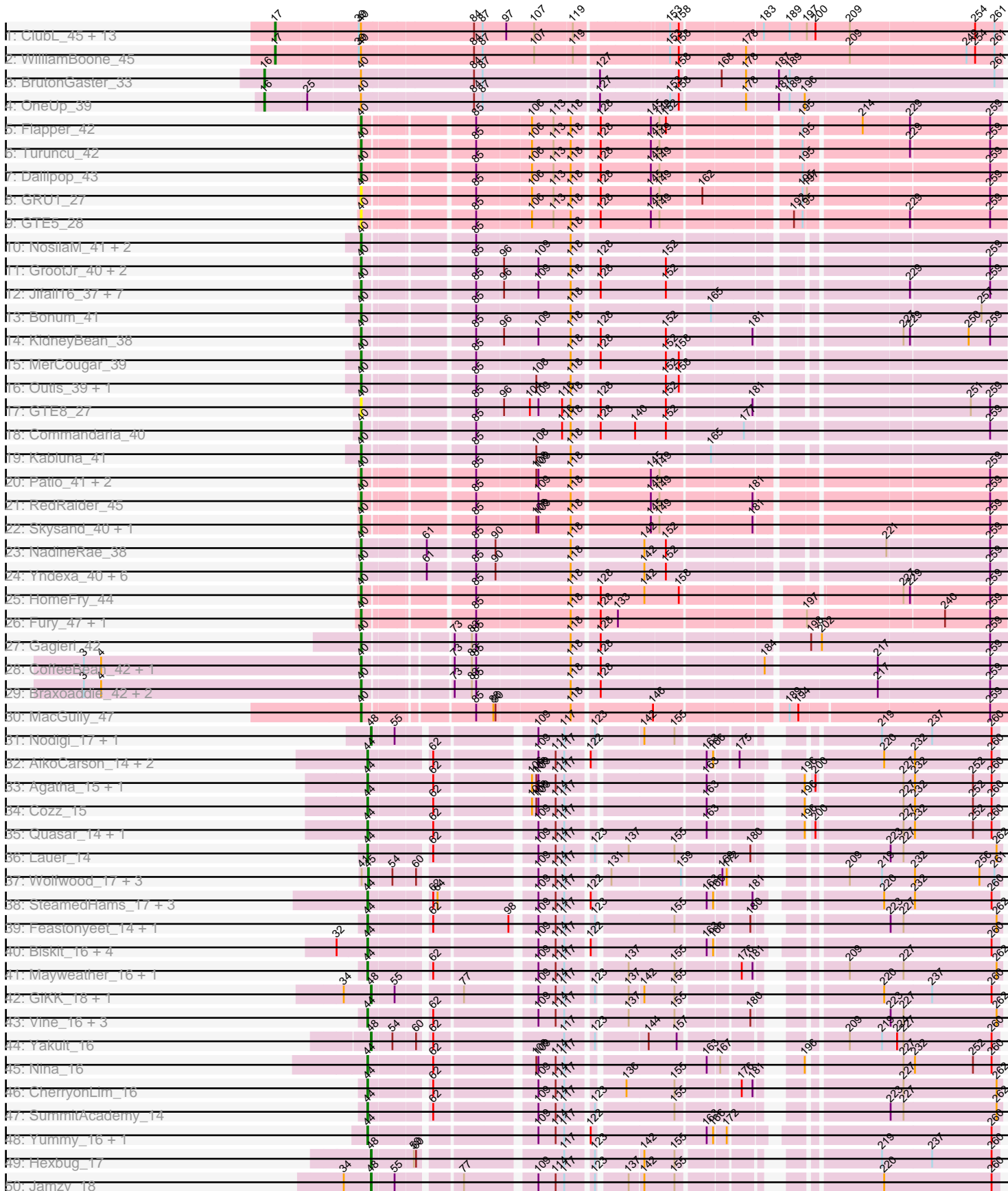
