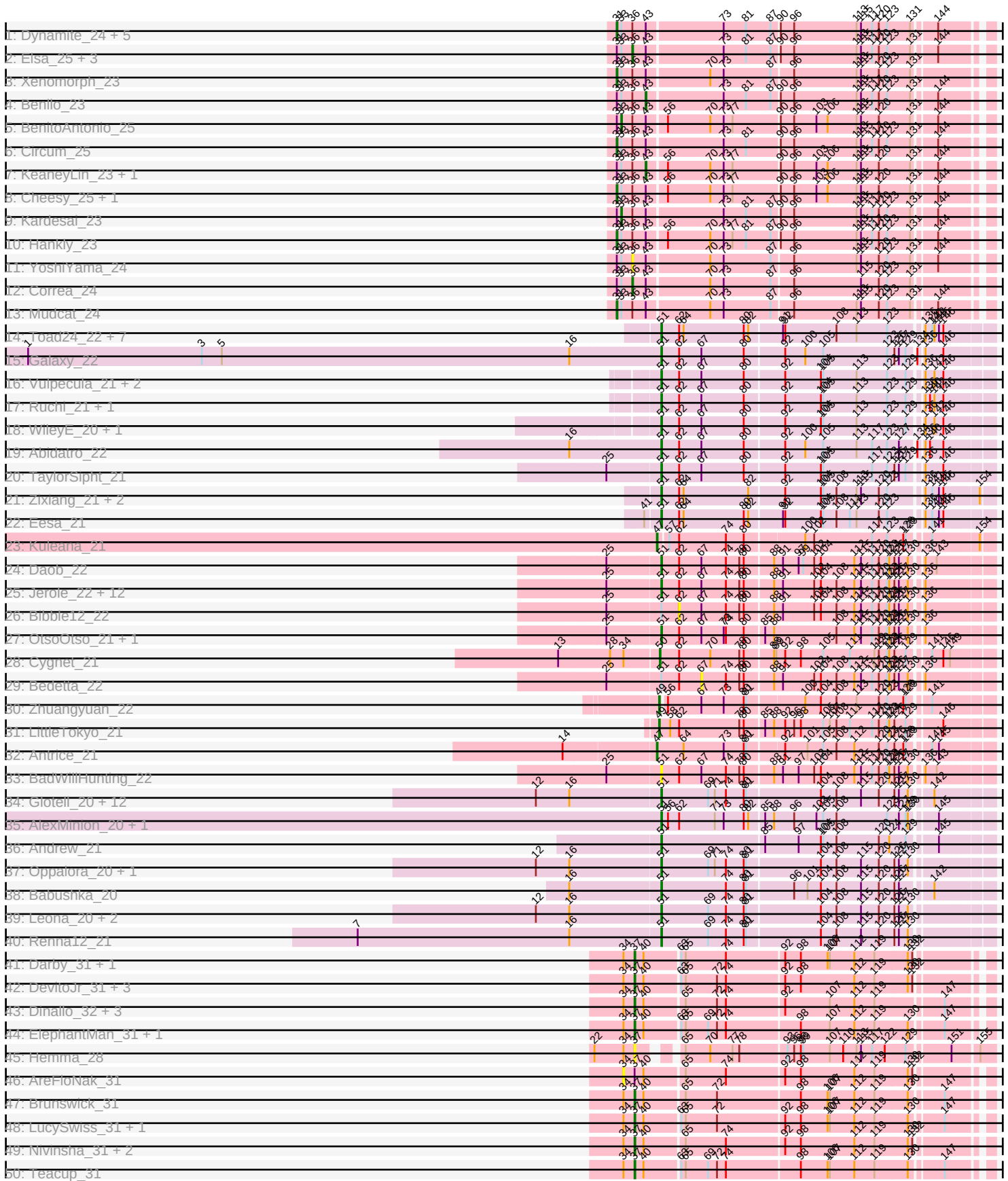




Pham 330489

The figure displays a grid of 100 small plots, each representing the evolution of a different population over 150 generations. The populations are labeled on the left side of the grid, starting with 'r01: GernyBearimy_30' and ending with 'r99: Gandrionco_46'. Each plot has a y-axis ranging from 0 to 100 and an x-axis ranging from 0 to 150. The plots show various patterns of growth, decline, and fluctuation, with some populations reaching high values and others remaining low or fluctuating around a mean. The populations are grouped into several categories based on their labels: 'GernyBearimy', 'PorkBelly', 'Kureo', 'JeNeSaisPas', 'Paella', 'Gandrionco', and a large group of unlabeled populations. The plots are arranged in a 10x10 grid, with the first six rows containing labeled populations and the last four rows containing unlabeled populations. The plots show a wide variety of evolutionary trajectories, from rapid growth to slow decline, and from high volatility to low volatility. The populations are represented by different colors and line styles, making it easy to distinguish between them. The overall trend is that most populations show some degree of growth or fluctuation over time, with a few populations showing a clear decline or stabilization at low values.

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 330489 Report

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

Pham number 330489 has 209 members, 41 are drafts.

Phages represented in each track:

- Track 1 : Dynamite_24, Mooshroom_24, Bowling_25, NapoleonB_24, JEGGS_24, Heisenberger_24
- Track 2 : Elsa_25, Stardom_23, Arcadia_25, Nason_25
- Track 3 : Xenomorph_23
- Track 4 : Benllo_23
- Track 5 : BenitoAntonio_25
- Track 6 : Circum_25
- Track 7 : KeaneyLin_23, GoCrazy_23
- Track 8 : Cheesy_25, Tribby_25
- Track 9 : Kardesai_23
- Track 10 : Hankly_23
- Track 11 : YoshiYama_24
- Track 12 : Correa_24
- Track 13 : Mudcat_24
- Track 14 : Toad24_22, Amanises_22, KendraB23_22, Pelletreau_22, Shen_22, Westrich_22, Orcanus_21, Gravel_22
- Track 15 : Galaxy_22
- Track 16 : Vulpecula_21, Jamun_21, Brynnie_21
- Track 17 : Ruchi_21, Basilisk_21
- Track 18 : WileyE_20, Chickaboom_20
- Track 19 : Abidatro_22
- Track 20 : TaylorSipht_21
- Track 21 : Zixiang_21, Niblet_21, Chicken_21
- Track 22 : Eesa_21
- Track 23 : Kuleana_21
- Track 24 : Daob_22
- Track 25 : Jerole_22, Amelia_22, Melons_22, HannahPhantana_22, Cote_22, Kepler_21, Colusalem_21, Lunar_22, Damocles_22, PhirstandPhine_22, GramZayde_21, Coral_21, Pineda_22
- Track 26 : Bibble12_22
- Track 27 : OtsoOtso_21, Polka_21
- Track 28 : Cygnet_21
- Track 29 : Bedetta_22
- Track 30 : Zhuangyuan_22
- Track 31 : LittleTokyo_21
- Track 32 : Antrice_21
- Track 33 : BadWillHunting_22

- Track 34 : Glotell_20, DanHam62_20, AdoptaAdorbs_20, Atlantica_20, Laphuphu24k_19, Camara_20, HamCheese_20, Fingolfin_20, Juno112_20, KHumphrey_20, PhluffyCoco_20, Amphitrite_20, RedFox_20
- Track 35 : AlexMinion_20, StuartMinion_20
- Track 36 : Andrew_21
- Track 37 : Oppalora_20, AmiCi24_20
- Track 38 : Babushka_20
- Track 39 : Leona_20, Rattail_20, Azaz_20
- Track 40 : Renna12_21
- Track 41 : Darby_31, Synepsis_30
- Track 42 : DevitoJr_31, CastorTray_33, Issa_31, Trustiboi_32
- Track 43 : Dinallo_32, MiniBagel_31, CapnMurica_31, Tenno_32
- Track 44 : ElephantMan_31, Niktson_31
- Track 45 : Hemma_28
- Track 46 : AreFloNak_31
- Track 47 : Brunswick_31
- Track 48 : LucySwiss_31, Westerlin_32
- Track 49 : Nivinsha_31, Breylor17_32, ScienceWizSam_33
- Track 50 : Teacup_31
- Track 51 : Gordon_31
- Track 52 : Acai_31
- Track 53 : Nightmare_32
- Track 54 : Tatanka_31
- Track 55 : Chlochlo_32, Tipton_32
- Track 56 : Phaby_32
- Track 57 : Giantsbane_32
- Track 58 : Shepard_32, LilHuddy_32
- Track 59 : Tokki_32
- Track 60 : Bouchard_32
- Track 61 : Ingrid_31, Loretta_31
- Track 62 : Caterpillar_29, MediumFry_29
- Track 63 : Anandi_32
- Track 64 : Makai_31, Truckee_30
- Track 65 : Barbonzobean_33, Biscute_32
- Track 66 : Lewando_34
- Track 67 : Altjira_30, Zeina_31
- Track 68 : Stardrop_31, KevinMinion_31, Mardi_32, Tenney120_31
- Track 69 : Argan_30, PoeMe_32, GantcherGoblin_30, Uzumaki_31
- Track 70 : Muglass_33
- Track 71 : Navi1117_31
- Track 72 : Phaila_30
- Track 73 : Kinny_33, Renaldo_36
- Track 74 : BarbieDoll_34
- Track 75 : Leathea_31
- Track 76 : TrixiePhattel_31
- Track 77 : Zippen_31, Inked_33
- Track 78 : Natasha_28
- Track 79 : Egad_28, Spain_27, StarLord_28, Jeremy4pt0_28, Salk_28, Raunak_28, BronxBay_28, Shiba_28, MrAaronian_28, ProfFrink_28, DoctorPepper_28, Stayer_28, Linda_28, Michelle_28, Djungelskog_28, Sloopyjoe_28
- Track 80 : Boog_28, HerbBucket_27
- Track 81 : Sprinkle_28
- Track 82 : Sporto_29

- Track 83 : RustyBoy_28
- Track 84 : Onestar_28
- Track 85 : Powelldog_29
- Track 86 : E1_22, Anatole_22
- Track 87 : B3_22
- Track 88 : E6_23
- Track 89 : G4_22
- Track 90 : B22_22
- Track 91 : Doucette_22
- Track 92 : PFR2_21, PFR1_19
- Track 93 : Seldom_22, Mendel_20, Dunamis_21, Swim_23
- Track 94 : Goodgraces_19
- Track 95 : Bouclier_19
- Track 96 : Tillums_23
- Track 97 : Casab_21
- Track 98 : Anjali_18
- Track 99 : Arzan_27
- Track 100 : Jazzy4900_29, Sunny4976_28
- Track 101 : GermyBearimy_30
- Track 102 : PorkBelly_20
- Track 103 : Kureo_46, Marianna39_46
- Track 104 : JeNeSaisPas_44, Elver_45
- Track 105 : Paella_45, Qui_45
- Track 106 : Gandionco_46

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

The start number called the most often in the published annotations is 51, it was called in 51 of the 168 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Abidatro_22, AdoptaAdorbs_20, AlexMinion_20, Amanises_22, Amelia_22, AmiCi24_20, Amphitrite_20, Andrew_21, Atlantica_20, Azaz_20, B22_22, Babushka_20, BadWillHunting_22, Basilisk_21, Brynnie_21, Camara_20, Chickaboom_20, Chicken_21, Colusalem_21, Coral_21, Cote_22, Damocles_22, DanHam62_20, Daob_22, Eesa_21, Fingolfin_20, Galaxy_22, Glotell_20, GramZayde_21, Gravel_22, HamCheese_20, HannahPhantana_22, Jamun_21, Jerole_22, Juno112_20, KHumphrey_20, KendraB23_22, Kepler_21, Laphuphu24k_19, Leona_20, Lunar_22, Melons_22, Niblet_21, Oppalora_20, Orcanus_21, OtsoOtso_21, Pelletreau_22, PhirstandPhine_22, PhluffyCoco_20, Pineda_22, Polka_21, Rattail_20, RedFox_20, Renna12_21, Ruchi_21, Shen_22, StuartMinion_20, TaylorSipht_21, Toad24_22, Vulpecula_21, Westrich_22, WileyE_20, Zixiang_21,

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

- Bedetta_22, Bibble12_22,

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

- Acai_31, Altjira_30, Anandi_32, Anatole_22, Anjali_18, Antrice_21, Arcadia_25, AreFloNak_31, Argan_30, Arzan_27, B3_22, BarbieDoll_34, Barbonzobean_33,

BenitoAntonio_25, Benllo_23, Biscute_32, Boog_28, Bouchard_32, Bouclier_19, Bowling_25, Breylor17_32, BronxBay_28, Brunswick_31, CapnMurica_31, Casab_21, CastorTray_33, Caterpillar_29, Cheesy_25, Chlochlo_32, Circum_25, Correa_24, Cygnet_21, Darby_31, DevitoJr_31, Dinallo_32, Djungelskog_28, DoctorPepper_28, Doucette_22, Dunamis_21, Dynamite_24, E1_22, E6_23, Egad_28, ElephantMan_31, Elsa_25, Elver_45, G4_22, Gandionco_46, GantcherGoblin_30, GermyBearimy_30, Giantsbane_32, GoCrazy_23, Goodgraces_19, Gordon_31, Hankly_23, Heisenberger_24, Hemma_28, HerbBucket_27, Ingrid_31, Inked_33, Issa_31, JEGGS_24, Jazzy4900_29, JeNeSaisPas_44, Jeremy4pt0_28, Kardesai_23, KeaneyLin_23, KevinMinion_31, Kinny_33, Kuleana_21, Kureo_46, Leathea_31, Lewando_34, LilHuddy_32, Linda_28, LittleTokyo_21, Loretta_31, LucySwiss_31, Makai_31, Mardi_32, Marianna39_46, MediumFry_29, Mendel_20, Michelle_28, MiniBagel_31, Mooshroom_24, MrAaronian_28, Mudcat_24, Muglass_33, NapoleonB_24, Nason_25, Natasha_28, Navi1117_31, Nightmare_32, Niktson_31, Nivinsha_31, Onestar_28, PFR1_19, PFR2_21, Paella_45, Phaby_32, Phaila_30, PoeMe_32, PorkBelly_20, Powelldog_29, ProfFrink_28, Qui_45, Raunak_28, Renaldo_36, RustyBoy_28, Salk_28, ScienceWizSam_33, Seldom_22, Shepard_32, Shiba_28, Sloopyjoe_28, Spain_27, Sporto_29, Sprinkle_28, StarLord_28, Stardom_23, Stardrop_31, Stayer_28, Sunny4976_28, Swim_23, Synepsis_30, Tatanka_31, Teacup_31, Tenney120_31, Tenno_32, Tillums_23, Tipton_32, Tokki_32, Tribby_25, TrixiePhattel_31, Truckee_30, Trustiboi_32, Uzumaki_31, Westerlin_32, Xenomorph_23, YoshiYama_24, Zeina_31, Zhuangyuan_22, Zippen_31,

