:

(Start: 46 @62277 has 94 MA's), (83, 62064),

Gene: Mutzi_91 Start: 58651, Stop: 58313, Start Num: 46

Candidate Starts for Mutzi_91:

(22, 58741), (Start: 23 @58738 has 5 MA's), (Start: 33 @58693 has 1 MA's), (Start: 46 @58651 has 94 MA's), (65, 58585), (71, 58540), (78, 58492), (82, 58444), (83, 58438),

Gene: Nadeem_48 Start: 34920, Stop: 35255, Start Num: 53

Candidate Starts for Nadeem_48:

(25, 34818), (Start: 53 @34920 has 3 MA's), (Start: 54 @34923 has 5 MA's), (64, 34956), (74, 35025), (76, 35040), (77, 35049),

Gene: Natkenzie_9 Start: 5353, Stop: 5655, Start Num: 49

Candidate Starts for Natkenzie_9:

(Start: 49 @5353 has 34 MA's), (72, 5443), (78, 5485), (82, 5533), (83, 5539),

Gene: Neoevie_74 Start: 60843, Stop: 60520, Start Num: 47

Candidate Starts for Neoevie_74:

(Start: 47 @60843 has 39 MA's), (69, 60747), (70, 60741), (84, 60627), (85, 60624), (88, 60597), (89, 60585),

Gene: Neville_1 Start: 485, Stop: 147, Start Num: 48

Candidate Starts for Neville_1:

(Start: 20 @584 has 1 MA's), (24, 569), (Start: 42 @497 has 1 MA's), (Start: 48 @485 has 5 MA's), (50, 476), (60, 449),

Gene: Newt_76 Start: 61071, Stop: 60748, Start Num: 47

Candidate Starts for Newt_76:

(Start: 47 @61071 has 39 MA's), (69, 60975), (70, 60969), (84, 60855), (85, 60852), (88, 60825), (89, 60813),

Gene: Niagara_73 Start: 60594, Stop: 60274, Start Num: 47

Candidate Starts for Niagara_73:

(Start: 47 @60594 has 39 MA's), (83, 60384),

Gene: Nimi13_74 Start: 60590, Stop: 60267, Start Num: 47

Candidate Starts for Nimi13_74:

(Start: 47 @60590 has 39 MA's), (69, 60494), (70, 60488), (84, 60374), (85, 60371), (88, 60344), (89, 60332),

Gene: NosilaM_76 Start: 57364, Stop: 57035, Start Num: 43

Candidate Starts for NosilaM_76:

(Start: 43 @57364 has 15 MA's), (65, 57295), (72, 57253), (82, 57163), (83, 57157),

Gene: Nubi_94 Start: 57714, Stop: 57376, Start Num: 46

Candidate Starts for Nubi_94:

(22, 57804), (Start: 23 @57801 has 5 MA's), (Start: 33 @57756 has 1 MA's), (Start: 46 @57714 has 94 MA's), (65, 57648), (71, 57603), (78, 57555), (82, 57507), (83, 57501),

Gene: Obliviate_33 Start: 28822, Stop: 28514, Start Num: 46

Candidate Starts for Obliviate_33:

(Start: 37 @28855 has 4 MA's), (Start: 46 @28822 has 94 MA's), (Start: 49 @28810 has 34 MA's), (56, 28786), (57, 28783), (62, 28771), (66, 28759), (71, 28726), (72, 28723), (75, 28702), (78, 28678), (82, 28630), (83, 28624),

Gene: Octobien14_126 Start: 68767, Stop: 68426, Start Num: 45

Candidate Starts for Octobien14_126:

(Start: 45 @68767 has 4 MA's), (77, 68614), (90, 68506), (91, 68476),

Gene: Orchid_61 Start: 52345, Stop: 52043, Start Num: 47

Candidate Starts for Orchid_61:

(Start: 47 @52345 has 39 MA's), (72, 52234), (79, 52189),

Gene: Outis_76 Start: 57844, Stop: 57512, Start Num: 43

Candidate Starts for Outis_76:

(Start: 43 @57844 has 15 MA's), (59, 57799), (72, 57733), (83, 57637),

Gene: Parada_48 Start: 34923, Stop: 35255, Start Num: 54

Candidate Starts for Parada_48:

(25, 34818), (Start: 53 @34920 has 3 MA's), (Start: 54 @34923 has 5 MA's), (64, 34956), (74, 35025), (76, 35040), (77, 35049),

Gene: Patio_78 Start: 57925, Stop: 57620, Start Num: 43

Candidate Starts for Patio_78:

(Start: 43 @57925 has 15 MA's), (63, 57865), (83, 57727),

Gene: PatrickStar_62 Start: 52344, Stop: 52042, Start Num: 47

Candidate Starts for PatrickStar_62:

(Start: 47 @52344 has 39 MA's), (72, 52233), (79, 52188),

Gene: Periwinkle_46 Start: 32013, Stop: 31696, Start Num: 46

Candidate Starts for Periwinkle_46:

(41, 32025), (44, 32016), (Start: 46 @32013 has 94 MA's), (Start: 49 @32001 has 34 MA's), (56, 31977), (57, 31974), (71, 31917), (72, 31914), (78, 31872), (82, 31824), (83, 31818),

Gene: Phabuloso_40 Start: 30274, Stop: 29954, Start Num: 46

Candidate Starts for Phabuloso_40:

(1, 30940), (2, 30937), (3, 30913), (4, 30901), (9, 30661), (14, 30496), (15, 30487), (16, 30463), (Start: 46 @30274 has 94 MA's), (Start: 49 @30262 has 34 MA's), (56, 30238), (57, 30235), (62, 30223), (67, 30193), (71, 30178), (72, 30175), (78, 30133), (82, 30085), (83, 30079),

Gene: Phauci_4 Start: 2839, Stop: 3165, Start Num: 49

Candidate Starts for Phauci_4:

(Start: 49 @2839 has 34 MA's), (72, 2932), (73, 2938), (78, 2974), (83, 3031),

Gene: Philon9_71 Start: 61064, Stop: 60738, Start Num: 47

Candidate Starts for Philon9_71:

(Start: 47 @61064 has 39 MA's), (59, 61022), (77, 60905), (79, 60899), (84, 60845), (87, 60821),

Gene: Phinally_11 Start: 6312, Stop: 6632, Start Num: 49

Candidate Starts for Phinally_11:

(Start: 49 @6312 has 34 MA's), (72, 6402), (73, 6408), (78, 6444), (83, 6501),

Gene: Phistory_43 Start: 30909, Stop: 30592, Start Num: 46

Candidate Starts for Phistory_43:

(1, 31575), (2, 31572), (3, 31548), (4, 31536), (5, 31494), (6, 31488), (9, 31296), (14, 31131), (15, 31122), (16, 31098), (Start: 46 @30909 has 94 MA's), (Start: 49 @30897 has 34 MA's), (56, 30873), (57, 30870), (62, 30858), (66, 30846), (71, 30813), (72, 30810), (75, 30792), (78, 30768), (82, 30720), (83, 30714),

Gene: Phlop_88 Start: 57354, Stop: 57016, Start Num: 46

Candidate Starts for Phlop_88:

(22, 57444), (Start: 23 @57441 has 5 MA's), (Start: 33 @57396 has 1 MA's), (Start: 46 @57354 has 94 MA's), (65, 57288), (78, 57195), (82, 57147), (83, 57141),

Gene: PhrostedPhlake_40 Start: 30630, Stop: 30334, Start Num: 46

Candidate Starts for PhrostedPhlake_40:

(Start: 37 @30663 has 4 MA's), (Start: 46 @30630 has 94 MA's), (Start: 49 @30618 has 34 MA's), (56, 30594), (57, 30591), (62, 30579), (66, 30567), (71, 30534), (72, 30531), (75, 30510), (78, 30486), (82, 30438), (83, 30432),