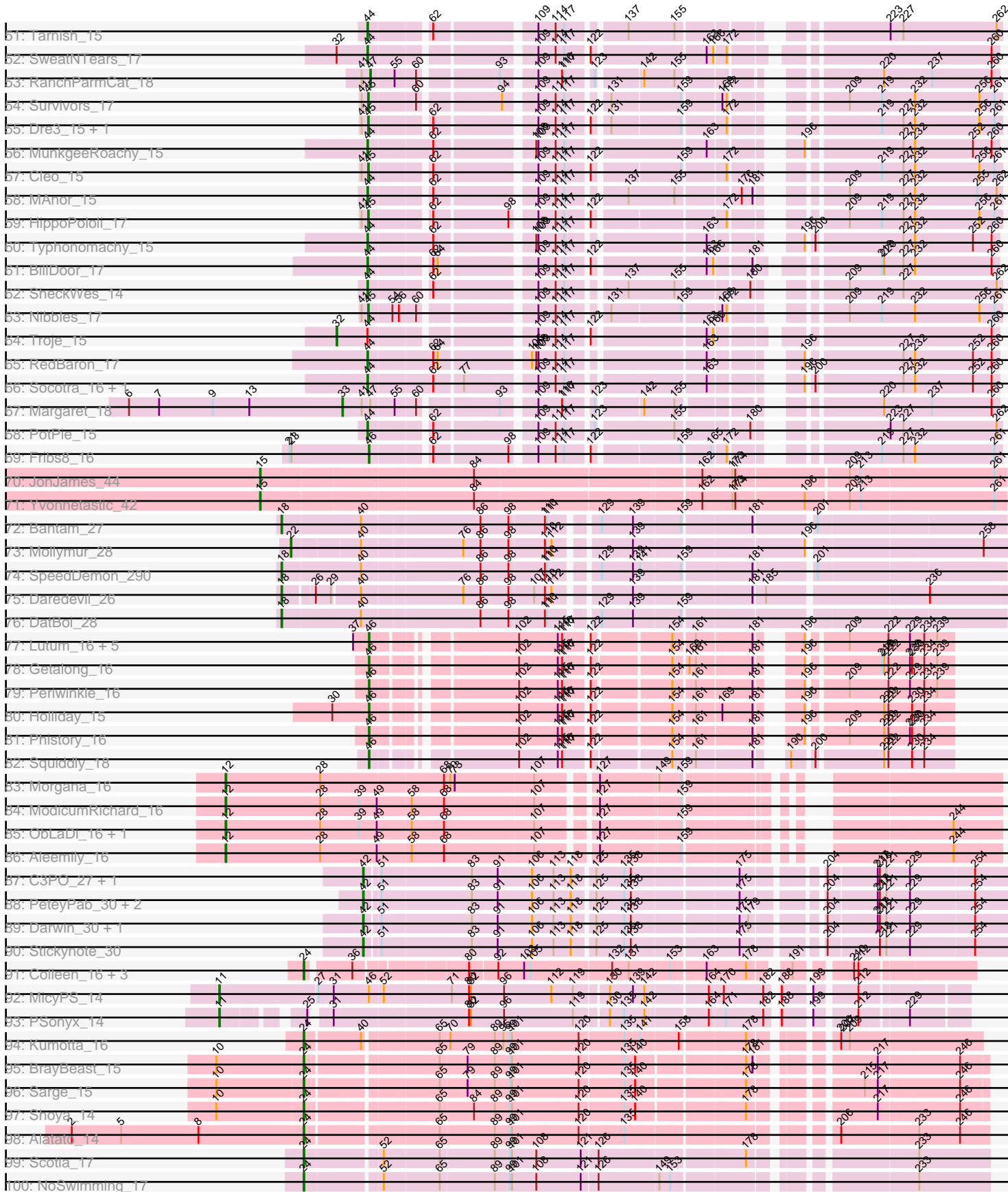