Summary by start number:

Start 21:

- Found in 13 of 209 (6.2%) of genes in pham
- Manual Annotations of this start: 2 of 168
- Called 23.1% of time when present
- Phage (with cluster) where this start called: Altjira_30 (AU6), TrixiePhattel_31 (AU6), Zeina_31 (AU6),

Start 23:

- Found in 7 of 209 (3.3%) of genes in pham
- No Manual Annotations of this start.
- Called 14.3% of time when present
- Phage (with cluster) where this start called: BarbieDoll_34 (AU6),

Start 28:

- Found in 14 of 209 (6.7%) of genes in pham
- Manual Annotations of this start: 3 of 168
- Called 28.6% of time when present
- Phage (with cluster) where this start called: KevinMinion_31 (AU6), Mardi_32 (AU6), Stardrop_31 (AU6), Tenney120_31 (AU6),

Start 31:

- Found in 23 of 209 (11.0%) of genes in pham
- Manual Annotations of this start: 12 of 168
- Called 52.2% of time when present
- Phage (with cluster) where this start called: Bowling_25 (AM), Cheesy_25 (AM), Circum_25 (AM), Dynamite_24 (AM), Hankly_23 (AM), Heisenberger_24 (AM), JEGGS_24 (AM), Mooshroom_24 (AM), Mudcat_24 (AM), NapoleonB_24 (AM),

Tribby_25 (AM), Xenomorph_23 (AM),

Start 32:

- Found in 19 of 209 (9.1%) of genes in pham
- No Manual Annotations of this start.
- Called 5.3% of time when present
- Phage (with cluster) where this start called: Onestar_28 (AW),

Start 33:

- Found in 23 of 209 (11.0%) of genes in pham
- Manual Annotations of this start: 2 of 168
- Called 8.7% of time when present
- Phage (with cluster) where this start called: BenitoAntonio_25 (AM), Kardesai_23 (AM),

Start 34:

- Found in 54 of 209 (25.8%) of genes in pham
- No Manual Annotations of this start.
- Called 3.7% of time when present
- Phage (with cluster) where this start called: AreFloNak_31 (AU1), GermyBearimy_30 (FI),

Start 35:

- Found in 7 of 209 (3.3%) of genes in pham
- Manual Annotations of this start: 3 of 168
- Called 42.9% of time when present
- Phage (with cluster) where this start called: Barbonzobean_33 (AU6), Biscute_32 (AU6), Lewando_34 (AU6),

Start 36:

- Found in 23 of 209 (11.0%) of genes in pham
- Manual Annotations of this start: 4 of 168
- Called 26.1% of time when present
- Phage (with cluster) where this start called: Arcadia_25 (AM), Correa_24 (AM), Elsa_25 (AM), Nason_25 (AM), Stardom_23 (AM), YoshiYama_24 (AM),

Start 37:

- Found in 63 of 209 (30.1%) of genes in pham
- Manual Annotations of this start: 45 of 168
- Called 81.0% of time when present
- Phage (with cluster) where this start called: Acai_31 (AU1), Anandi_32 (AU4), Argan_30 (AU6), Bouchard_32 (AU2), Breytor17_32 (AU1), Brunswick_31 (AU1), CapnMurica_31 (AU1), CastorTray_33 (AU1), Caterpillar_29 (AU4), Chlochlo_32 (AU2), Darby_31 (AU1), DevitoJr_31 (AU1), Dinallo_32 (AU1), ElephantMan_31 (AU1), GantcherGoblin_30 (AU6), Giantsbane_32 (AU2), Gordon_31 (AU1), Hemma_28 (AU1), Ingrid_31 (AU3), Inked_33 (AU7), Issa_31 (AU1), Kinny_33 (AU6), Leathea_31 (AU6), LilHuddy_32 (AU2), Loretta_31 (AU3), LucySwiss_31 (AU1), Makai_31 (AU5), MediumFry_29 (AU4), MiniBagel_31 (AU1), Muglass_33 (AU6), Navi1117_31 (AU6), Nightmare_32 (AU1), Niktson_31 (AU1), Nivinsha_31 (AU1), Phaby_32 (AU2), Phaila_30 (AU6), PoeMe_32 (AU6), Renaldo_36 (AU6), ScienceWizSam_33 (AU1), Shepard_32 (AU2), Synopsis_30 (AU1), Tatanka_31 (AU1), Teacup_31 (AU1), Tenno_32 (AU1), Tipton_32 (AU2), Tokki_32 (AU2), Truckee_30 (AU5), Trustiboi_32 (AU1), Uzumaki_31 (AU6), Westerlin_32 (AU1),

Zippen_31 (AU7),

Start 38:

- Found in 5 of 209 (2.4%) of genes in pham
- No Manual Annotations of this start.
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Jazzy4900_29 (FI), Sunny4976_28 (FI),

Start 39:

- Found in 11 of 209 (5.3%) of genes in pham
- Manual Annotations of this start: 6 of 168
- Called 63.6% of time when present
- Phage (with cluster) where this start called: Elver_45 (FK), JeNeSaisPas_44 (FK), Natasha_28 (AW), Paella_45 (FK), Qui_45 (FK), RustyBoy_28 (AW), Sprinkle_28 (AW),

Start 43:

- Found in 44 of 209 (21.1%) of genes in pham
- Manual Annotations of this start: 3 of 168
- Called 6.8% of time when present
- Phage (with cluster) where this start called: Benllo_23 (AM), GoCrazy_23 (AM), KeaneyLin_23 (AM),

Start 45:

- Found in 21 of 209 (10.0%) of genes in pham
- Manual Annotations of this start: 17 of 168
- Called 95.2% of time when present
- Phage (with cluster) where this start called: Boog_28 (AW), BronxBay_28 (AW), Djungelskog_28 (AW), DoctorPepper_28 (AW), Egad_28 (AW), HerbBucket_27 (AW), Jeremy4pt0_28 (AW), Linda_28 (AW), Michelle_28 (AW), MrAaronian_28 (AW), PowellDog_29 (AW), ProfFrink_28 (AW), Raunak_28 (AW), Salk_28 (AW), Shiba_28 (AW), Sloopyjoe_28 (AW), Spain_27 (AW), Sporto_29 (AW), StarLord_28 (AW), Stayer_28 (AW),

Start 47:

- Found in 2 of 209 (1.0%) of genes in pham
- Manual Annotations of this start: 2 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Antrice_21 (AS2), Kuleana_21 (AS2),

Start 48:

- Found in 5 of 209 (2.4%) of genes in pham
- Manual Annotations of this start: 5 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anatole_22 (BV), B3_22 (BV), Doucette_22 (BW), E1_22 (BV), E6_23 (BW),

Start 49:

- Found in 2 of 209 (1.0%) of genes in pham
- Manual Annotations of this start: 2 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleTokyo_21 (AS2), Zhuangyuan_22 (AS2),

Start 50:

- Found in 1 of 209 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cygnet_21 (AS2),

Start 51:

- Found in 65 of 209 (31.1%) of genes in pham
- Manual Annotations of this start: 51 of 168
- Called 96.9% of time when present
- Phage (with cluster) where this start called: Abidatro_22 (AS1), AdoptaAdorbs_20 (AS3), AlexMinion_20 (AS3), Amanises_22 (AS1), Amelia_22 (AS2), AmiCi24_20 (AS3), Amphitrite_20 (AS3), Andrew_21 (AS3), Atlantica_20 (AS3), Azaz_20 (AS3), B22_22 (BW), Babushka_20 (AS3), BadWillHunting_22 (AS2), Basilisk_21 (AS1), Brynnie_21 (AS1), Camara_20 (AS3), Chickaboom_20 (AS1), Chicken_21 (AS1), Colusalem_21 (AS2), Coral_21 (AS2), Cote_22 (AS2), Damocles_22 (AS2), DanHam62_20 (AS3), Daob_22 (AS2), Eesa_21 (AS1), Fingolfin_20 (AS3), Galaxy_22 (AS1), Glotell_20 (AS3), GramZayde_21 (AS2), Gravel_22 (AS1), HamCheese_20 (AS3), HannahPhantana_22 (AS2), Jamun_21 (AS1), Jerole_22 (AS2), Juno112_20 (AS3), KHumphrey_20 (AS3), KendraB23_22 (AS1), Kepler_21 (AS2), Laphuphu24k_19 (AS3), Leona_20 (AS3), Lunar_22 (AS2), Melons_22 (AS2), Niblet_21 (AS1), Oppalora_20 (AS3), Orcanus_21 (AS1), OtsoOtso_21 (AS2), Pelletreau_22 (AS1), PhirstandPhine_22 (AS2), PhluffyCoco_20 (AS3), Pineda_22 (AS2), Polka_21 (AS2), Rattail_20 (AS3), RedFox_20 (AS3), Renna12_21 (AS3), Ruchi_21 (AS1), Shen_22 (AS1), StuartMinion_20 (AS3), TaylorSipht_21 (AS1), Toad24_22 (AS1), Vulpecula_21 (AS1), Westrich_22 (AS1), WileyE_20 (AS1), Zixiang_21 (AS1),

Start 52:

- Found in 4 of 209 (1.9%) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: PorkBelly_20 (FJ),

Start 53:

- Found in 3 of 209 (1.4%) of genes in pham
- No Manual Annotations of this start.
- Called 66.7% of time when present
- Phage (with cluster) where this start called: PFR1_19 (BX), PFR2_21 (BX),

Start 55:

- Found in 1 of 209 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 168
- Called 100.0% of time when present
- Phage (with cluster) where this start called: G4_22 (BW),

Start 58:

- Found in 11 of 209 (5.3%) of genes in pham
- Manual Annotations of this start: 9 of 168
- Called 81.8% of time when present
- Phage (with cluster) where this start called: Anjali_18 (FD), Bouclier_19 (FD), Casab_21 (FD), Dunamis_21 (FD), Goodgraces_19 (FD), Mendel_20 (FD),

Seldom_22 (FD), Swim_23 (FD), Tillums_23 (FD),

Start 62:

- Found in 48 of 209 (23.0%) of genes in pham
- No Manual Annotations of this start.
- Called 2.1% of time when present
- Phage (with cluster) where this start called: Bibble12_22 (AS2),

Start 65:

- Found in 78 of 209 (37.3%) of genes in pham
- No Manual Annotations of this start.
- Called 1.3% of time when present
- Phage (with cluster) where this start called: Arzan_27 (FI),

Start 66:

- Found in 34 of 209 (16.3%) of genes in pham
- No Manual Annotations of this start.
- Called 8.8% of time when present
- Phage (with cluster) where this start called: Gandionco_46 (FK), Kureo_46 (FK), Marianna39_46 (FK),

Start 67:

- Found in 47 of 209 (22.5%) of genes in pham
- No Manual Annotations of this start.
- Called 2.1% of time when present
- Phage (with cluster) where this start called: Bedetta_22 (AS2),

Summary by clusters:

There are 19 clusters represented in this pham: BW, AS3, AS1, AU7, AS2, AU5, AM, BV, AU1, AU3, AU2, FD, AU4, AW, AU6, FI, FJ, FK, BX,

Info for manual annotations of cluster AM:

- Start number 31 was manually annotated 12 times for cluster AM.
- Start number 33 was manually annotated 2 times for cluster AM.
- Start number 36 was manually annotated 4 times for cluster AM.
- Start number 43 was manually annotated 3 times for cluster AM.

Info for manual annotations of cluster AS1:

- Start number 51 was manually annotated 17 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 47 was manually annotated 2 times for cluster AS2.
- Start number 49 was manually annotated 2 times for cluster AS2.
- Start number 50 was manually annotated 1 time for cluster AS2.
- Start number 51 was manually annotated 14 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 51 was manually annotated 19 times for cluster AS3.

Info for manual annotations of cluster AU1:

- Start number 37 was manually annotated 20 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 37 was manually annotated 8 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 37 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 37 was manually annotated 3 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 37 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 21 was manually annotated 2 times for cluster AU6.
- Start number 28 was manually annotated 3 times for cluster AU6.
- Start number 35 was manually annotated 3 times for cluster AU6.
- Start number 37 was manually annotated 8 times for cluster AU6.

Info for manual annotations of cluster AU7:

- Start number 37 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:

- Start number 39 was manually annotated 2 times for cluster AW.
- Start number 45 was manually annotated 17 times for cluster AW.

Info for manual annotations of cluster BV:

- Start number 48 was manually annotated 3 times for cluster BV.

Info for manual annotations of cluster BW:

- Start number 48 was manually annotated 2 times for cluster BW.
- Start number 51 was manually annotated 1 time for cluster BW.
- Start number 55 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster FD:

- Start number 58 was manually annotated 9 times for cluster FD.

Info for manual annotations of cluster FK:

- Start number 39 was manually annotated 4 times for cluster FK.