Gene: PierreThree_76 Start: 61166, Stop: 60849, Start Num: 46

Candidate Starts for PierreThree_76:

(Start: 46 @61166 has 94 MA's), (83, 60953),

Gene: PinkCoffee_93 Start: 57642, Stop: 57217, Start Num: 23

Candidate Starts for PinkCoffee_93:

(22, 57645), (Start: 23 @57642 has 5 MA's), (Start: 33 @57597 has 1 MA's), (Start: 46 @57555 has 94 MA's), (65, 57489), (71, 57444), (78, 57396), (82, 57348), (83, 57342),

Gene: Poland_81 Start: 62256, Stop: 61924, Start Num: 46

Candidate Starts for Poland_81:

(Start: 46 @62256 has 94 MA's), (83, 62043),

Gene: Portcullis_91 Start: 57360, Stop: 57022, Start Num: 46

Candidate Starts for Portcullis_91:

(22, 57450), (Start: 23 @57447 has 5 MA's), (Start: 33 @57402 has 1 MA's), (Start: 46 @57360 has 94 MA's), (65, 57294), (78, 57201), (82, 57153), (83, 57147),

Gene: PotPie_50 Start: 38217, Stop: 37969, Start Num: 49

Candidate Starts for PotPie_50:

(19, 38331), (Start: 49 @38217 has 34 MA's), (63, 38172), (77, 38091),

Gene: PullumCavea_89 Start: 57531, Stop: 57193, Start Num: 46

Candidate Starts for PullumCavea_89:

(22, 57621), (Start: 23 @57618 has 5 MA's), (Start: 33 @57573 has 1 MA's), (Start: 46 @57531 has 94 MA's), (65, 57465), (78, 57372), (82, 57324), (83, 57318),

Gene: Pumpkiney_10 Start: 4586, Stop: 4891, Start Num: 49

Candidate Starts for Pumpkiney_10:

(Start: 49 @4586 has 34 MA's), (72, 4679), (78, 4721), (82, 4769), (83, 4775),

Gene: Pupper_204 Start: 140080, Stop: 140403, Start Num: 40

Candidate Starts for Pupper_204:

(Start: 40 @140080 has 10 MA's), (82, 140284), (83, 140290),

Gene: Rabbitrun_1 Start: 477, Stop: 136, Start Num: 42

Candidate Starts for Rabbitrun_1:

(27, 543), (Start: 42 @477 has 1 MA's), (Start: 48 @465 has 5 MA's), (50, 456), (60, 429),

Gene: RayTheFireFly_41 Start: 30859, Stop: 30572, Start Num: 46

Candidate Starts for RayTheFireFly_41:

(41, 30871), (Start: 46 @30859 has 94 MA's), (Start: 49 @30847 has 34 MA's), (56, 30823), (57, 30820), (62, 30808), (66, 30796), (71, 30763), (72, 30760), (75, 30742), (78, 30718), (82, 30670),

Gene: RedRaider_83 Start: 60073, Stop: 59747, Start Num: 43

Candidate Starts for RedRaider_83:

(Start: 43 @60073 has 15 MA's), (56, 60037), (82, 59872), (83, 59866),

Gene: RemRem_78 Start: 59853, Stop: 59521, Start Num: 46

Candidate Starts for RemRem_78:

(Start: 46 @59853 has 94 MA's), (83, 59640),

Gene: RobinSparkles_65 Start: 52999, Stop: 52595, Start Num: 20
Candidate Starts for RobinSparkles_65:
(Start: 20 @52999 has 1 MA's), (31, 52945), (Start: 47 @52897 has 39 MA's), (72, 52786), (79, 52741),

Gene: RogerDodger_94 Start: 58119, Stop: 57781, Start Num: 46
Candidate Starts for RogerDodger_94:
(11, 58464), (18, 58251), (Start: 33 @58161 has 1 MA's), (Start: 46 @58119 has 94 MA's), (65, 58053),
(78, 57960), (82, 57912), (83, 57906),