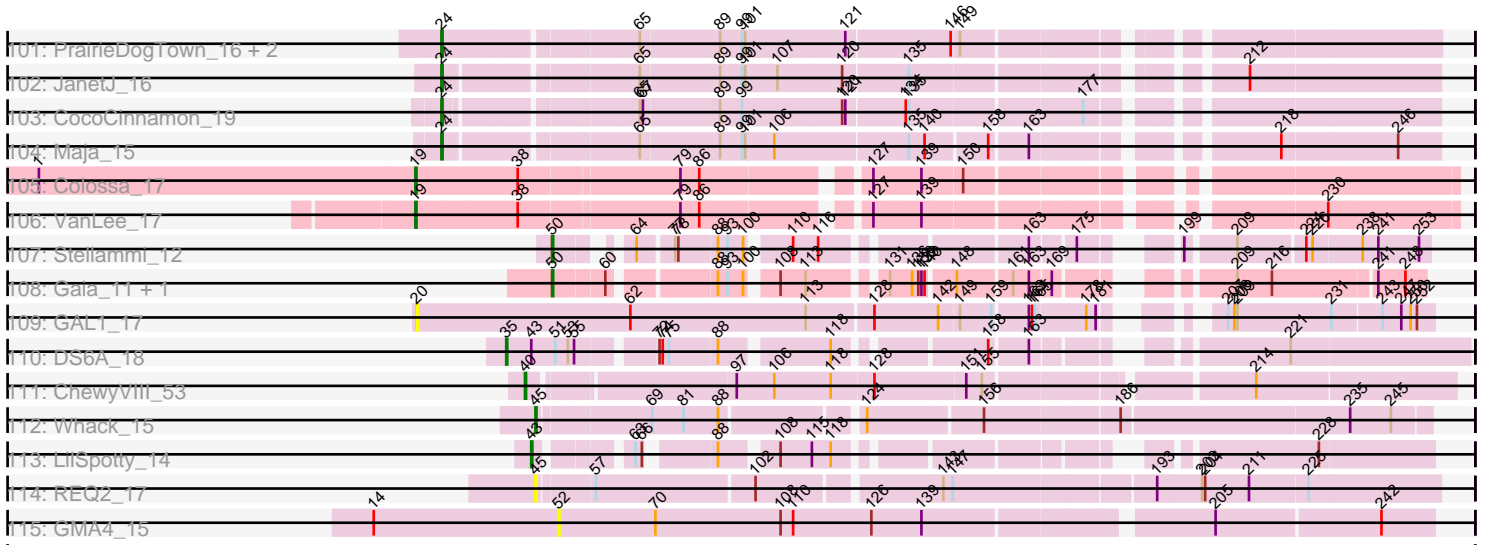
Pham 311254



Pham 311254



Pham 311254



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 311254 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311254 has 193 members, 6 are drafts.

Phages represented in each track:

- Track 1 : ClubL_45, Aphelion_45, Dusty_44, Miskis_43, Lozinak_45, Engineer_45, Abscondus_44, Toniann_45, Norvs_46, Smoothie_46, Cucurbita_47, Bachita_47, Culver_45, PhinkBoden_45
- Track 2 : WilliamBoone_45
- Track 3 : BrutonGaster_33
- Track 4 : OneUp_39
- Track 5 : Flapper_42
- Track 6 : Turuncu_42
- Track 7 : Dalilpop_43
- Track 8 : GRU1_27
- Track 9 : GTE5_28
- Track 10 : NosilaM_41, Buggaboo_39, SuperSulley_39
- Track 11 : GrootJr_40, NovumRegina_38, Arti_38
- Track 12 : Jifall16_37, Foxboro_39, NatB6_37, Tracker_38, Kurt_38, Phomeo_37, Emianna_38, Wheezy_38
- Track 13 : Bonum_41
- Track 14 : KidneyBean_38
- Track 15 : MerCougar_39
- Track 16 : Outis_39, StarStruck_39
- Track 17 : GTE8_27
- Track 18 : Commandaria_40
- Track 19 : Kabluna_41
- Track 20 : Patio_41, Ennea_44, Lollipop1437_43
- Track 21 : RedRaider_45
- Track 22 : Skysand_40, Float294_40
- Track 23 : NadineRae_38
- Track 24 : Yndexa_40, HubbaBubba_36, Sukkupi_40, IDyn_39, BiPauneto_41, WhoseManz_40, Marietta_40
- Track 25 : HomeFry_44
- Track 26 : Fury_47, Pleakley_47
- Track 27 : Gagieri_42
- Track 28 : CoffeeBean_42, Maselop_42
- Track 29 : Braxoaddie_42, Polyuyuki_42, Apiary_42
- Track 30 : MacGully_47
- Track 31 : Nodigi_17, Orla_17
- Track 32 : AikoCarson_14, Emalyn_14, Amok_14
- Track 33 : Agatha_15, Axym_15