Gene Information:

Gene: Abidatro_22 Start: 17270, Stop: 17692, Start Num: 51

Candidate Starts for Abidatro_22:

(16, 17150), (Start: 51 @17270 has 51 MA's), (62, 17294), (67, 17324), (80, 17381), (92, 17432), (100, 17459), (105, 17483), (113, 17528), (117, 17549), (123, 17567), (127, 17582), (134, 17600), (136, 17606), (140, 17612), (146, 17630),

Gene: Acai_31 Start: 27716, Stop: 28159, Start Num: 37

Candidate Starts for Acai_31:

(34, 27701), (Start: 37 @27716 has 45 MA's), (40, 27728), (65, 27779), (69, 27809), (72, 27821), (74, 27833), (92, 27908), (98, 27929), (106, 27965), (112, 28001), (119, 28028), (130, 28070),

Gene: AdoptaAdorbs_20 Start: 15772, Stop: 16194, Start Num: 51

Candidate Starts for AdoptaAdorbs_20:

(12, 15607), (16, 15652), (Start: 51 @15772 has 51 MA's), (69, 15835), (71, 15844), (74, 15859), (80, 15883), (81, 15886), (104, 15982), (108, 16003), (115, 16036), (120, 16060), (126, 16078), (127, 16084), (130, 16096), (142, 16120),

Gene: AlexMinion_20 Start: 15817, Stop: 16239, Start Num: 51

Candidate Starts for AlexMinion_20:

(Start: 51 @15817 has 51 MA's), (56, 15826), (62, 15841), (71, 15889), (73, 15901), (80, 15928), (82, 15934), (85, 15952), (88, 15964), (96, 15991), (103, 16021), (105, 16030), (108, 16048), (123, 16114), (127, 16129), (129, 16138), (130, 16141), (145, 16171),

Gene: Altjira_30 Start: 26927, Stop: 27430, Start Num: 21

Candidate Starts for Altjira_30:

(Start: 21 @26927 has 2 MA's), (Start: 28 @26951 has 3 MA's), (Start: 37 @26984 has 45 MA's), (Start: 43 @26999 has 3 MA's), (75, 27104), (90, 27173), (92, 27179), (115, 27281), (116, 27293),

Gene: Amanises_22 Start: 17352, Stop: 17774, Start Num: 51

Candidate Starts for Amanises_22:

(Start: 51 @17352 has 51 MA's), (62, 17376), (64, 17382), (80, 17463), (82, 17469), (91, 17511), (92, 17514), (108, 17583), (113, 17610), (123, 17649), (136, 17688), (141, 17697), (142, 17700), (145, 17706), (146, 17712),

Gene: Amelia_22 Start: 16204, Stop: 16626, Start Num: 51

Candidate Starts for Amelia_22:

(25, 16138), (Start: 51 @16204 has 51 MA's), (62, 16228), (67, 16258), (74, 16291), (78, 16309), (80, 16315), (88, 16351), (91, 16363), (102, 16405), (104, 16414), (108, 16435), (112, 16459), (115, 16468), (117, 16483), (120, 16492), (123, 16501), (124, 16504), (126, 16510), (127, 16516), (130, 16528), (136, 16540),

Gene: AmiCi24_20 Start: 15770, Stop: 16192, Start Num: 51

Candidate Starts for AmiCi24_20:

(12, 15605), (16, 15650), (Start: 51 @15770 has 51 MA's), (69, 15833), (71, 15842), (74, 15857), (80, 15881), (81, 15884), (104, 15980), (108, 16001), (115, 16034), (120, 16058), (126, 16076), (127, 16082), (130, 16094),

Gene: Amphitrite_20 Start: 15770, Stop: 16192, Start Num: 51

Candidate Starts for Amphitrite_20:

(12, 15605), (16, 15650), (Start: 51 @15770 has 51 MA's), (69, 15833), (71, 15842), (74, 15857), (80, 15881), (81, 15884), (104, 15980), (108, 16001), (115, 16034), (120, 16058), (126, 16076), (127, 16082), (130, 16094), (142, 16118),

Gene: Anandi_32 Start: 28281, Stop: 28712, Start Num: 37

Candidate Starts for Anandi_32:

(10, 28119), (11, 28128), (15, 28188), (22, 28227), (34, 28266), (Start: 37 @28281 has 45 MA's), (65, 28320), (79, 28395), (83, 28410), (94, 28455), (98, 28470), (110, 28527), (120, 28575), (121, 28578), (126, 28593), (151, 28659), (155, 28692),

Gene: Anatole_22 Start: 18350, Stop: 18799, Start Num: 48

Candidate Starts for Anatole_22:

(6, 17915), (8, 18005), (Start: 48 @18350 has 5 MA's), (59, 18368), (67, 18407), (72, 18428), (73, 18437), (74, 18440), (82, 18470), (95, 18518), (96, 18521), (101, 18539), (102, 18548), (124, 18647), (126, 18653), (133, 18680), (138, 18698), (141, 18704), (143, 18710),

Gene: Andrew_21 Start: 16213, Stop: 16635, Start Num: 51

Candidate Starts for Andrew_21:

(Start: 51 @16213 has 51 MA's), (85, 16348), (97, 16393), (104, 16423), (105, 16426), (108, 16444), (120, 16501), (124, 16513), (129, 16534), (145, 16567),

Gene: Anjali_18 Start: 14913, Stop: 15332, Start Num: 58

Candidate Starts for Anjali_18:

(18, 14790), (Start: 58 @14913 has 9 MA's), (67, 14955), (76, 14994), (79, 15009), (92, 15066), (106, 15123), (108, 15135), (149, 15279),

Gene: Antrice_21 Start: 16736, Stop: 17161, Start Num: 47

Candidate Starts for Antrice_21:

(14, 16616), (Start: 47 @16736 has 2 MA's), (64, 16772), (73, 16826), (80, 16853), (81, 16856), (92, 16901), (101, 16931), (105, 16952), (108, 16970), (112, 16994), (120, 17027), (123, 17036), (126, 17045), (128, 17057), (129, 17060), (141, 17084), (145, 17093),

Gene: Arcadia_25 Start: 24095, Stop: 24541, Start Num: 36

Candidate Starts for Arcadia_25:

(Start: 31 @24074 has 12 MA's), (Start: 33 @24080 has 2 MA's), (Start: 36 @24095 has 4 MA's), (Start: 43 @24113 has 3 MA's), (73, 24212), (81, 24242), (87, 24275), (90, 24284), (96, 24302), (113, 24386), (115, 24392), (117, 24407), (120, 24416), (123, 24425), (131, 24455), (144, 24482),

Gene: AreFloNak_31 Start: 27662, Stop: 28120, Start Num: 34

Candidate Starts for AreFloNak_31:

(34, 27662), (Start: 37 @27677 has 45 MA's), (40, 27689), (65, 27740), (74, 27794), (92, 27869), (98, 27890), (112, 27962), (119, 27989), (130, 28031), (132, 28037),

Gene: Argan_30 Start: 26251, Stop: 26697, Start Num: 37

Candidate Starts for Argan_30:

(Start: 21 @26194 has 2 MA's), (Start: 28 @26218 has 3 MA's), (Start: 37 @26251 has 45 MA's), (Start: 43 @26266 has 3 MA's), (75, 26371), (90, 26440), (92, 26446), (115, 26548), (116, 26560),

Gene: Arzan_27 Start: 25038, Stop: 25418, Start Num: 65

Candidate Starts for Arzan_27:

(34, 24963), (38, 24984), (65, 25038), (72, 25080), (83, 25128), (87, 25152), (90, 25161), (101, 25197), (109, 25242), (112, 25260), (114, 25266), (119, 25287), (124, 25305), (132, 25335),

Gene: Atlantica_20 Start: 15772, Stop: 16194, Start Num: 51

Candidate Starts for Atlantica_20:

(12, 15607), (16, 15652), (Start: 51 @15772 has 51 MA's), (69, 15835), (71, 15844), (74, 15859), (80, 15883), (81, 15886), (104, 15982), (108, 16003), (115, 16036), (120, 16060), (126, 16078), (127, 16084), (130, 16096), (142, 16120),

Gene: Azaz_20 Start: 15832, Stop: 16254, Start Num: 51

Candidate Starts for Azaz_20:

(12, 15667), (16, 15712), (Start: 51 @15832 has 51 MA's), (69, 15895), (74, 15919), (80, 15943), (81, 15946), (104, 16042), (108, 16063), (115, 16096), (120, 16120), (126, 16138), (127, 16144), (130, 16156),

Gene: B22_22 Start: 17579, Stop: 18019, Start Num: 51

Candidate Starts for B22_22:

(27, 17510), (Start: 51 @17579 has 51 MA's), (52, 17582), (53, 17585), (Start: 58 @17591 has 9 MA's), (67, 17630), (73, 17660), (74, 17663), (90, 17726), (95, 17741), (96, 17744), (102, 17771), (113, 17828), (124, 17870), (133, 17903), (143, 17933), (145, 17936),

Gene: B3_22 Start: 18353, Stop: 18802, Start Num: 48

Candidate Starts for B3_22:

(Start: 48 @18353 has 5 MA's), (59, 18371), (67, 18410), (72, 18431), (73, 18440), (74, 18443), (82, 18473), (95, 18521), (96, 18524), (101, 18542), (102, 18551), (124, 18650), (126, 18656), (133, 18683), (138, 18701), (141, 18707), (143, 18713),

Gene: Babushka_20 Start: 15831, Stop: 16253, Start Num: 51

Candidate Starts for Babushka_20:

(16, 15711), (Start: 51 @15831 has 51 MA's), (74, 15918), (80, 15942), (81, 15945), (96, 16005), (101, 16023), (104, 16041), (108, 16062), (115, 16095), (120, 16119), (126, 16137), (127, 16143), (142, 16179),

Gene: BadWillHunting_22 Start: 16204, Stop: 16626, Start Num: 51

Candidate Starts for BadWillHunting_22:

(25, 16138), (Start: 51 @16204 has 51 MA's), (62, 16228), (67, 16258), (74, 16291), (78, 16309), (80, 16315), (88, 16351), (91, 16363), (97, 16384), (102, 16405), (104, 16414), (112, 16459), (115, 16468), (117, 16483), (120, 16492), (123, 16501), (124, 16504), (126, 16510), (127, 16516), (130, 16528), (136, 16540), (143, 16555),

Gene: BarbieDoll_34 Start: 28185, Stop: 28676, Start Num: 23

Candidate Starts for BarbieDoll_34:

(23, 28185), (29, 28206), (Start: 35 @28221 has 3 MA's), (Start: 37 @28230 has 45 MA's), (Start: 43 @28245 has 3 MA's), (46, 28257), (75, 28350), (90, 28419), (92, 28425), (94, 28431), (101, 28455), (115, 28527), (116, 28539), (139, 28605),

Gene: Barbonzobean_33 Start: 27816, Stop: 28271, Start Num: 35

Candidate Starts for Barbonzobean_33:

(23, 27780), (29, 27801), (Start: 35 @27816 has 3 MA's), (Start: 37 @27825 has 45 MA's), (Start: 43 @27840 has 3 MA's), (46, 27852), (68, 27912), (72, 27930), (75, 27945), (90, 28014), (92, 28020), (101, 28050), (115, 28122), (116, 28134),

Gene: Basilisk_21 Start: 17479, Stop: 17901, Start Num: 51

Candidate Starts for Basilisk_21:

(Start: 51 @17479 has 51 MA's), (62, 17503), (67, 17533), (80, 17590), (92, 17641), (104, 17689), (105, 17692), (113, 17737), (123, 17776), (129, 17800), (136, 17815), (140, 17821), (142, 17827), (146, 17839),

Gene: Bedetta_22 Start: 16258, Stop: 16626, Start Num: 67

Candidate Starts for Bedetta_22:

(25, 16138), (Start: 51 @16204 has 51 MA's), (62, 16228), (67, 16258), (74, 16291), (78, 16309), (80, 16315), (88, 16351), (91, 16363), (102, 16405), (104, 16414), (108, 16435), (112, 16459), (115, 16468), (117, 16483), (120, 16492), (123, 16501), (124, 16504), (126, 16510), (127, 16516), (130, 16528), (136, 16540),

Gene: BenitoAntonio_25 Start: 23696, Stop: 24157, Start Num: 33

Candidate Starts for BenitoAntonio_25:

(Start: 31 @23690 has 12 MA's), (Start: 33 @23696 has 2 MA's), (Start: 36 @23711 has 4 MA's), (Start: 43 @23729 has 3 MA's), (56, 23753), (70, 23810), (73, 23828), (77, 23840), (90, 23900), (96, 23918), (103, 23948), (106, 23963), (113, 24002), (115, 24008), (120, 24032), (131, 24071), (144, 24098),

Gene: Benllo_23 Start: 24013, Stop: 24441, Start Num: 43

Candidate Starts for Benllo_23:

(Start: 31 @23974 has 12 MA's), (Start: 33 @23980 has 2 MA's), (Start: 36 @23995 has 4 MA's), (Start: 43 @24013 has 3 MA's), (73, 24112), (81, 24142), (87, 24175), (90, 24184), (96, 24202), (113, 24286), (115, 24292), (117, 24307), (120, 24316), (123, 24325), (131, 24355), (144, 24382),

Gene: Bibble12_22 Start: 16231, Stop: 16629, Start Num: 62

Candidate Starts for Bibble12_22:

(25, 16141), (Start: 51 @16207 has 51 MA's), (62, 16231), (67, 16261), (74, 16294), (78, 16312), (80, 16318), (88, 16354), (91, 16366), (102, 16408), (104, 16417), (108, 16438), (112, 16462), (115, 16471), (117, 16486), (120, 16495), (123, 16504), (124, 16507), (126, 16513), (127, 16519), (130, 16531), (136, 16543),

Gene: Biscute_32 Start: 27867, Stop: 28322, Start Num: 35

Candidate Starts for Biscute_32:

(23, 27831), (29, 27852), (Start: 35 @27867 has 3 MA's), (Start: 37 @27876 has 45 MA's), (Start: 43 @27891 has 3 MA's), (46, 27903), (68, 27963), (72, 27981), (75, 27996), (90, 28065), (92, 28071), (101, 28101), (115, 28173), (116, 28185),

Gene: Boog_28 Start: 24847, Stop: 25275, Start Num: 45

Candidate Starts for Boog_28:

(32, 24805), (Start: 45 @24847 has 17 MA's), (63, 24889), (65, 24895), (66, 24898), (70, 24928), (73, 24946), (76, 24955), (87, 25009), (103, 25066), (123, 25159), (129, 25183), (131, 25189),

Gene: Bouchard_32 Start: 27859, Stop: 28302, Start Num: 37

Candidate Starts for Bouchard_32:

(15, 27766), (22, 27805), (34, 27844), (Start: 37 @27859 has 45 MA's), (65, 27922), (69, 27952), (72, 27964), (84, 28024), (92, 28051), (98, 28072), (102, 28090), (113, 28147), (123, 28186), (144, 28243), (152, 28279),