Gene: RoyalG_77 Start: 60476, Stop: 60180, Start Num: 46
Candidate Starts for RoyalG_77:
(Start: 46 @60476 has 94 MA's), (90, 60230),

Gene: SCentae_203 Start: 140271, Stop: 140594, Start Num: 40
Candidate Starts for SCentae_203:
(Start: 40 @140271 has 10 MA's), (82, 140475), (83, 140481),

Gene: Salvador_91 Start: 57456, Stop: 57118, Start Num: 46
Candidate Starts for Salvador_91:
(26, 57528), (Start: 33 @57498 has 1 MA's), (Start: 46 @57456 has 94 MA's), (65, 57390), (78, 57297),
(82, 57249), (83, 57243),

Gene: Sam12_76 Start: 59877, Stop: 59545, Start Num: 46
Candidate Starts for Sam12_76:
(Start: 46 @59877 has 94 MA's), (83, 59664),

Gene: Sampson_9 Start: 5298, Stop: 5600, Start Num: 49
Candidate Starts for Sampson_9:
(Start: 49 @5298 has 34 MA's), (72, 5388), (78, 5430), (82, 5478), (83, 5484),

Gene: Savbucketdawg_86 Start: 56798, Stop: 56460, Start Num: 46
Candidate Starts for Savbucketdawg_86:
(11, 57143), (Start: 33 @56840 has 1 MA's), (Start: 46 @56798 has 94 MA's), (65, 56732), (78, 56639),
(82, 56591), (83, 56585),

Gene: Scioto_9 Start: 5353, Stop: 5655, Start Num: 49
Candidate Starts for Scioto_9:
(Start: 49 @5353 has 34 MA's), (72, 5443), (78, 5485), (82, 5533), (83, 5539),

Gene: Sendy_93 Start: 57536, Stop: 57198, Start Num: 46
Candidate Starts for Sendy_93:
(22, 57626), (Start: 23 @57623 has 5 MA's), (Start: 33 @57578 has 1 MA's), (Start: 46 @57536 has 94 MA's), (65, 57470), (78, 57377), (82, 57329), (83, 57323),

Gene: Sephiroth_125 Start: 70000, Stop: 69659, Start Num: 45
Candidate Starts for Sephiroth_125:
(Start: 45 @70000 has 4 MA's), (77, 69841), (81, 69820),

Gene: SharkTale_92 Start: 58266, Stop: 57928, Start Num: 46
Candidate Starts for SharkTale_92:
(22, 58356), (Start: 23 @58353 has 5 MA's), (Start: 33 @58308 has 1 MA's), (Start: 46 @58266 has 94 MA's), (61, 58212), (65, 58200), (69, 58170), (71, 58155), (78, 58107), (82, 58059), (83, 58053),

Gene: ShawBrad_43 Start: 30132, Stop: 29815, Start Num: 46

Candidate Starts for ShawBrad_43:

(1, 30798), (2, 30795), (3, 30771), (4, 30759), (5, 30717), (6, 30711), (9, 30519), (14, 30354), (15, 30345), (16, 30321), (Start: 46 @30132 has 94 MA's), (Start: 49 @30120 has 34 MA's), (56, 30096), (57, 30093), (62, 30081), (66, 30069), (71, 30036), (72, 30033), (75, 30015), (78, 29991), (82, 29943), (83, 29937),

Gene: SheckWes_54 Start: 37265, Stop: 37017, Start Num: 49

Candidate Starts for SheckWes_54:

(Start: 49 @37265 has 34 MA's), (63, 37220), (77, 37139),

Gene: Shelley_75 Start: 60066, Stop: 59743, Start Num: 47

Candidate Starts for Shelley_75:

(Start: 47 @60066 has 39 MA's), (69, 59970), (70, 59964), (84, 59850), (85, 59847), (88, 59820), (89, 59808),