- Track 34 : Cozz_15
- Track 35 : Quasar_14, Bubble_15
- Track 36 : Lauer_14
- Track 37 : Wolfwood_17, Zareef_17, MaVan_17, Azira_17
- Track 38 : SteamedHams_17, Tolls_17, Yarn_14, AndPeggy_14
- Track 39 : Feastonyeet_14, BigChungus_14
- Track 40 : Biskit_16, Buttrmilkdreams_15, SketchMex_14, MScarn_17, Blondies_16
- Track 41 : Mayweather_16, Pons_15
- Track 42 : GiKK_18, Button_16
- Track 43 : Vine_16, KayGee_15, Elinal_16, Yucky_15
- Track 44 : Yakult_16
- Track 45 : Nina_16
- Track 46 : CherryonLim_16
- Track 47 : SummitAcademy_14
- Track 48 : Yummy_16, Horseradish_16
- Track 49 : Hexbug_17
- Track 50 : Jamzy_18
- Track 51 : Tarnish_15
- Track 52 : SweatNTears_17
- Track 53 : RanchParmCat_18
- Track 54 : Survivors_17
- Track 55 : Dre3_15, Gibbous_15
- Track 56 : MunkgeeRoachy_15
- Track 57 : Cleo_15
- Track 58 : MAnor_15
- Track 59 : HippoPololi_17
- Track 60 : Typhonomachy_15
- Track 61 : BillDoor_17
- Track 62 : SheckWes_14
- Track 63 : Nibbles_17
- Track 64 : Troje_15
- Track 65 : RedBaron_17
- Track 66 : Socotra_16, Burnsey_15
- Track 67 : Margaret_18
- Track 68 : PotPie_15
- Track 69 : Fribs8_16
- Track 70 : JonJames_44
- Track 71 : Yvonnetastic_42
- Track 72 : Bantam_27
- Track 73 : Mollymur_28
- Track 74 : SpeedDemon_290
- Track 75 : Daredevil_26
- Track 76 : DatBoi_28
- Track 77 : Lutum_16, Kenna_15, Leroy_16, Horus_16, BENtherdunthat_16, Asapag_16
- Track 78 : Getalong_16
- Track 79 : Periwinkle_16
- Track 80 : Holliday_15
- Track 81 : Phistory_16
- Track 82 : Squiddly_18
- Track 83 : Morgana_16
- Track 84 : ModicumRichard_16
- Track 85 : ObLaDi_16, Cafasso_16

- Track 86 : Aleemily_16
- Track 87 : C3PO_27, Cruella_28
- Track 88 : PeteyPab_30, PotatoChip_30, Zion_30
- Track 89 : Darwin_30, Kimchi1738_28
- Track 90 : Stickynote_30
- Track 91 : Colleen_16, Poushou_16, TouchMeNot_16, Arianna_16
- Track 92 : MicyPS_14
- Track 93 : PSonyx_14
- Track 94 : Kumotta_16
- Track 95 : BrayBeast_15
- Track 96 : Sarge_15
- Track 97 : Shoya_14
- Track 98 : Alatato_14
- Track 99 : Scotia_17
- Track 100 : NoSwimming_17
- Track 101 : PrairieDogTown_16, Aoka_16, EvenBluerMoon_16
- Track 102 : JanetJ_16
- Track 103 : CocoCinnamon_19
- Track 104 : Maja_15
- Track 105 : Colossa_17
- Track 106 : VanLee_17
- Track 107 : Stellammi_12
- Track 108 : Gaia_11, Nebkiss_12
- Track 109 : GAL1_17
- Track 110 : DS6A_18
- Track 111 : ChewyVIII_53
- Track 112 : Whack_15
- Track 113 : LilSpotty_14
- Track 114 : REQ2_17
- Track 115 : GMA4_15