Gene: Bouclier_19 Start: 15162, Stop: 15575, Start Num: 58

Candidate Starts for Bouclier_19:

(9, 14898), (Start: 58 @15162 has 9 MA's), (60, 15165), (62, 15174), (66, 15186), (76, 15240), (79, 15255), (106, 15366), (111, 15396), (119, 15429), (149, 15522),

Gene: Bowling_25 Start: 23788, Stop: 24255, Start Num: 31

Candidate Starts for Bowling_25:

(Start: 31 @23788 has 12 MA's), (Start: 33 @23794 has 2 MA's), (Start: 36 @23809 has 4 MA's), (Start: 43 @23827 has 3 MA's), (73, 23926), (81, 23956), (87, 23989), (90, 23998), (96, 24016), (113, 24100), (115, 24106), (117, 24121), (120, 24130), (123, 24139), (131, 24169), (144, 24196),

Gene: Breylor17_32 Start: 28283, Stop: 28726, Start Num: 37

Candidate Starts for Breylor17_32:

(34, 28268), (Start: 37 @28283 has 45 MA's), (40, 28295), (65, 28346), (74, 28400), (92, 28475), (98, 28496), (112, 28568), (119, 28595), (130, 28637), (132, 28643),

Gene: BronxBay_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for BronxBay_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: Brunswick_31 Start: 27749, Stop: 28192, Start Num: 37

Candidate Starts for Brunswick_31:

(34, 27734), (Start: 37 @27749 has 45 MA's), (40, 27761), (65, 27812), (72, 27854), (98, 27962), (106, 27998), (107, 28001), (112, 28034), (119, 28061), (130, 28103), (147, 28142),

Gene: Brynnie_21 Start: 17291, Stop: 17713, Start Num: 51

Candidate Starts for Brynnie_21:

(Start: 51 @17291 has 51 MA's), (62, 17315), (67, 17345), (80, 17402), (92, 17453), (104, 17501), (105, 17504), (113, 17549), (123, 17588), (129, 17612), (136, 17627), (142, 17639), (146, 17651),

Gene: Camara_20 Start: 15773, Stop: 16195, Start Num: 51

Candidate Starts for Camara_20:

(12, 15608), (16, 15653), (Start: 51 @15773 has 51 MA's), (69, 15836), (71, 15845), (74, 15860), (80, 15884), (81, 15887), (104, 15983), (108, 16004), (115, 16037), (120, 16061), (126, 16079), (127, 16085), (130, 16097), (142, 16121),

Gene: CapnMurica_31 Start: 28835, Stop: 29278, Start Num: 37

Candidate Starts for CapnMurica_31:

(34, 28820), (Start: 37 @28835 has 45 MA's), (40, 28847), (65, 28898), (72, 28940), (74, 28952), (92, 29027), (107, 29087), (112, 29120), (119, 29147), (147, 29228),

Gene: Casab_21 Start: 15585, Stop: 15995, Start Num: 58

Candidate Starts for Casab_21:

(19, 15465), (Start: 58 @15585 has 9 MA's), (62, 15594), (66, 15606), (74, 15654), (76, 15660), (79, 15675), (96, 15741), (111, 15816), (117, 15846), (119, 15849),

Gene: CastorTray_33 Start: 28141, Stop: 28584, Start Num: 37

Candidate Starts for CastorTray_33:

(34, 28126), (Start: 37 @28141 has 45 MA's), (40, 28153), (63, 28198), (65, 28204), (72, 28246), (74, 28258), (92, 28333), (98, 28354), (112, 28426), (119, 28453), (130, 28495), (132, 28501),

Gene: Caterpillar_29 Start: 26915, Stop: 27358, Start Num: 37

Candidate Starts for Caterpillar_29:

(22, 26861), (34, 26900), (Start: 37 @26915 has 45 MA's), (63, 26972), (65, 26978), (69, 27008), (74, 27032), (92, 27107), (98, 27128), (102, 27146), (107, 27167), (109, 27182), (119, 27227), (144, 27299),

Gene: Cheesy_25 Start: 23789, Stop: 24256, Start Num: 31

Candidate Starts for Cheesy_25:

(Start: 31 @23789 has 12 MA's), (Start: 33 @23795 has 2 MA's), (Start: 36 @23810 has 4 MA's), (Start: 43 @23828 has 3 MA's), (56, 23852), (70, 23909), (73, 23927), (77, 23939), (90, 23999), (96, 24017), (103, 24047), (106, 24062), (113, 24101), (115, 24107), (120, 24131), (131, 24170), (144, 24197),

Gene: Chickaboom_20 Start: 16217, Stop: 16639, Start Num: 51

Candidate Starts for Chickaboom_20:

(Start: 51 @16217 has 51 MA's), (62, 16241), (67, 16271), (80, 16328), (92, 16379), (104, 16427), (105, 16430), (113, 16475), (123, 16514), (129, 16538), (136, 16553), (142, 16565), (146, 16577),

Gene: Chicken_21 Start: 17230, Stop: 17652, Start Num: 51

Candidate Starts for Chicken_21:

(Start: 51 @17230 has 51 MA's), (62, 17254), (64, 17260), (82, 17347), (92, 17392), (104, 17440), (105, 17443), (108, 17461), (113, 17488), (115, 17494), (120, 17518), (123, 17527), (136, 17566), (141, 17575), (145, 17584), (146, 17590), (154, 17635),

Gene: Chlochlo_32 Start: 27895, Stop: 28338, Start Num: 37

Candidate Starts for Chlochlo_32:

(34, 27880), (Start: 37 @27895 has 45 MA's), (63, 27952), (65, 27958), (72, 28000), (84, 28060), (98, 28108), (144, 28279), (152, 28315),

Gene: Circum_25 Start: 23796, Stop: 24263, Start Num: 31

Candidate Starts for Circum_25:

(Start: 31 @23796 has 12 MA's), (Start: 33 @23802 has 2 MA's), (Start: 36 @23817 has 4 MA's), (Start: 43 @23835 has 3 MA's), (73, 23934), (81, 23964), (90, 24006), (96, 24024), (113, 24108), (115, 24114), (117, 24129), (120, 24138), (123, 24147), (131, 24177), (144, 24204),

Gene: Colusalem_21 Start: 16043, Stop: 16465, Start Num: 51

Candidate Starts for Colusalem_21:

(25, 15977), (Start: 51 @16043 has 51 MA's), (62, 16067), (67, 16097), (74, 16130), (78, 16148), (80, 16154), (88, 16190), (91, 16202), (102, 16244), (104, 16253), (108, 16274), (112, 16298), (115, 16307), (117, 16322), (120, 16331), (123, 16340), (124, 16343), (126, 16349), (127, 16355), (130, 16367), (136, 16379),

Gene: Coral_21 Start: 16043, Stop: 16465, Start Num: 51

Candidate Starts for Coral_21:

(25, 15977), (Start: 51 @16043 has 51 MA's), (62, 16067), (67, 16097), (74, 16130), (78, 16148), (80, 16154), (88, 16190), (91, 16202), (102, 16244), (104, 16253), (108, 16274), (112, 16298), (115, 16307), (117, 16322), (120, 16331), (123, 16340), (124, 16343), (126, 16349), (127, 16355), (130, 16367), (136, 16379),

Gene: Correa_24 Start: 23325, Stop: 23771, Start Num: 36

Candidate Starts for Correa_24:

(Start: 31 @23304 has 12 MA's), (Start: 33 @23310 has 2 MA's), (Start: 36 @23325 has 4 MA's), (Start: 43 @23343 has 3 MA's), (70, 23424), (73, 23442), (87, 23505), (96, 23532), (115, 23622), (120, 23646), (123, 23655), (131, 23685),

Gene: Cote_22 Start: 16204, Stop: 16626, Start Num: 51

Candidate Starts for Cote_22:

(25, 16138), (Start: 51 @16204 has 51 MA's), (62, 16228), (67, 16258), (74, 16291), (78, 16309), (80, 16315), (88, 16351), (91, 16363), (102, 16405), (104, 16414), (108, 16435), (112, 16459), (115, 16468), (117, 16483), (120, 16492), (123, 16501), (124, 16504), (126, 16510), (127, 16516), (130, 16528), (136, 16540),

Gene: Cygnet_21 Start: 16846, Stop: 17268, Start Num: 50

Candidate Starts for Cygnet_21:

(13, 16714), (Start: 28 @16783 has 3 MA's), (34, 16801), (Start: 50 @16846 has 1 MA's), (62, 16870), (70, 16912), (78, 16951), (80, 16957), (88, 16993), (89, 16996), (92, 17008), (98, 17029), (105, 17059), (111, 17095), (119, 17128), (120, 17134), (123, 17143), (124, 17146), (126, 17152), (129, 17167), (141, 17191), (146, 17206), (149, 17215),

Gene: Damocles_22 Start: 16204, Stop: 16626, Start Num: 51

Candidate Starts for Damocles_22:

(25, 16138), (Start: 51 @16204 has 51 MA's), (62, 16228), (67, 16258), (74, 16291), (78, 16309), (80, 16315), (88, 16351), (91, 16363), (102, 16405), (104, 16414), (108, 16435), (112, 16459), (115, 16468), (117, 16483), (120, 16492), (123, 16501), (124, 16504), (126, 16510), (127, 16516), (130, 16528), (136, 16540),

Gene: DanHam62_20 Start: 15772, Stop: 16194, Start Num: 51

Candidate Starts for DanHam62_20:

(12, 15607), (16, 15652), (Start: 51 @15772 has 51 MA's), (69, 15835), (71, 15844), (74, 15859), (80, 15883), (81, 15886), (104, 15982), (108, 16003), (115, 16036), (120, 16060), (126, 16078), (127, 16084), (130, 16096), (142, 16120),

Gene: Daob_22 Start: 16207, Stop: 16629, Start Num: 51

Candidate Starts for Daob_22:

(25, 16141), (Start: 51 @16207 has 51 MA's), (62, 16231), (67, 16261), (74, 16294), (78, 16312), (80, 16318), (88, 16354), (91, 16366), (97, 16387), (99, 16393), (102, 16408), (104, 16417), (112, 16462), (115, 16471), (117, 16486), (120, 16495), (123, 16504), (124, 16507), (126, 16513), (127, 16519), (130, 16531), (136, 16543), (143, 16558),

Gene: Darby_31 Start: 27587, Stop: 28030, Start Num: 37

Candidate Starts for Darby_31:

(34, 27572), (Start: 37 @27587 has 45 MA's), (40, 27599), (63, 27644), (65, 27650), (74, 27704), (92, 27779), (98, 27800), (106, 27836), (107, 27839), (112, 27872), (119, 27899), (130, 27941), (132, 27947),

Gene: DevitoJr_31 Start: 27758, Stop: 28201, Start Num: 37

Candidate Starts for DevitoJr_31:

(34, 27743), (Start: 37 @27758 has 45 MA's), (40, 27770), (63, 27815), (65, 27821), (72, 27863), (74, 27875), (92, 27950), (98, 27971), (112, 28043), (119, 28070), (130, 28112), (132, 28118),

Gene: Dinallo_32 Start: 28823, Stop: 29266, Start Num: 37

Candidate Starts for Dinallo_32:

(34, 28808), (Start: 37 @28823 has 45 MA's), (40, 28835), (65, 28886), (72, 28928), (74, 28940), (92, 29015), (107, 29075), (112, 29108), (119, 29135), (147, 29216),

Gene: Djungelskog_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for Djungelskog_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: DoctorPepper_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for DoctorPepper_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: Doucette_22 Start: 18526, Stop: 18972, Start Num: 48

Candidate Starts for Doucette_22:

(2, 17833), (4, 17914), (6, 18091), (8, 18181), (Start: 48 @18526 has 5 MA's), (59, 18544), (67, 18583), (72, 18604), (73, 18613), (74, 18616), (90, 18679), (95, 18694), (96, 18697), (102, 18724), (113, 18781), (119, 18805), (124, 18823), (133, 18856), (143, 18886), (145, 18889),

Gene: Dunamis_21 Start: 15070, Stop: 15489, Start Num: 58

Candidate Starts for Dunamis_21:

(18, 14947), (Start: 58 @15070 has 9 MA's), (67, 15112), (74, 15145), (76, 15151), (79, 15166), (92, 15223), (99, 15247), (106, 15280), (108, 15292), (149, 15436),

Gene: Dynamite_24 Start: 23597, Stop: 24064, Start Num: 31

Candidate Starts for Dynamite_24:

(Start: 31 @23597 has 12 MA's), (Start: 33 @23603 has 2 MA's), (Start: 36 @23618 has 4 MA's), (Start: 43 @23636 has 3 MA's), (73, 23735), (81, 23765), (87, 23798), (90, 23807), (96, 23825), (113, 23909), (115, 23915), (117, 23930), (120, 23939), (123, 23948), (131, 23978), (144, 24005),

Gene: E1_22 Start: 18350, Stop: 18799, Start Num: 48

Candidate Starts for E1_22:

(6, 17915), (8, 18005), (Start: 48 @18350 has 5 MA's), (59, 18368), (67, 18407), (72, 18428), (73, 18437), (74, 18440), (82, 18470), (95, 18518), (96, 18521), (101, 18539), (102, 18548), (124, 18647), (126, 18653), (133, 18680), (138, 18698), (141, 18704), (143, 18710),

Gene: E6_23 Start: 18532, Stop: 18978, Start Num: 48

Candidate Starts for E6_23:

(2, 17839), (4, 17920), (6, 18097), (8, 18187), (Start: 48 @18532 has 5 MA's), (59, 18550), (67, 18589), (73, 18619), (74, 18622), (90, 18685), (92, 18691), (95, 18700), (96, 18703), (102, 18730), (113, 18787), (124, 18829), (133, 18862), (143, 18892),

Gene: Eesa_21 Start: 17444, Stop: 17866, Start Num: 51

Candidate Starts for Eesa_21:

(41, 17426), (Start: 51 @17444 has 51 MA's), (62, 17468), (64, 17474), (80, 17555), (82, 17561), (91, 17603), (92, 17606), (104, 17654), (105, 17657), (108, 17675), (111, 17693), (113, 17702), (120, 17732), (123, 17741), (136, 17780), (141, 17789), (145, 17798), (146, 17804),