Gene: Shinji_90 Start: 57537, Stop: 57199, Start Num: 46

Candidate Starts for Shinji_90:

(22, 57627), (Start: 23 @57624 has 5 MA's), (Start: 33 @57579 has 1 MA's), (Start: 46 @57537 has 94 MA's), (65, 57471), (78, 57378), (82, 57330), (83, 57324),

Gene: Sisko_81 Start: 60938, Stop: 60591, Start Num: 40

Candidate Starts for Sisko_81:

(Start: 40 @60938 has 10 MA's), (60, 60881), (71, 60815), (82, 60719), (83, 60713),

Gene: Sixsevenium_90 Start: 58448, Stop: 58110, Start Num: 46

Candidate Starts for Sixsevenium_90:

(26, 58523), (30, 58502), (Start: 33 @58490 has 1 MA's), (Start: 46 @58448 has 94 MA's), (65, 58382), (69, 58352), (71, 58337), (78, 58289), (82, 58241), (83, 58235),

Gene: Skog_33 Start: 15580, Stop: 15906, Start Num: 40

Candidate Starts for Skog_33:

(Start: 40 @15580 has 10 MA's), (82, 15784), (83, 15790),

Gene: Skysand_80 Start: 58588, Stop: 58283, Start Num: 43

Candidate Starts for Skysand_80:

(Start: 43 @58588 has 15 MA's), (63, 58528), (83, 58390),

Gene: SmokingBunny_92 Start: 58452, Stop: 58114, Start Num: 46

Candidate Starts for SmokingBunny_92:

(26, 58524), (Start: 33 @58494 has 1 MA's), (Start: 46 @58452 has 94 MA's), (65, 58386), (78, 58293), (82, 58245), (83, 58239),

Gene: Sombrero_78 Start: 60468, Stop: 60136, Start Num: 46

Candidate Starts for Sombrero_78:

(Start: 46 @60468 has 94 MA's), (83, 60255),

Gene: Squibbles_76 Start: 60731, Stop: 60402, Start Num: 46

Candidate Starts for Squibbles_76:

(Start: 46 @60731 has 94 MA's), (83, 60518),

Gene: StarStruck_76 Start: 57844, Stop: 57512, Start Num: 43

Candidate Starts for StarStruck_76:

(Start: 43 @57844 has 15 MA's), (59, 57799), (72, 57733), (83, 57637),

Gene: SteveFrench_76 Start: 60716, Stop: 60420, Start Num: 46

Candidate Starts for SteveFrench_76:

(Start: 46 @60716 has 94 MA's), (90, 60470),

Gene: Sticker17_75 Start: 60554, Stop: 60231, Start Num: 47

Candidate Starts for Sticker17_75:

(Start: 47 @60554 has 39 MA's), (69, 60458), (70, 60452), (84, 60338), (85, 60335), (88, 60308), (89, 60296),

Gene: SummitAcademy_50 Start: 37363, Stop: 37115, Start Num: 49

Candidate Starts for SummitAcademy_50:

(19, 37477), (Start: 49 @37363 has 34 MA's), (63, 37318), (77, 37237),

Gene: SuperSulley_77 Start: 58290, Stop: 57958, Start Num: 43

Candidate Starts for SuperSulley_77:

(Start: 43 @58290 has 15 MA's), (52, 58263), (72, 58176), (82, 58086), (83, 58080),

Gene: Syleon_130 Start: 70751, Stop: 70410, Start Num: 45

Candidate Starts for Syleon_130:

(Start: 45 @70751 has 4 MA's), (77, 70592), (81, 70571),

Gene: Tardus_10 Start: 4552, Stop: 4857, Start Num: 49

Candidate Starts for Tardus_10:

(Start: 49 @4552 has 34 MA's), (72, 4645), (78, 4687), (82, 4735), (83, 4741),

Gene: Teal_74 Start: 61048, Stop: 60725, Start Num: 47

Candidate Starts for Teal_74:

(Start: 47 @61048 has 39 MA's), (69, 60952), (70, 60946), (84, 60832), (85, 60829), (88, 60802), (89, 60790),