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

The start number called the most often in the published annotations is 40, it was called in 49 of the 187 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Apiary_42, Arti_38, BiPauneto_41, Bonum_41, Braxoaddie_42, Buggaboo_39, ChewyVIII_53, CoffeeBean_42, Commandaria_40, Dalilpop_43, Emianna_38, Ennea_44, Flapper_42, Float294_40, Foxboro_39, Fury_47, GRU1_27, GTE5_28, GTE8_27, Gagieri_42, GrootJr_40, HomeFry_44, HubbaBubba_36, IDyn_39, Jifall16_37, Kabluna_41, KidneyBean_38, Kurt_38, Lollipop1437_43, MacGully_47, Marietta_40, Maselop_42, MerCougar_39, NadineRae_38, NatB6_37, NosilaM_41, NovumRegina_38, Outis_39, Patio_41, Phomeo_37, Pleakley_47, Polyuyuki_42, RedRaider_45, Skysand_40, StarStruck_39, Sukkupi_40, SuperSulley_39, Tracker_38, Turuncu_42, Wheezy_38, WhoseManz_40, Yndexa_40,

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

• Abscondus_44, Aphelion_45, Bachita_47, Bantam_27, BrutonGaster_33, ClubL_45, Cucurbita_47, Culver_45, Daredevil_26, DatBoi_28, Dusty_44, Engineer_45,

Kumotta_16, Lozinak_45, Miskis_43, Mollymur_28, Norvs_46, OneUp_39, PhinkBoden_45, Smoothie_46, SpeedDemon_290, Toniann_45, WilliamBoone_45,

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

- Agatha_15, AikoCarson_14, Alatato_14, Aleemily_16, Amok_14, AndPeggy_14, Aoka_16, Arianna_16, Asapag_16, Axym_15, Azira_17, BENtherdunthat_16, BigChungus_14, BillDoor_17, Biskit_16, Blondies_16, BrayBeast_15, Bubble_15, Burnsey_15, Button_16, Buttrmilkdreams_15, C3PO_27, Cafasso_16, CherryonLim_16, Cleo_15, CocoCinnamon_19, Colleen_16, Colossa_17, Cozz_15, Cruella_28, DS6A_18, Darwin_30, Dre3_15, Elinal_16, Emalyn_14, EvenBluerMoon_16, Feastonyeet_14, Fribs8_16, GAL1_17, GMA4_15, Gaia_11, Getalong_16, GiKK_18, Gibbous_15, Hexbug_17, HippoPololi_17, Holliday_15, Horseradish_16, Horus_16, Jamzy_18, JanetJ_16, JonJames_44, KayGee_15, Kenna_15, Kimchi1738_28, Lauer_14, Leroy_16, LilSpotty_14, Lutum_16, MAnor_15, MScarn_17, MaVan_17, Maja_15, Margaret_18, Mayweather_16, MicyPS_14, ModicumRichard_16, Morgana_16, MunkgeeRoachy_15, Nebkiss_12, Nibbles_17, Nina_16, NoSwimming_17, Nodigi_17, ObLaDi_16, Orla_17, PSonyx_14, Periwinkle_16, PeteyPab_30, Phistory_16, Pons_15, PotPie_15, PotatoChip_30, Poushou_16, PrairieDogTown_16, Quasar_14, REQ2_17, RanchParmCat_18, RedBaron_17, Sarge_15, Scotia_17, SheckWes_14, Shoya_14, SketchMex_14, Socotra_16, Squiddly_18, SteamedHams_17, Stellammi_12, Stickynote_30, SummitAcademy_14, Survivors_17, SweatNTears_17, Tarnish_15, Tolls_17, TouchMeNot_16, Troje_15, Typhonomachy_15, VanLee_17, Vine_16, Whack_15, Wolfwood_17, Yakult_16, Yarn_14, Yucky_15, Yummy_16, Yvonnetastic_42, Zareef_17, Zion_30,