Gene: Egad_28 Start: 24847, Stop: 25275, Start Num: 45

Candidate Starts for Egad_28:

(32, 24805), (Start: 45 @24847 has 17 MA's), (63, 24889), (65, 24895), (66, 24898), (70, 24928), (72, 24937), (76, 24955), (87, 25009), (103, 25066), (123, 25159), (129, 25183), (132, 25192),

Gene: ElephantMan_31 Start: 28289, Stop: 28732, Start Num: 37

Candidate Starts for ElephantMan_31:

(34, 28274), (Start: 37 @28289 has 45 MA's), (40, 28301), (63, 28346), (65, 28352), (69, 28382), (72, 28394), (74, 28406), (98, 28502), (107, 28541), (112, 28574), (119, 28601), (130, 28643), (147, 28682),

Gene: Elsa_25 Start: 24095, Stop: 24541, Start Num: 36

Candidate Starts for Elsa_25:

(Start: 31 @24074 has 12 MA's), (Start: 33 @24080 has 2 MA's), (Start: 36 @24095 has 4 MA's), (Start: 43 @24113 has 3 MA's), (73, 24212), (81, 24242), (87, 24275), (90, 24284), (96, 24302), (113, 24386), (115, 24392), (117, 24407), (120, 24416), (123, 24425), (131, 24455), (144, 24482),

Gene: Elver_45 Start: 36454, Stop: 36888, Start Num: 39

Candidate Starts for Elver_45:

(22, 36391), (26, 36409), (34, 36430), (Start: 39 @36454 has 6 MA's), (63, 36502), (65, 36508), (66, 36511), (70, 36541), (87, 36622), (92, 36637), (106, 36694), (112, 36730), (119, 36757), (126, 36781), (130, 36799), (132, 36805),

Gene: Fingolfin_20 Start: 15773, Stop: 16195, Start Num: 51

Candidate Starts for Fingolfin_20:

(12, 15608), (16, 15653), (Start: 51 @15773 has 51 MA's), (69, 15836), (71, 15845), (74, 15860), (80, 15884), (81, 15887), (104, 15983), (108, 16004), (115, 16037), (120, 16061), (126, 16079), (127, 16085), (130, 16097), (142, 16121),

Gene: G4_22 Start: 17744, Stop: 18184, Start Num: 55

Candidate Starts for G4_22:

(17, 17621), (42, 17714), (Start: 55 @17744 has 1 MA's), (57, 17747), (59, 17750), (67, 17789), (73, 17819), (74, 17822), (76, 17828), (81, 17849), (86, 17867), (96, 17903), (104, 17939), (113, 17987), (119, 18011), (120, 18017), (123, 18026), (124, 18029), (126, 18035), (133, 18062), (143, 18092),

Gene: Galaxy_22 Start: 17275, Stop: 17697, Start Num: 51

Candidate Starts for Galaxy_22:

(1, 16426), (3, 16660), (5, 16687), (16, 17155), (Start: 51 @17275 has 51 MA's), (62, 17299), (67, 17329), (80, 17386), (92, 17437), (100, 17464), (105, 17488), (123, 17572), (126, 17581), (127, 17587), (129, 17596), (134, 17605), (136, 17611), (146, 17635),

Gene: Gandionco_46 Start: 37033, Stop: 37410, Start Num: 66

Candidate Starts for Gandionco_46:

(22, 36913), (26, 36931), (34, 36952), (Start: 39 @36976 has 6 MA's), (63, 37024), (65, 37030), (66, 37033), (70, 37063), (87, 37144), (92, 37159), (106, 37216), (112, 37252), (119, 37279), (126, 37303), (130, 37321), (132, 37327), (135, 37330),

Gene: GantcherGoblin_30 Start: 26290, Stop: 26736, Start Num: 37

Candidate Starts for GantcherGoblin_30:

(Start: 21 @26233 has 2 MA's), (Start: 28 @26257 has 3 MA's), (Start: 37 @26290 has 45 MA's), (Start: 43 @26305 has 3 MA's), (75, 26410), (90, 26479), (92, 26485), (115, 26587), (116, 26599),

Gene: GermyBearimy_30 Start: 25394, Stop: 25849, Start Num: 34

Candidate Starts for GermyBearimy_30:

(34, 25394), (38, 25415), (65, 25469), (72, 25511), (83, 25559), (87, 25583), (90, 25592), (101, 25628), (109, 25673), (112, 25691), (114, 25697), (119, 25718), (124, 25736), (132, 25766),

Gene: Giantsbane_32 Start: 26755, Stop: 27198, Start Num: 37

Candidate Starts for Giantsbane_32:

(15, 26662), (22, 26701), (34, 26740), (Start: 37 @26755 has 45 MA's), (44, 26773), (65, 26818), (69, 26848), (72, 26860), (84, 26920), (98, 26968), (102, 26986), (113, 27043), (123, 27082), (144, 27139), (152, 27175),

Gene: Glotell_20 Start: 15770, Stop: 16192, Start Num: 51

Candidate Starts for Glotell_20:

(12, 15605), (16, 15650), (Start: 51 @15770 has 51 MA's), (69, 15833), (71, 15842), (74, 15857), (80, 15881), (81, 15884), (104, 15980), (108, 16001), (115, 16034), (120, 16058), (126, 16076), (127, 16082), (130, 16094), (142, 16118),

Gene: GoCrazy_23 Start: 23636, Stop: 24064, Start Num: 43

Candidate Starts for GoCrazy_23:

(Start: 31 @23597 has 12 MA's), (Start: 33 @23603 has 2 MA's), (Start: 36 @23618 has 4 MA's), (Start: 43 @23636 has 3 MA's), (56, 23660), (70, 23717), (73, 23735), (77, 23747), (90, 23807), (96, 23825), (103, 23855), (106, 23870), (113, 23909), (115, 23915), (120, 23939), (131, 23978), (144, 24005),

Gene: Goodgraces_19 Start: 15130, Stop: 15546, Start Num: 58

Candidate Starts for Goodgraces_19:

(18, 15007), (Start: 58 @15130 has 9 MA's), (66, 15154), (76, 15208), (79, 15223), (81, 15229), (111, 15367), (119, 15400), (143, 15475),

Gene: Gordon_31 Start: 28863, Stop: 29306, Start Num: 37

Candidate Starts for Gordon_31:

(34, 28848), (Start: 37 @28863 has 45 MA's), (40, 28875), (63, 28920), (65, 28926), (72, 28968), (74, 28980), (92, 29055), (112, 29148), (119, 29175), (130, 29217), (132, 29223),

Gene: GramZayde_21 Start: 16043, Stop: 16465, Start Num: 51

Candidate Starts for GramZayde_21:

(25, 15977), (Start: 51 @16043 has 51 MA's), (62, 16067), (67, 16097), (74, 16130), (78, 16148), (80, 16154), (88, 16190), (91, 16202), (102, 16244), (104, 16253), (108, 16274), (112, 16298), (115, 16307), (117, 16322), (120, 16331), (123, 16340), (124, 16343), (126, 16349), (127, 16355), (130, 16367), (136, 16379),

Gene: Gravel_22 Start: 17350, Stop: 17772, Start Num: 51

Candidate Starts for Gravel_22:

(Start: 51 @17350 has 51 MA's), (62, 17374), (64, 17380), (80, 17461), (82, 17467), (91, 17509), (92, 17512), (108, 17581), (113, 17608), (123, 17647), (136, 17686), (141, 17695), (142, 17698), (145, 17704), (146, 17710),

Gene: HamCheese_20 Start: 15772, Stop: 16194, Start Num: 51

Candidate Starts for HamCheese_20:

(12, 15607), (16, 15652), (Start: 51 @15772 has 51 MA's), (69, 15835), (71, 15844), (74, 15859), (80, 15883), (81, 15886), (104, 15982), (108, 16003), (115, 16036), (120, 16060), (126, 16078), (127, 16084), (130, 16096), (142, 16120),

Gene: Hankly_23 Start: 22819, Stop: 23286, Start Num: 31

Candidate Starts for Hankly_23:

(Start: 31 @22819 has 12 MA's), (Start: 33 @22825 has 2 MA's), (Start: 36 @22840 has 4 MA's), (Start: 43 @22858 has 3 MA's), (56, 22882), (70, 22939), (73, 22957), (77, 22969), (81, 22987), (87, 23020), (90, 23029), (96, 23047), (113, 23131), (115, 23137), (117, 23152), (120, 23161), (123, 23170), (131, 23200), (144, 23227),

Gene: HannahPhantana_22 Start: 16207, Stop: 16629, Start Num: 51

Candidate Starts for HannahPhantana_22:

(25, 16141), (Start: 51 @16207 has 51 MA's), (62, 16231), (67, 16261), (74, 16294), (78, 16312), (80, 16318), (88, 16354), (91, 16366), (102, 16408), (104, 16417), (108, 16438), (112, 16462), (115, 16471), (117, 16486), (120, 16495), (123, 16504), (124, 16507), (126, 16513), (127, 16519), (130, 16531), (136, 16543),

Gene: Heisenberger_24 Start: 23467, Stop: 23934, Start Num: 31

Candidate Starts for Heisenberger_24:

(Start: 31 @23467 has 12 MA's), (Start: 33 @23473 has 2 MA's), (Start: 36 @23488 has 4 MA's), (Start: 43 @23506 has 3 MA's), (73, 23605), (81, 23635), (87, 23668), (90, 23677), (96, 23695), (113, 23779), (115, 23785), (117, 23800), (120, 23809), (123, 23818), (131, 23848), (144, 23875),

Gene: Hemma_28 Start: 24206, Stop: 24637, Start Num: 37

Candidate Starts for Hemma_28:

(22, 24152), (34, 24191), (Start: 37 @24206 has 45 MA's), (65, 24245), (70, 24278), (77, 24308), (78, 24317), (93, 24377), (96, 24386), (98, 24395), (99, 24398), (107, 24434), (110, 24452), (113, 24470), (115, 24476), (117, 24491), (122, 24506), (129, 24533), (151, 24584), (155, 24617),

Gene: HerbBucket_27 Start: 24847, Stop: 25275, Start Num: 45

Candidate Starts for HerbBucket_27:

(32, 24805), (Start: 45 @24847 has 17 MA's), (63, 24889), (65, 24895), (66, 24898), (70, 24928), (73, 24946), (76, 24955), (87, 25009), (103, 25066), (123, 25159), (129, 25183), (131, 25189),

Gene: Ingrid_31 Start: 27486, Stop: 27917, Start Num: 37

Candidate Starts for Ingrid_31:

(10, 27324), (11, 27333), (22, 27432), (34, 27471), (Start: 37 @27486 has 45 MA's), (63, 27519), (65, 27525), (73, 27576), (74, 27579), (76, 27585), (80, 27603), (93, 27657), (96, 27666), (98, 27675), (110, 27732), (117, 27771), (122, 27786), (129, 27813), (137, 27831), (151, 27864), (155, 27897),

Gene: Inked_33 Start: 28494, Stop: 28937, Start Num: 37

Candidate Starts for Inked_33:

(15, 28401), (22, 28440), (34, 28479), (Start: 37 @28494 has 45 MA's), (46, 28521), (60, 28545), (63, 28551), (65, 28557), (69, 28587), (84, 28659), (98, 28707), (102, 28725), (108, 28755), (110, 28764), (120, 28812), (125, 28827), (130, 28848), (144, 28878), (152, 28914),

Gene: Issa_31 Start: 27567, Stop: 28010, Start Num: 37

Candidate Starts for Issa_31:

(34, 27552), (Start: 37 @27567 has 45 MA's), (40, 27579), (63, 27624), (65, 27630), (72, 27672), (74, 27684), (92, 27759), (98, 27780), (112, 27852), (119, 27879), (130, 27921), (132, 27927),

Gene: JEGGS_24 Start: 23521, Stop: 23988, Start Num: 31

Candidate Starts for JEGGS_24:

(Start: 31 @23521 has 12 MA's), (Start: 33 @23527 has 2 MA's), (Start: 36 @23542 has 4 MA's), (Start: 43 @23560 has 3 MA's), (73, 23659), (81, 23689), (87, 23722), (90, 23731), (96, 23749), (113, 23833), (115, 23839), (117, 23854), (120, 23863), (123, 23872), (131, 23902), (144, 23929),

Gene: Jamun_21 Start: 16885, Stop: 17307, Start Num: 51

Candidate Starts for Jamun_21:

(Start: 51 @16885 has 51 MA's), (62, 16909), (67, 16939), (80, 16996), (92, 17047), (104, 17095), (105, 17098), (113, 17143), (123, 17182), (129, 17206), (136, 17221), (142, 17233), (146, 17245),

Gene: Jazzy4900_29 Start: 26238, Stop: 26672, Start Num: 38

Candidate Starts for Jazzy4900_29:

(38, 26238), (65, 26292), (90, 26415), (109, 26496), (112, 26514), (114, 26520), (119, 26541),

Gene: JeNeSaisPas_44 Start: 36989, Stop: 37423, Start Num: 39

Candidate Starts for JeNeSaisPas_44:

(22, 36926), (26, 36944), (34, 36965), (Start: 39 @36989 has 6 MA's), (63, 37037), (65, 37043), (66, 37046), (70, 37076), (87, 37157), (92, 37172), (106, 37229), (112, 37265), (119, 37292), (126, 37316), (130, 37334), (132, 37340),

Gene: Jeremy4pt0_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for Jeremy4pt0_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: Jerole_22 Start: 16204, Stop: 16626, Start Num: 51

Candidate Starts for Jerole_22:

(25, 16138), (Start: 51 @16204 has 51 MA's), (62, 16228), (67, 16258), (74, 16291), (78, 16309), (80, 16315), (88, 16351), (91, 16363), (102, 16405), (104, 16414), (108, 16435), (112, 16459), (115, 16468), (117, 16483), (120, 16492), (123, 16501), (124, 16504), (126, 16510), (127, 16516), (130,

16528), (136, 16540),

Gene: Juno112_20 Start: 15773, Stop: 16195, Start Num: 51

Candidate Starts for Juno112_20:

(12, 15608), (16, 15653), (Start: 51 @15773 has 51 MA's), (69, 15836), (71, 15845), (74, 15860), (80, 15884), (81, 15887), (104, 15983), (108, 16004), (115, 16037), (120, 16061), (126, 16079), (127, 16085), (130, 16097), (142, 16121),

Gene: KHumphrey_20 Start: 15770, Stop: 16192, Start Num: 51

Candidate Starts for KHumphrey_20:

(12, 15605), (16, 15650), (Start: 51 @15770 has 51 MA's), (69, 15833), (71, 15842), (74, 15857), (80, 15881), (81, 15884), (104, 15980), (108, 16001), (115, 16034), (120, 16058), (126, 16076), (127, 16082), (130, 16094), (142, 16118),

Gene: Kardesai_23 Start: 23206, Stop: 23667, Start Num: 33

Candidate Starts for Kardesai_23:

(Start: 31 @23200 has 12 MA's), (Start: 33 @23206 has 2 MA's), (Start: 36 @23221 has 4 MA's), (Start: 43 @23239 has 3 MA's), (73, 23338), (81, 23368), (87, 23401), (90, 23410), (96, 23428), (113, 23512), (115, 23518), (117, 23533), (120, 23542), (123, 23551), (131, 23581), (144, 23608),

Gene: KeaneyLin_23 Start: 23636, Stop: 24064, Start Num: 43

Candidate Starts for KeaneyLin_23:

(Start: 31 @23597 has 12 MA's), (Start: 33 @23603 has 2 MA's), (Start: 36 @23618 has 4 MA's), (Start: 43 @23636 has 3 MA's), (56, 23660), (70, 23717), (73, 23735), (77, 23747), (90, 23807), (96, 23825), (103, 23855), (106, 23870), (113, 23909), (115, 23915), (120, 23939), (131, 23978), (144, 24005),

Gene: KendraB23_22 Start: 17351, Stop: 17773, Start Num: 51

Candidate Starts for KendraB23_22:

(Start: 51 @17351 has 51 MA's), (62, 17375), (64, 17381), (80, 17462), (82, 17468), (91, 17510), (92, 17513), (108, 17582), (113, 17609), (123, 17648), (136, 17687), (141, 17696), (142, 17699), (145, 17705), (146, 17711),

Gene: Kepler_21 Start: 16042, Stop: 16464, Start Num: 51

Candidate Starts for Kepler_21:

(25, 15976), (Start: 51 @16042 has 51 MA's), (62, 16066), (67, 16096), (74, 16129), (78, 16147), (80, 16153), (88, 16189), (91, 16201), (102, 16243), (104, 16252), (108, 16273), (112, 16297), (115, 16306), (117, 16321), (120, 16330), (123, 16339), (124, 16342), (126, 16348), (127, 16354), (130, 16366), (136, 16378),

Gene: KevinMinion_31 Start: 27351, Stop: 27830, Start Num: 28

Candidate Starts for KevinMinion_31:

(Start: 21 @27327 has 2 MA's), (Start: 28 @27351 has 3 MA's), (Start: 37 @27384 has 45 MA's), (Start: 43 @27399 has 3 MA's), (75, 27504), (90, 27573), (92, 27579), (115, 27681), (116, 27693),

Gene: Kinny_33 Start: 28143, Stop: 28589, Start Num: 37

Candidate Starts for Kinny_33:

(23, 28098), (29, 28119), (Start: 35 @28134 has 3 MA's), (Start: 37 @28143 has 45 MA's), (Start: 43 @28158 has 3 MA's), (46, 28170), (75, 28263), (90, 28332), (92, 28338), (94, 28344), (101, 28368), (115, 28440), (116, 28452), (139, 28518),

Gene: Kuleana_21 Start: 16151, Stop: 16570, Start Num: 47

Candidate Starts for Kuleana_21:

(Start: 47 @16151 has 2 MA's), (57, 16163), (62, 16175), (74, 16238), (80, 16262), (100, 16337), (102, 16349), (117, 16427), (123, 16445), (128, 16466), (129, 16469), (141, 16493), (154, 16553),

Gene: Kureo_46 Start: 35856, Stop: 36233, Start Num: 66

Candidate Starts for Kureo_46:

(22, 35736), (26, 35754), (34, 35775), (Start: 39 @35799 has 6 MA's), (63, 35847), (65, 35853), (66, 35856), (70, 35886), (87, 35967), (92, 35982), (106, 36039), (112, 36075), (119, 36102), (126, 36126), (130, 36144), (132, 36150),

Gene: Laphuphu24k_19 Start: 15772, Stop: 16194, Start Num: 51

Candidate Starts for Laphuphu24k_19:

(12, 15607), (16, 15652), (Start: 51 @15772 has 51 MA's), (69, 15835), (71, 15844), (74, 15859), (80, 15883), (81, 15886), (104, 15982), (108, 16003), (115, 16036), (120, 16060), (126, 16078), (127, 16084), (130, 16096), (142, 16120),

Gene: Leathea_31 Start: 26183, Stop: 26632, Start Num: 37

Candidate Starts for Leathea_31:

(Start: 37 @26183 has 45 MA's), (Start: 43 @26198 has 3 MA's), (60, 26228), (75, 26303), (90, 26372), (92, 26378), (115, 26480), (116, 26492), (139, 26558),

Gene: Leona_20 Start: 15832, Stop: 16254, Start Num: 51

Candidate Starts for Leona_20:

(12, 15667), (16, 15712), (Start: 51 @15832 has 51 MA's), (69, 15895), (74, 15919), (80, 15943), (81, 15946), (104, 16042), (108, 16063), (115, 16096), (120, 16120), (126, 16138), (127, 16144), (130, 16156),

Gene: Lewando_34 Start: 28203, Stop: 28658, Start Num: 35

Candidate Starts for Lewando_34:

(23, 28167), (29, 28188), (Start: 35 @28203 has 3 MA's), (Start: 37 @28212 has 45 MA's), (Start: 43 @28227 has 3 MA's), (46, 28239), (75, 28332), (90, 28401), (92, 28407), (94, 28413), (101, 28437), (115, 28509), (116, 28521), (139, 28587),

Gene: LilHuddy_32 Start: 27938, Stop: 28381, Start Num: 37

Candidate Starts for LilHuddy_32:

(34, 27923), (Start: 37 @27938 has 45 MA's), (65, 28001), (69, 28031), (72, 28043), (84, 28103), (92, 28130), (102, 28169), (113, 28226), (144, 28322),

Gene: Linda_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for Linda_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: LittleTokyo_21 Start: 16106, Stop: 16528, Start Num: 49

Candidate Starts for LittleTokyo_21:

(Start: 49 @16106 has 2 MA's), (Start: 58 @16118 has 9 MA's), (62, 16130), (78, 16211), (80, 16217), (85, 16241), (88, 16253), (92, 16268), (96, 16280), (98, 16289), (105, 16319), (107, 16328), (108, 16337), (111, 16355), (117, 16385), (120, 16394), (123, 16403), (124, 16406), (126, 16412), (129, 16427), (146, 16466),

Gene: Loretta_31 Start: 27486, Stop: 27917, Start Num: 37

Candidate Starts for Loretta_31:

(10, 27324), (11, 27333), (22, 27432), (34, 27471), (Start: 37 @27486 has 45 MA's), (63, 27519), (65, 27525), (73, 27576), (74, 27579), (76, 27585), (80, 27603), (93, 27657), (96, 27666), (98, 27675), (110,

27732), (117, 27771), (122, 27786), (129, 27813), (137, 27831), (151, 27864), (155, 27897),

Gene: LucySwiss_31 Start: 27592, Stop: 28035, Start Num: 37

Candidate Starts for LucySwiss_31:

(34, 27577), (Start: 37 @27592 has 45 MA's), (40, 27604), (63, 27649), (65, 27655), (72, 27697), (92, 27784), (98, 27805), (106, 27841), (107, 27844), (112, 27877), (119, 27904), (130, 27946), (147, 27985),

Gene: Lunar_22 Start: 16204, Stop: 16626, Start Num: 51

Candidate Starts for Lunar_22:

(25, 16138), (Start: 51 @16204 has 51 MA's), (62, 16228), (67, 16258), (74, 16291), (78, 16309), (80, 16315), (88, 16351), (91, 16363), (102, 16405), (104, 16414), (108, 16435), (112, 16459), (115, 16468), (117, 16483), (120, 16492), (123, 16501), (124, 16504), (126, 16510), (127, 16516), (130, 16528), (136, 16540),

Gene: Makai_31 Start: 27724, Stop: 28155, Start Num: 37

Candidate Starts for Makai_31:

(15, 27631), (22, 27670), (34, 27709), (Start: 37 @27724 has 45 MA's), (65, 27763), (67, 27784), (75, 27820), (78, 27835), (79, 27838), (98, 27913), (110, 27970), (121, 28021), (122, 28024), (151, 28102), (155, 28135),

Gene: Mardi_32 Start: 26785, Stop: 27264, Start Num: 28

Candidate Starts for Mardi_32:

(Start: 21 @26761 has 2 MA's), (Start: 28 @26785 has 3 MA's), (Start: 37 @26818 has 45 MA's), (Start: 43 @26833 has 3 MA's), (75, 26938), (90, 27007), (92, 27013), (115, 27115), (116, 27127),

Gene: Marianna39_46 Start: 37033, Stop: 37410, Start Num: 66

Candidate Starts for Marianna39_46:

(22, 36913), (26, 36931), (34, 36952), (Start: 39 @36976 has 6 MA's), (63, 37024), (65, 37030), (66, 37033), (70, 37063), (87, 37144), (92, 37159), (106, 37216), (112, 37252), (119, 37279), (126, 37303), (130, 37321), (132, 37327),

Gene: MediumFry_29 Start: 26917, Stop: 27360, Start Num: 37

Candidate Starts for MediumFry_29:

(22, 26863), (34, 26902), (Start: 37 @26917 has 45 MA's), (63, 26974), (65, 26980), (69, 27010), (74, 27034), (92, 27109), (98, 27130), (102, 27148), (107, 27169), (109, 27184), (119, 27229), (144, 27301),

Gene: Melons_22 Start: 16204, Stop: 16626, Start Num: 51

Candidate Starts for Melons_22:

(25, 16138), (Start: 51 @16204 has 51 MA's), (62, 16228), (67, 16258), (74, 16291), (78, 16309), (80, 16315), (88, 16351), (91, 16363), (102, 16405), (104, 16414), (108, 16435), (112, 16459), (115, 16468), (117, 16483), (120, 16492), (123, 16501), (124, 16504), (126, 16510), (127, 16516), (130, 16528), (136, 16540),

Gene: Mendel_20 Start: 14828, Stop: 15247, Start Num: 58

Candidate Starts for Mendel_20:

(18, 14705), (Start: 58 @14828 has 9 MA's), (67, 14870), (74, 14903), (76, 14909), (79, 14924), (92, 14981), (99, 15005), (106, 15038), (108, 15050), (149, 15194),

Gene: Michelle_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for Michelle_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: MiniBagel_31 Start: 28814, Stop: 29257, Start Num: 37

Candidate Starts for MiniBagel_31:

(34, 28799), (Start: 37 @28814 has 45 MA's), (40, 28826), (65, 28877), (72, 28919), (74, 28931), (92, 29006), (107, 29066), (112, 29099), (119, 29126), (147, 29207),

Gene: Mooshroom_24 Start: 23200, Stop: 23667, Start Num: 31

Candidate Starts for Mooshroom_24:

(Start: 31 @23200 has 12 MA's), (Start: 33 @23206 has 2 MA's), (Start: 36 @23221 has 4 MA's), (Start: 43 @23239 has 3 MA's), (73, 23338), (81, 23368), (87, 23401), (90, 23410), (96, 23428), (113, 23512), (115, 23518), (117, 23533), (120, 23542), (123, 23551), (131, 23581), (144, 23608),

Gene: MrAaronian_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for MrAaronian_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: Mudcat_24 Start: 25498, Stop: 25965, Start Num: 31

Candidate Starts for Mudcat_24:

(Start: 31 @25498 has 12 MA's), (Start: 33 @25504 has 2 MA's), (Start: 36 @25519 has 4 MA's), (Start: 43 @25537 has 3 MA's), (70, 25618), (73, 25636), (87, 25699), (96, 25726), (113, 25810), (115, 25816), (120, 25840), (123, 25849), (131, 25879), (144, 25906),

Gene: Muglass_33 Start: 27780, Stop: 28226, Start Num: 37

Candidate Starts for Muglass_33:

(23, 27735), (29, 27756), (Start: 35 @27771 has 3 MA's), (Start: 37 @27780 has 45 MA's), (Start: 43 @27795 has 3 MA's), (46, 27807), (68, 27867), (72, 27885), (75, 27900), (90, 27969), (92, 27975), (101, 28005), (115, 28077), (116, 28089),

Gene: NapoleonB_24 Start: 23597, Stop: 24064, Start Num: 31

Candidate Starts for NapoleonB_24:

(Start: 31 @23597 has 12 MA's), (Start: 33 @23603 has 2 MA's), (Start: 36 @23618 has 4 MA's), (Start: 43 @23636 has 3 MA's), (73, 23735), (81, 23765), (87, 23798), (90, 23807), (96, 23825), (113, 23909), (115, 23915), (117, 23930), (120, 23939), (123, 23948), (131, 23978), (144, 24005),

Gene: Nason_25 Start: 24095, Stop: 24541, Start Num: 36

Candidate Starts for Nason_25:

(Start: 31 @24074 has 12 MA's), (Start: 33 @24080 has 2 MA's), (Start: 36 @24095 has 4 MA's), (Start: 43 @24113 has 3 MA's), (73, 24212), (81, 24242), (87, 24275), (90, 24284), (96, 24302), (113, 24386), (115, 24392), (117, 24407), (120, 24416), (123, 24425), (131, 24455), (144, 24482),

Gene: Natasha_28 Start: 24254, Stop: 24679, Start Num: 39

Candidate Starts for Natasha_28:

(20, 24188), (24, 24203), (30, 24224), (Start: 39 @24254 has 6 MA's), (63, 24293), (65, 24299), (66, 24302), (70, 24332), (80, 24377), (103, 24470), (121, 24557), (130, 24590), (135, 24599), (148, 24635),

Gene: Navi1117_31 Start: 26457, Stop: 26903, Start Num: 37

Candidate Starts for Navi1117_31:

(Start: 21 @26400 has 2 MA's), (Start: 28 @26424 has 3 MA's), (Start: 37 @26457 has 45 MA's), (Start: 43 @26472 has 3 MA's), (65, 26520), (68, 26544), (94, 26658), (101, 26682), (115, 26754),

(116, 26766), (121, 26781), (153, 26883),

Gene: Niblet_21 Start: 17230, Stop: 17652, Start Num: 51

Candidate Starts for Niblet_21:

(Start: 51 @17230 has 51 MA's), (62, 17254), (64, 17260), (82, 17347), (92, 17392), (104, 17440), (105, 17443), (108, 17461), (113, 17488), (115, 17494), (120, 17518), (123, 17527), (136, 17566), (141, 17575), (145, 17584), (146, 17590), (154, 17635),

Gene: Nightmare_32 Start: 28127, Stop: 28570, Start Num: 37

Candidate Starts for Nightmare_32:

(34, 28112), (Start: 37 @28127 has 45 MA's), (40, 28139), (65, 28190), (72, 28232), (98, 28340), (107, 28379), (112, 28412), (119, 28439), (147, 28520),

Gene: Niktson_31 Start: 28289, Stop: 28732, Start Num: 37

Candidate Starts for Niktson_31:

(34, 28274), (Start: 37 @28289 has 45 MA's), (40, 28301), (63, 28346), (65, 28352), (69, 28382), (72, 28394), (74, 28406), (98, 28502), (107, 28541), (112, 28574), (119, 28601), (130, 28643), (147, 28682),

Gene: Nivinsha_31 Start: 27677, Stop: 28120, Start Num: 37

Candidate Starts for Nivinsha_31:

(34, 27662), (Start: 37 @27677 has 45 MA's), (40, 27689), (65, 27740), (74, 27794), (92, 27869), (98, 27890), (112, 27962), (119, 27989), (130, 28031), (132, 28037),

Gene: Onestar_28 Start: 24587, Stop: 25054, Start Num: 32

Candidate Starts for Onestar_28:

(32, 24587), (Start: 45 @24629 has 17 MA's), (61, 24659), (63, 24668), (65, 24674), (66, 24677), (87, 24788), (104, 24851), (108, 24872), (116, 24917), (124, 24941), (130, 24965),

Gene: Oppalora_20 Start: 15770, Stop: 16192, Start Num: 51

Candidate Starts for Oppalora_20:

(12, 15605), (16, 15650), (Start: 51 @15770 has 51 MA's), (69, 15833), (71, 15842), (74, 15857), (80, 15881), (81, 15884), (104, 15980), (108, 16001), (115, 16034), (120, 16058), (126, 16076), (127, 16082), (130, 16094),

Gene: Orcanus_21 Start: 17144, Stop: 17566, Start Num: 51

Candidate Starts for Orcanus_21:

(Start: 51 @17144 has 51 MA's), (62, 17168), (64, 17174), (80, 17255), (82, 17261), (91, 17303), (92, 17306), (108, 17375), (113, 17402), (123, 17441), (136, 17480), (141, 17489), (142, 17492), (145, 17498), (146, 17504),

Gene: OtsoOtso_21 Start: 16046, Stop: 16468, Start Num: 51

Candidate Starts for OtsoOtso_21:

(25, 15980), (Start: 51 @16046 has 51 MA's), (62, 16070), (67, 16100), (73, 16130), (74, 16133), (80, 16157), (85, 16181), (88, 16193), (108, 16277), (112, 16301), (115, 16310), (117, 16325), (120, 16334), (123, 16343), (124, 16346), (126, 16352), (127, 16358), (130, 16370), (136, 16382),

Gene: PFR1_19 Start: 16983, Stop: 17417, Start Num: 53

Candidate Starts for PFR1_19:

(40, 16953), (46, 16968), (52, 16980), (53, 16983), (67, 17028), (68, 17031), (72, 17049), (74, 17061), (79, 17082), (80, 17085), (82, 17091), (90, 17124), (95, 17139), (96, 17142), (102, 17169), (113, 17226), (124, 17268), (133, 17301), (143, 17331),

Gene: PFR2_21 Start: 18552, Stop: 18986, Start Num: 53

Candidate Starts for PFR2_21:

(40, 18522), (46, 18537), (52, 18549), (53, 18552), (67, 18597), (68, 18600), (72, 18618), (74, 18630), (79, 18651), (80, 18654), (82, 18660), (90, 18693), (95, 18708), (96, 18711), (102, 18738), (113, 18795), (124, 18837), (133, 18870), (143, 18900),

Gene: Paella_45 Start: 36456, Stop: 36890, Start Num: 39

Candidate Starts for Paella_45:

(22, 36393), (26, 36411), (34, 36432), (Start: 39 @36456 has 6 MA's), (65, 36510), (66, 36513), (70, 36543), (87, 36624), (92, 36639), (106, 36696), (112, 36732), (119, 36759), (126, 36783), (130, 36801), (132, 36807), (135, 36810),

Gene: Pelletreau_22 Start: 17350, Stop: 17772, Start Num: 51

Candidate Starts for Pelletreau_22:

(Start: 51 @17350 has 51 MA's), (62, 17374), (64, 17380), (80, 17461), (82, 17467), (91, 17509), (92, 17512), (108, 17581), (113, 17608), (123, 17647), (136, 17686), (141, 17695), (142, 17698), (145, 17704), (146, 17710),

Gene: Phaby_32 Start: 27870, Stop: 28313, Start Num: 37

Candidate Starts for Phaby_32:

(15, 27777), (22, 27816), (34, 27855), (Start: 37 @27870 has 45 MA's), (65, 27933), (69, 27963), (72, 27975), (75, 27990), (84, 28035), (92, 28062), (98, 28083), (102, 28101), (113, 28158), (123, 28197), (144, 28254), (152, 28290),

Gene: Phaila_30 Start: 25868, Stop: 26314, Start Num: 37

Candidate Starts for Phaila_30:

(Start: 21 @25811 has 2 MA's), (Start: 28 @25835 has 3 MA's), (Start: 37 @25868 has 45 MA's), (Start: 43 @25883 has 3 MA's), (75, 25988), (90, 26057), (92, 26063), (101, 26093), (115, 26165), (116, 26177),

Gene: PhirstandPhine_22 Start: 16204, Stop: 16626, Start Num: 51

Candidate Starts for PhirstandPhine_22:

(25, 16138), (Start: 51 @16204 has 51 MA's), (62, 16228), (67, 16258), (74, 16291), (78, 16309), (80, 16315), (88, 16351), (91, 16363), (102, 16405), (104, 16414), (108, 16435), (112, 16459), (115, 16468), (117, 16483), (120, 16492), (123, 16501), (124, 16504), (126, 16510), (127, 16516), (130, 16528), (136, 16540),

Gene: PhluffyCoco_20 Start: 15772, Stop: 16194, Start Num: 51

Candidate Starts for PhluffyCoco_20:

(12, 15607), (16, 15652), (Start: 51 @15772 has 51 MA's), (69, 15835), (71, 15844), (74, 15859), (80, 15883), (81, 15886), (104, 15982), (108, 16003), (115, 16036), (120, 16060), (126, 16078), (127, 16084), (130, 16096), (142, 16120),

Gene: Pineda_22 Start: 16204, Stop: 16626, Start Num: 51

Candidate Starts for Pineda_22:

(25, 16138), (Start: 51 @16204 has 51 MA's), (62, 16228), (67, 16258), (74, 16291), (78, 16309), (80, 16315), (88, 16351), (91, 16363), (102, 16405), (104, 16414), (108, 16435), (112, 16459), (115, 16468), (117, 16483), (120, 16492), (123, 16501), (124, 16504), (126, 16510), (127, 16516), (130, 16528), (136, 16540),

Gene: PoeMe_32 Start: 27146, Stop: 27592, Start Num: 37

Candidate Starts for PoeMe_32:

(Start: 21 @27089 has 2 MA's), (Start: 28 @27113 has 3 MA's), (Start: 37 @27146 has 45 MA's),
(Start: 43 @27161 has 3 MA's), (75, 27266), (90, 27335), (92, 27341), (115, 27443), (116, 27455),

Gene: Polka_21 Start: 16046, Stop: 16468, Start Num: 51

Candidate Starts for Polka_21:

(25, 15980), (Start: 51 @16046 has 51 MA's), (62, 16070), (67, 16100), (73, 16130), (74, 16133), (80, 16157), (85, 16181), (88, 16193), (108, 16277), (112, 16301), (115, 16310), (117, 16325), (120, 16334), (123, 16343), (124, 16346), (126, 16352), (127, 16358), (130, 16370), (136, 16382),

Gene: PorkBelly_20 Start: 19379, Stop: 19798, Start Num: 52

Candidate Starts for PorkBelly_20:

(24, 19295), (52, 19379), (65, 19409), (72, 19451), (75, 19466), (103, 19577), (118, 19652), (138, 19715), (150, 19745),

Gene: Powelldog_29 Start: 24544, Stop: 24969, Start Num: 45

Candidate Starts for Powelldog_29:

(15, 24430), (22, 24469), (34, 24508), (Start: 39 @24532 has 6 MA's), (Start: 45 @24544 has 17 MA's), (66, 24592), (70, 24622), (72, 24631), (76, 24649), (103, 24760), (112, 24811), (124, 24856),

Gene: ProfFrink_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for ProfFrink_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: Qui_45 Start: 36456, Stop: 36890, Start Num: 39

Candidate Starts for Qui_45:

(22, 36393), (26, 36411), (34, 36432), (Start: 39 @36456 has 6 MA's), (65, 36510), (66, 36513), (70, 36543), (87, 36624), (92, 36639), (106, 36696), (112, 36732), (119, 36759), (126, 36783), (130, 36801), (132, 36807), (135, 36810),

Gene: Rattail_20 Start: 15832, Stop: 16254, Start Num: 51

Candidate Starts for Rattail_20:

(12, 15667), (16, 15712), (Start: 51 @15832 has 51 MA's), (69, 15895), (74, 15919), (80, 15943), (81, 15946), (104, 16042), (108, 16063), (115, 16096), (120, 16120), (126, 16138), (127, 16144), (130, 16156),

Gene: Raunak_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for Raunak_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: RedFox_20 Start: 15772, Stop: 16194, Start Num: 51

Candidate Starts for RedFox_20:

(12, 15607), (16, 15652), (Start: 51 @15772 has 51 MA's), (69, 15835), (71, 15844), (74, 15859), (80, 15883), (81, 15886), (104, 15982), (108, 16003), (115, 16036), (120, 16060), (126, 16078), (127, 16084), (130, 16096), (142, 16120),

Gene: Renaldo_36 Start: 28221, Stop: 28667, Start Num: 37

Candidate Starts for Renaldo_36:

(23, 28176), (29, 28197), (Start: 35 @28212 has 3 MA's), (Start: 37 @28221 has 45 MA's), (Start: 43 @28236 has 3 MA's), (46, 28248), (75, 28341), (90, 28410), (92, 28416), (94, 28422), (101, 28446), (115, 28518), (116, 28530), (139, 28596),

Gene: Renna12_21 Start: 16122, Stop: 16544, Start Num: 51

Candidate Starts for Renna12_21:

(7, 15717), (16, 16002), (Start: 51 @16122 has 51 MA's), (69, 16185), (74, 16209), (80, 16233), (81, 16236), (104, 16332), (108, 16353), (115, 16386), (120, 16410), (126, 16428), (127, 16434), (130, 16446),

Gene: Ruchi_21 Start: 17425, Stop: 17847, Start Num: 51

Candidate Starts for Ruchi_21:

(Start: 51 @17425 has 51 MA's), (62, 17449), (67, 17479), (80, 17536), (92, 17587), (104, 17635), (105, 17638), (113, 17683), (123, 17722), (129, 17746), (136, 17761), (140, 17767), (142, 17773), (146, 17785),

Gene: RustyBoy_28 Start: 24236, Stop: 24661, Start Num: 39

Candidate Starts for RustyBoy_28:

(20, 24170), (24, 24185), (30, 24206), (Start: 39 @24236 has 6 MA's), (63, 24275), (65, 24281), (66, 24284), (70, 24314), (80, 24359), (103, 24452), (130, 24572), (135, 24581), (148, 24617),

Gene: Salk_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for Salk_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: ScienceWizSam_33 Start: 28078, Stop: 28521, Start Num: 37

Candidate Starts for ScienceWizSam_33:

(34, 28063), (Start: 37 @28078 has 45 MA's), (40, 28090), (65, 28141), (74, 28195), (92, 28270), (98, 28291), (112, 28363), (119, 28390), (130, 28432), (132, 28438),

Gene: Seldom_22 Start: 15454, Stop: 15873, Start Num: 58

Candidate Starts for Seldom_22:

(18, 15331), (Start: 58 @15454 has 9 MA's), (67, 15496), (74, 15529), (76, 15535), (79, 15550), (92, 15607), (99, 15631), (106, 15664), (108, 15676), (149, 15820),

Gene: Shen_22 Start: 17351, Stop: 17773, Start Num: 51

Candidate Starts for Shen_22:

(Start: 51 @17351 has 51 MA's), (62, 17375), (64, 17381), (80, 17462), (82, 17468), (91, 17510), (92, 17513), (108, 17582), (113, 17609), (123, 17648), (136, 17687), (141, 17696), (142, 17699), (145, 17705), (146, 17711),

Gene: Shepard_32 Start: 27935, Stop: 28378, Start Num: 37

Candidate Starts for Shepard_32:

(34, 27920), (Start: 37 @27935 has 45 MA's), (65, 27998), (69, 28028), (72, 28040), (84, 28100), (92, 28127), (102, 28166), (113, 28223), (144, 28319),

Gene: Shiba_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for Shiba_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: Sloopyjoe_28 Start: 24847, Stop: 25275, Start Num: 45

Candidate Starts for Sloopyjoe_28:

(32, 24805), (Start: 45 @24847 has 17 MA's), (63, 24889), (65, 24895), (66, 24898), (70, 24928), (72, 24937), (76, 24955), (87, 25009), (103, 25066), (123, 25159), (129, 25183), (132, 25192),

Gene: Spain_27 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for Spain_27:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: Sporto_29 Start: 26058, Stop: 26486, Start Num: 45

Candidate Starts for Sporto_29:

(15, 25944), (22, 25983), (34, 26022), (38, 26043), (Start: 45 @26058 has 17 MA's), (61, 26091), (63, 26100), (65, 26106), (66, 26109), (70, 26139), (72, 26148), (76, 26166), (87, 26220), (103, 26277), (123, 26370), (129, 26394), (132, 26403),

Gene: Sprinkle_28 Start: 24960, Stop: 25385, Start Num: 39

Candidate Starts for Sprinkle_28:

(Start: 39 @24960 has 6 MA's), (54, 24990), (65, 25005), (66, 25008), (70, 25038), (87, 25119), (92, 25134), (93, 25137), (95, 25143), (106, 25191), (110, 25212), (112, 25227), (119, 25254), (123, 25269), (126, 25278), (131, 25299),

Gene: StarLord_28 Start: 24847, Stop: 25275, Start Num: 45

Candidate Starts for StarLord_28:

(32, 24805), (Start: 45 @24847 has 17 MA's), (63, 24889), (65, 24895), (66, 24898), (70, 24928), (72, 24937), (76, 24955), (87, 25009), (103, 25066), (123, 25159), (129, 25183), (132, 25192),

Gene: Stardom_23 Start: 23077, Stop: 23523, Start Num: 36

Candidate Starts for Stardom_23:

(Start: 31 @23056 has 12 MA's), (Start: 33 @23062 has 2 MA's), (Start: 36 @23077 has 4 MA's), (Start: 43 @23095 has 3 MA's), (73, 23194), (81, 23224), (87, 23257), (90, 23266), (96, 23284), (113, 23368), (115, 23374), (117, 23389), (120, 23398), (123, 23407), (131, 23437), (144, 23464),

Gene: Stardrop_31 Start: 26809, Stop: 27288, Start Num: 28

Candidate Starts for Stardrop_31:

(Start: 21 @26785 has 2 MA's), (Start: 28 @26809 has 3 MA's), (Start: 37 @26842 has 45 MA's), (Start: 43 @26857 has 3 MA's), (75, 26962), (90, 27031), (92, 27037), (115, 27139), (116, 27151),

Gene: Stayer_28 Start: 24846, Stop: 25274, Start Num: 45

Candidate Starts for Stayer_28:

(32, 24804), (Start: 45 @24846 has 17 MA's), (63, 24888), (65, 24894), (66, 24897), (70, 24927), (72, 24936), (76, 24954), (87, 25008), (103, 25065), (123, 25158), (129, 25182), (132, 25191),

Gene: StuartMinion_20 Start: 15817, Stop: 16239, Start Num: 51

Candidate Starts for StuartMinion_20:

(Start: 51 @15817 has 51 MA's), (56, 15826), (62, 15841), (71, 15889), (73, 15901), (80, 15928), (82, 15934), (85, 15952), (88, 15964), (96, 15991), (103, 16021), (105, 16030), (108, 16048), (123, 16114), (127, 16129), (129, 16138), (130, 16141), (145, 16171),

Gene: Sunny4976_28 Start: 26238, Stop: 26672, Start Num: 38

Candidate Starts for Sunny4976_28:

(38, 26238), (65, 26292), (90, 26415), (109, 26496), (112, 26514), (114, 26520), (119, 26541),

Gene: Swim_23 Start: 15327, Stop: 15746, Start Num: 58

Candidate Starts for Swim_23:

(18, 15204), (Start: 58 @15327 has 9 MA's), (67, 15369), (74, 15402), (76, 15408), (79, 15423), (92, 15480), (99, 15504), (106, 15537), (108, 15549), (149, 15693),

Gene: Synopsis_30 Start: 27741, Stop: 28184, Start Num: 37

Candidate Starts for Synopsis_30:

(34, 27726), (Start: 37 @27741 has 45 MA's), (40, 27753), (63, 27798), (65, 27804), (74, 27858), (92, 27933), (98, 27954), (106, 27990), (107, 27993), (112, 28026), (119, 28053), (130, 28095), (132, 28101),

Gene: Tatanka_31 Start: 28225, Stop: 28668, Start Num: 37

Candidate Starts for Tatanka_31:

(34, 28210), (Start: 37 @28225 has 45 MA's), (40, 28237), (63, 28282), (65, 28288), (74, 28342), (92, 28417), (98, 28438), (112, 28510), (119, 28537), (130, 28579), (132, 28585),

Gene: TaylorSipht_21 Start: 16161, Stop: 16583, Start Num: 51

Candidate Starts for TaylorSipht_21:

(25, 16098), (Start: 51 @16161 has 51 MA's), (62, 16185), (67, 16215), (80, 16272), (92, 16323), (104, 16371), (105, 16374), (117, 16440), (123, 16458), (126, 16467), (127, 16473), (129, 16482), (136, 16497), (146, 16521),

Gene: Teacup_31 Start: 27597, Stop: 28040, Start Num: 37

Candidate Starts for Teacup_31:

(34, 27582), (Start: 37 @27597 has 45 MA's), (40, 27609), (63, 27654), (65, 27660), (69, 27690), (72, 27702), (74, 27714), (98, 27810), (106, 27846), (107, 27849), (112, 27882), (119, 27909), (130, 27951), (147, 27990),

Gene: Tenney120_31 Start: 26546, Stop: 27025, Start Num: 28

Candidate Starts for Tenney120_31:

(Start: 21 @26522 has 2 MA's), (Start: 28 @26546 has 3 MA's), (Start: 37 @26579 has 45 MA's), (Start: 43 @26594 has 3 MA's), (75, 26699), (90, 26768), (92, 26774), (115, 26876), (116, 26888),

Gene: Tenno_32 Start: 28823, Stop: 29266, Start Num: 37

Candidate Starts for Tenno_32:

(34, 28808), (Start: 37 @28823 has 45 MA's), (40, 28835), (65, 28886), (72, 28928), (74, 28940), (92, 29015), (107, 29075), (112, 29108), (119, 29135), (147, 29216),

Gene: Tillums_23 Start: 15460, Stop: 15879, Start Num: 58

Candidate Starts for Tillums_23:

(18, 15337), (Start: 58 @15460 has 9 MA's), (67, 15502), (74, 15535), (76, 15541), (79, 15556), (92, 15613), (106, 15670), (108, 15682), (149, 15826),

Gene: Tipton_32 Start: 27931, Stop: 28374, Start Num: 37

Candidate Starts for Tipton_32:

(34, 27916), (Start: 37 @27931 has 45 MA's), (63, 27988), (65, 27994), (72, 28036), (84, 28096), (98, 28144), (144, 28315), (152, 28351),

Gene: Toad24_22 Start: 17351, Stop: 17773, Start Num: 51

Candidate Starts for Toad24_22:

(Start: 51 @17351 has 51 MA's), (62, 17375), (64, 17381), (80, 17462), (82, 17468), (91, 17510), (92, 17513), (108, 17582), (113, 17609), (123, 17648), (136, 17687), (141, 17696), (142, 17699), (145, 17705), (146, 17711),

Gene: Tokki_32 Start: 27886, Stop: 28329, Start Num: 37

Candidate Starts for Tokki_32:

(15, 27793), (22, 27832), (34, 27871), (Start: 37 @27886 has 45 MA's), (65, 27949), (69, 27979), (72, 27991), (75, 28006), (84, 28051), (98, 28099), (102, 28117), (113, 28174), (123, 28213), (144, 28270),

(152, 28306),

Gene: Tribby_25 Start: 23789, Stop: 24256, Start Num: 31

Candidate Starts for Tribby_25:

(Start: 31 @23789 has 12 MA's), (Start: 33 @23795 has 2 MA's), (Start: 36 @23810 has 4 MA's), (Start: 43 @23828 has 3 MA's), (56, 23852), (70, 23909), (73, 23927), (77, 23939), (90, 23999), (96, 24017), (103, 24047), (106, 24062), (113, 24101), (115, 24107), (120, 24131), (131, 24170), (144, 24197),

Gene: TrixiePhattel_31 Start: 26358, Stop: 26861, Start Num: 21

Candidate Starts for TrixiePhattel_31:

(Start: 21 @26358 has 2 MA's), (Start: 28 @26382 has 3 MA's), (Start: 37 @26415 has 45 MA's), (Start: 43 @26430 has 3 MA's), (75, 26535), (90, 26604), (92, 26610), (101, 26640), (115, 26712), (116, 26724),

Gene: Truckee_30 Start: 27769, Stop: 28200, Start Num: 37

Candidate Starts for Truckee_30:

(15, 27676), (22, 27715), (34, 27754), (Start: 37 @27769 has 45 MA's), (65, 27808), (67, 27829), (75, 27865), (78, 27880), (79, 27883), (98, 27958), (110, 28015), (121, 28066), (122, 28069), (151, 28147), (155, 28180),

Gene: Trustiboi_32 Start: 28294, Stop: 28737, Start Num: 37

Candidate Starts for Trustiboi_32:

(34, 28279), (Start: 37 @28294 has 45 MA's), (40, 28306), (63, 28351), (65, 28357), (72, 28399), (74, 28411), (92, 28486), (98, 28507), (112, 28579), (119, 28606), (130, 28648), (132, 28654),

Gene: Uzumaki_31 Start: 27109, Stop: 27555, Start Num: 37

Candidate Starts for Uzumaki_31:

(Start: 21 @27052 has 2 MA's), (Start: 28 @27076 has 3 MA's), (Start: 37 @27109 has 45 MA's), (Start: 43 @27124 has 3 MA's), (75, 27229), (90, 27298), (92, 27304), (115, 27406), (116, 27418),

Gene: Vulpecula_21 Start: 16883, Stop: 17305, Start Num: 51

Candidate Starts for Vulpecula_21:

(Start: 51 @16883 has 51 MA's), (62, 16907), (67, 16937), (80, 16994), (92, 17045), (104, 17093), (105, 17096), (113, 17141), (123, 17180), (129, 17204), (136, 17219), (142, 17231), (146, 17243),

Gene: Westerlin_32 Start: 29406, Stop: 29849, Start Num: 37

Candidate Starts for Westerlin_32:

(34, 29391), (Start: 37 @29406 has 45 MA's), (40, 29418), (63, 29463), (65, 29469), (72, 29511), (92, 29598), (98, 29619), (106, 29655), (107, 29658), (112, 29691), (119, 29718), (130, 29760), (147, 29799),

Gene: Westrich_22 Start: 17340, Stop: 17762, Start Num: 51

Candidate Starts for Westrich_22:

(Start: 51 @17340 has 51 MA's), (62, 17364), (64, 17370), (80, 17451), (82, 17457), (91, 17499), (92, 17502), (108, 17571), (113, 17598), (123, 17637), (136, 17676), (141, 17685), (142, 17688), (145, 17694), (146, 17700),

Gene: WileyE_20 Start: 16217, Stop: 16639, Start Num: 51

Candidate Starts for WileyE_20:

(Start: 51 @16217 has 51 MA's), (62, 16241), (67, 16271), (80, 16328), (92, 16379), (104, 16427), (105, 16430), (113, 16475), (123, 16514), (129, 16538), (136, 16553), (142, 16565), (146, 16577),

Gene: Xenomorph_23 Start: 23807, Stop: 24274, Start Num: 31

Candidate Starts for Xenomorph_23:

(Start: 31 @23807 has 12 MA's), (Start: 33 @23813 has 2 MA's), (Start: 36 @23828 has 4 MA's),
(Start: 43 @23846 has 3 MA's), (70, 23927), (73, 23945), (87, 24008), (96, 24035), (113, 24119), (115,
24125), (120, 24149), (123, 24158), (131, 24188),

Gene: YoshiYama_24 Start: 23859, Stop: 24305, Start Num: 36

Candidate Starts for YoshiYama_24:

(Start: 31 @23838 has 12 MA's), (Start: 33 @23844 has 2 MA's), (Start: 36 @23859 has 4 MA's),
(Start: 43 @23877 has 3 MA's), (70, 23958), (73, 23976), (87, 24039), (96, 24066), (113, 24150), (115,
24156), (120, 24180), (123, 24189), (131, 24219), (144, 24246),

Gene: Zeina_31 Start: 26433, Stop: 26936, Start Num: 21

Candidate Starts for Zeina_31:

(Start: 21 @26433 has 2 MA's), (Start: 28 @26457 has 3 MA's), (Start: 37 @26490 has 45 MA's),
(Start: 43 @26505 has 3 MA's), (75, 26610), (90, 26679), (92, 26685), (115, 26787), (116, 26799),

Gene: Zhuangyuan_22 Start: 16586, Stop: 17002, Start Num: 49

Candidate Starts for Zhuangyuan_22:

(Start: 49 @16586 has 2 MA's), (56, 16592), (67, 16637), (73, 16667), (80, 16694), (81, 16697), (100,
16769), (104, 16790), (108, 16811), (113, 16838), (120, 16868), (123, 16877), (128, 16898), (129,
16901), (141, 16925),

Gene: Zippen_31 Start: 28073, Stop: 28516, Start Num: 37

Candidate Starts for Zippen_31:

(15, 27980), (22, 28019), (34, 28058), (Start: 37 @28073 has 45 MA's), (46, 28100), (60, 28124), (63,
28130), (65, 28136), (69, 28166), (84, 28238), (98, 28286), (102, 28304), (108, 28334), (110, 28343),
(120, 28391), (125, 28406), (130, 28427), (144, 28457), (152, 28493),

Gene: Zixiang_21 Start: 17231, Stop: 17653, Start Num: 51

Candidate Starts for Zixiang_21:

(Start: 51 @17231 has 51 MA's), (62, 17255), (64, 17261), (82, 17348), (92, 17393), (104, 17441),
(105, 17444), (108, 17462), (113, 17489), (115, 17495), (120, 17519), (123, 17528), (136, 17567),
(141, 17576), (145, 17585), (146, 17591), (154, 17636),