Gene: Teatealatte_74 Start: 60491, Stop: 60171, Start Num: 47

Candidate Starts for Teatealatte_74:

(Start: 47 @60491 has 39 MA's), (83, 60281),

Gene: Teech_74 Start: 60307, Stop: 59987, Start Num: 47

Candidate Starts for Teech_74:

(Start: 47 @60307 has 39 MA's), (83, 60097),

Gene: TillyBobJoe_90 Start: 57675, Stop: 57337, Start Num: 46

Candidate Starts for TillyBobJoe_90:

(26, 57747), (Start: 33 @57717 has 1 MA's), (Start: 46 @57675 has 94 MA's), (65, 57609), (78, 57516), (82, 57468), (83, 57462),

Gene: Togo_91 Start: 58452, Stop: 58114, Start Num: 46

Candidate Starts for Togo_91:

(26, 58524), (Start: 33 @58494 has 1 MA's), (Start: 46 @58452 has 94 MA's), (65, 58386), (78, 58293), (82, 58245), (83, 58239),

Gene: Towmatter_139 Start: 81023, Stop: 80664, Start Num: 48

Candidate Starts for Towmatter_139:

(Start: 48 @81023 has 5 MA's), (Start: 54 @80999 has 5 MA's), (64, 80963), (77, 80885), (88, 80789),

Gene: Trax_1 Start: 485, Stop: 147, Start Num: 48

Candidate Starts for Trax_1:

(Start: 20 @584 has 1 MA's), (24, 569), (Start: 42 @497 has 1 MA's), (Start: 48 @485 has 5 MA's), (50, 476), (60, 449),

Gene: Tredge_73 Start: 60491, Stop: 60171, Start Num: 47

Candidate Starts for Tredge_73:

(Start: 47 @60491 has 39 MA's), (83, 60281),

Gene: Twister6_90 Start: 56801, Stop: 56463, Start Num: 46

Candidate Starts for Twister6_90:

(11, 57146), (18, 56933), (Start: 33 @56843 has 1 MA's), (Start: 46 @56801 has 94 MA's), (65, 56735), (78, 56642), (82, 56594), (83, 56588),

Gene: UmaThurman_32 Start: 29419, Stop: 29123, Start Num: 49

Candidate Starts for UmaThurman_32:

(Start: 37 @29464 has 4 MA's), (Start: 46 @29431 has 94 MA's), (Start: 49 @29419 has 34 MA's), (56, 29395), (57, 29392), (62, 29380), (66, 29368), (71, 29335), (72, 29332), (75, 29311), (78, 29287), (82, 29239), (83, 29233),

Gene: Valary_92 Start: 58444, Stop: 58106, Start Num: 46

Candidate Starts for Valary_92:

(22, 58534), (Start: 23 @58531 has 5 MA's), (Start: 33 @58486 has 1 MA's), (Start: 46 @58444 has 94 MA's), (65, 58378), (78, 58285), (82, 58237), (83, 58231),

Gene: VanDeWege_93 Start: 57969, Stop: 57631, Start Num: 46

Candidate Starts for VanDeWege_93:

(11, 58314), (18, 58101), (Start: 33 @58011 has 1 MA's), (Start: 46 @57969 has 94 MA's), (65, 57903), (78, 57810), (82, 57762), (83, 57756),

Gene: Verity_10 Start: 5803, Stop: 6096, Start Num: 49

Candidate Starts for Verity_10:

(Start: 49 @5803 has 34 MA's), (51, 5812), (71, 5884), (78, 5929), (82, 5980), (83, 5986),

Gene: ViaConlectus_9 Start: 5353, Stop: 5655, Start Num: 49

Candidate Starts for ViaConlectus_9:

(Start: 49 @5353 has 34 MA's), (72, 5443), (78, 5485), (82, 5533), (83, 5539),

Gene: Vine_53 Start: 37983, Stop: 37735, Start Num: 49

Candidate Starts for Vine_53:

(Start: 49 @37983 has 34 MA's), (63, 37938), (77, 37857),

Gene: Vitaenoi_71 Start: 61048, Stop: 60722, Start Num: 47

Candidate Starts for Vitaenoi_71:

(Start: 47 @61048 has 39 MA's), (59, 61006), (77, 60889), (79, 60883), (84, 60829), (87, 60805),

Gene: Walrus_37 Start: 30012, Stop: 29710, Start Num: 49

Candidate Starts for Walrus_37:

(Start: 37 @30057 has 4 MA's), (Start: 46 @30024 has 94 MA's), (Start: 49 @30012 has 34 MA's), (52, 30000), (56, 29988), (57, 29985), (66, 29961), (71, 29928), (72, 29925), (75, 29907), (78, 29883), (82, 29835), (83, 29829),

Gene: Whitney_45 Start: 33551, Stop: 33234, Start Num: 46

Candidate Starts for Whitney_45:

(41, 33563), (44, 33554), (Start: 46 @33551 has 94 MA's), (Start: 49 @33539 has 34 MA's), (56, 33515), (57, 33512), (71, 33455), (72, 33452), (75, 33434), (78, 33410), (82, 33362), (83, 33356),

Gene: Wizard_86 Start: 57304, Stop: 56966, Start Num: 46

Candidate Starts for Wizard_86:

(22, 57394), (Start: 23 @57391 has 5 MA's), (Start: 33 @57346 has 1 MA's), (Start: 46 @57304 has 94 MA's), (65, 57238), (78, 57145), (82, 57097), (83, 57091),

Gene: Woes_74 Start: 61099, Stop: 60776, Start Num: 47

Candidate Starts for Woes_74:

(Start: 47 @61099 has 39 MA's), (69, 61003), (70, 60997), (84, 60883), (85, 60880), (88, 60853), (89, 60841),

Gene: Worcestershire_76 Start: 59861, Stop: 59529, Start Num: 46

Candidate Starts for Worcestershire_76:

(Start: 46 @59861 has 94 MA's), (83, 59648),

Gene: Yago84_80 Start: 60646, Stop: 60299, Start Num: 40

Candidate Starts for Yago84_80:

(Start: 40 @60646 has 10 MA's), (60, 60589), (71, 60523), (82, 60427), (83, 60421),

Gene: Yucky_53 Start: 37775, Stop: 37527, Start Num: 49

Candidate Starts for Yucky_53:

(Start: 49 @37775 has 34 MA's), (63, 37730), (77, 37649),

Gene: YungMoney_91 Start: 59491, Stop: 59153, Start Num: 46

Candidate Starts for YungMoney_91:

(22, 59581), (Start: 23 @59578 has 5 MA's), (Start: 33 @59533 has 1 MA's), (Start: 46 @59491 has 94 MA's), (65, 59425), (71, 59380), (78, 59332), (82, 59284), (83, 59278),

Gene: Zarbodnamra_36 Start: 29888, Stop: 29547, Start Num: 37

Candidate Starts for Zarbodnamra_36:

(Start: 37 @29888 has 4 MA's), (Start: 46 @29855 has 94 MA's), (Start: 49 @29843 has 34 MA's), (52, 29831), (56, 29819), (57, 29816), (62, 29804), (66, 29792), (71, 29759), (72, 29756), (78, 29711), (82, 29663), (83, 29657),

Gene: Zipp_10 Start: 5948, Stop: 6241, Start Num: 49

Candidate Starts for Zipp_10:

(Start: 49 @5948 has 34 MA's), (51, 5957), (71, 6029), (78, 6074), (82, 6125), (83, 6131),

Gene: Zitch_10 Start: 5089, Stop: 5394, Start Num: 49

Candidate Starts for Zitch_10:

(30, 5026), (35, 5044), (Start: 49 @5089 has 34 MA's), (72, 5182), (78, 5224), (82, 5272), (83, 5278),