Summary by start number:

Start 11:

- Found in 2 of 193 (1.0%) of genes in pham
- Manual Annotations of this start: 2 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: MicyPS_14 (EQ), PSonyx_14 (EQ),

Start 12:

- Found in 5 of 193 (2.6%) of genes in pham
- Manual Annotations of this start: 5 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aleemily_16 (DZ), Cafasso_16 (DZ), ModicumRichard_16 (DZ), Morgana_16 (DZ), ObLaDi_16 (DZ),

Start 15:

- Found in 2 of 193 (1.0%) of genes in pham
- Manual Annotations of this start: 2 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: JonJames_44 (DD), Yvonnetastic_42 (DD),

Start 16:

- Found in 2 of 193 (1.0%) of genes in pham
- Manual Annotations of this start: 2 of 187
- Called 100.0% of time when present

- Phage (with cluster) where this start called: BrutonGaster_33 (CQ2), OneUp_39 (CQ2),

Start 17:

- Found in 15 of 193 (7.8%) of genes in pham
- Manual Annotations of this start: 15 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus_44 (CQ1), Aphelion_45 (CQ1), Bachita_47 (CQ1), ClubL_45 (CQ1), Cucurbita_47 (CQ1), Culver_45 (CQ1), Dusty_44 (CQ1), Engineer_45 (CQ1), Lozinak_45 (CQ1), Miskis_43 (CQ1), Norvs_46 (CQ1), PhinkBoden_45 (CQ1), Smoothie_46 (CQ1), Toniann_45 (CQ1), WilliamBoone_45 (CQ1),

Start 18:

- Found in 4 of 193 (2.1%) of genes in pham
- Manual Annotations of this start: 4 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bantam_27 (DL), Daredevil_26 (DL), DatBoi_28 (DL), SpeedDemon_290 (DL),

Start 19:

- Found in 2 of 193 (1.0%) of genes in pham
- Manual Annotations of this start: 2 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Colossa_17 (KA), VanLee_17 (KA),

Start 20:

- Found in 1 of 193 (0.5%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GAL1_17 (singleton),

Start 22:

- Found in 1 of 193 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mollymur_28 (DL),

Start 24:

- Found in 17 of 193 (8.8%) of genes in pham
- Manual Annotations of this start: 17 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alatato_14 (FB), Aoka_16 (FO), Arianna_16 (EO), BrayBeast_15 (FB), CocoCinnamon_19 (FO), Colleen_16 (EO), EvenBluerMoon_16 (FO), JanetJ_16 (FO), Kumotta_16 (FB), Maja_15 (FO), NoSwimming_17 (FO), Poushou_16 (EO), PrairieDogTown_16 (FO), Sarge_15 (FB), Scotia_17 (FO), Shoya_14 (FB), TouchMeNot_16 (EO),

Start 32:

- Found in 7 of 193 (3.6%) of genes in pham
- Manual Annotations of this start: 1 of 187
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Troje_15 (CT),

Start 33:

- Found in 1 of 193 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Margaret_18 (CT),

Start 35:

- Found in 1 of 193 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DS6A_18 (singleton),

Start 40:

- Found in 75 of 193 (38.9%) of genes in pham
- Manual Annotations of this start: 49 of 187
- Called 69.3% of time when present
- Phage (with cluster) where this start called: Apiary_42 (CR6), Arti_38 (CR2), BiPauneto_41 (CR4), Bonum_41 (CR2), Braxoaddie_42 (CR6), Buggaboo_39 (CR2), ChewyVIII_53 (singleton), CoffeeBean_42 (CR6), Commandaria_40 (CR2), Dalilpop_43 (CR1), Emianna_38 (CR2), Ennea_44 (CR3), Flapper_42 (CR1), Float294_40 (CR3), Foxboro_39 (CR2), Fury_47 (CR5), GRU1_27 (CR1), GTE5_28 (CR1), GTE8_27 (CR2), Gagieri_42 (CR6), GrootJr_40 (CR2), HomeFry_44 (CR5), HubbaBubba_36 (CR4), IDyn_39 (CR4), Jifall16_37 (CR2), Kabluna_41 (CR2), KidneyBean_38 (CR2), Kurt_38 (CR2), Lollipop1437_43 (CR3), MacGully_47 (CR7), Marietta_40 (CR4), Maselop_42 (CR6), MerCougar_39 (CR2), NadineRae_38 (CR4), NatB6_37 (CR2), NosilaM_41 (CR2), NovumRegina_38 (CR2), Outis_39 (CR2), Patio_41 (CR3), Phomeo_37 (CR2), Pleakley_47 (CR5), Polyuyuki_42 (CR6), RedRaider_45 (CR3), Skysand_40 (CR3), StarStruck_39 (CR2), Sukkupi_40 (CR4), SuperSulley_39 (CR2), Tracker_38 (CR2), Turuncu_42 (CR1), Wheezy_38 (CR2), WhoseManz_40 (CR4), Yndexa_40 (CR4),

Start 42:

- Found in 8 of 193 (4.1%) of genes in pham
- Manual Annotations of this start: 8 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: C3PO_27 (EN), Cruella_28 (EN), Darwin_30 (EN), Kimchi1738_28 (EN), PeteyPab_30 (EN), PotatoChip_30 (EN), Stickynote_30 (EN), Zion_30 (EN),

Start 43:

- Found in 2 of 193 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 187
- Called 50.0% of time when present
- Phage (with cluster) where this start called: LilSpotty_14 (singleton),

Start 44:

- Found in 43 of 193 (22.3%) of genes in pham
- Manual Annotations of this start: 42 of 187
- Called 97.7% of time when present
- Phage (with cluster) where this start called: Agatha_15 (CT), AikoCarson_14 (CT), Amok_14 (CT), AndPeggy_14 (CT), Axym_15 (CT), BigChungus_14 (CT), BillDoor_17 (CT), Biskit_16 (CT), Blondies_16 (CT), Bubble_15 (CT), Burnsey_15

(CT), Buttrmlkdreams_15 (CT), CherryonLim_16 (CT), Cozz_15 (CT), Elinal_16 (CT), Emalyn_14 (CT), Feastonyeet_14 (CT), Horseradish_16 (CT), KayGee_15 (CT), Lauer_14 (CT), MAnor_15 (CT), MScarn_17 (CT), Mayweather_16 (CT), MunkgeeRoachy_15 (CT), Nina_16 (CT), Pons_15 (CT), PotPie_15 (CT), Quasar_14 (CT), RedBaron_17 (CT), SheckWes_14 (CT), SketchMex_14 (CT), Socotra_16 (CT), SteamedHams_17 (CT), SummitAcademy_14 (CT), SweatNTears_17 (CT), Tarnish_15 (CT), Tolls_17 (CT), Typhonmarchy_15 (CT), Vine_16 (CT), Yarn_14 (CT), Yucky_15 (CT), Yummy_16 (CT),

Start 45:

- Found in 12 of 193 (6.2%) of genes in pham
- Manual Annotations of this start: 11 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azira_17 (CT), Cleo_15 (CT), Dre3_15 (CT), Gibbous_15 (CT), HippoPololi_17 (CT), MaVan_17 (CT), Nibbles_17 (CT), REQ2_17 (singleton), Survivors_17 (CT), Whack_15 (singleton), Wolfwood_17 (CT), Zareef_17 (CT),

Start 46:

- Found in 13 of 193 (6.7%) of genes in pham
- Manual Annotations of this start: 12 of 187
- Called 92.3% of time when present
- Phage (with cluster) where this start called: Asapag_16 (DN1), BENtherdunthat_16 (DN1), Fribs8_16 (CT), Getalong_16 (DN1), Holliday_15 (DN1), Horus_16 (DN1), Kenna_15 (DN1), Leroy_16 (DN1), Lutum_16 (DN1), Periwinkle_16 (DN1), Phistory_16 (DN1), Squiddly_18 (DN2),

Start 47:

- Found in 2 of 193 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 187
- Called 50.0% of time when present
- Phage (with cluster) where this start called: RanchParmCat_18 (CT),

Start 48:

- Found in 7 of 193 (3.6%) of genes in pham
- Manual Annotations of this start: 7 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Button_16 (CT), GiKK_18 (CT), Hexbug_17 (CT), Jamzy_18 (CT), Nodigi_17 (CT), Orla_17 (CT), Yakult_16 (CT),

Start 50:

- Found in 3 of 193 (1.6%) of genes in pham
- Manual Annotations of this start: 3 of 187
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gaia_11 (X), Nebkiss_12 (X), Stellammi_12 (UNK),

Start 52:

- Found in 4 of 193 (2.1%) of genes in pham
- No Manual Annotations of this start.
- Called 25.0% of time when present
- Phage (with cluster) where this start called: GMA4_15 (singleton),

Summary by clusters:

There are 24 clusters represented in this pham: DL, DD, singleton, FB, DZ, FO, DN1, DN2, CQ2, CQ1, EO, EN, X, UNK, EQ, CT, CR2, CR3, KA, CR1, CR6, CR7, CR4, CR5,

Info for manual annotations of cluster CQ1:

- Start number 17 was manually annotated 15 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 16 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster CR1:

- Start number 40 was manually annotated 3 times for cluster CR1.

Info for manual annotations of cluster CR2:

- Start number 40 was manually annotated 21 times for cluster CR2.

Info for manual annotations of cluster CR3:

- Start number 40 was manually annotated 6 times for cluster CR3.

Info for manual annotations of cluster CR4:

- Start number 40 was manually annotated 8 times for cluster CR4.

Info for manual annotations of cluster CR5:

- Start number 40 was manually annotated 3 times for cluster CR5.

Info for manual annotations of cluster CR6:

- Start number 40 was manually annotated 6 times for cluster CR6.

Info for manual annotations of cluster CR7:

- Start number 40 was manually annotated 1 time for cluster CR7.

Info for manual annotations of cluster CT:

- Start number 32 was manually annotated 1 time for cluster CT.
- Start number 33 was manually annotated 1 time for cluster CT.
- Start number 44 was manually annotated 42 times for cluster CT.
- Start number 45 was manually annotated 10 times for cluster CT.
- Start number 46 was manually annotated 1 time for cluster CT.
- Start number 47 was manually annotated 1 time for cluster CT.
- Start number 48 was manually annotated 7 times for cluster CT.

Info for manual annotations of cluster DD:

- Start number 15 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DL:

- Start number 18 was manually annotated 4 times for cluster DL.
- Start number 22 was manually annotated 1 time for cluster DL.

Info for manual annotations of cluster DN1:

- Start number 46 was manually annotated 10 times for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 46 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DZ:

- Start number 12 was manually annotated 5 times for cluster DZ.

Info for manual annotations of cluster EN:

- Start number 42 was manually annotated 8 times for cluster EN.

Info for manual annotations of cluster EO:

- Start number 24 was manually annotated 4 times for cluster EO.

Info for manual annotations of cluster EQ:

- Start number 11 was manually annotated 2 times for cluster EQ.

Info for manual annotations of cluster FB:

- Start number 24 was manually annotated 5 times for cluster FB.

Info for manual annotations of cluster FO:

- Start number 24 was manually annotated 8 times for cluster FO.

Info for manual annotations of cluster KA:

- Start number 19 was manually annotated 2 times for cluster KA.

Info for manual annotations of cluster UNK:

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

Info for manual annotations of cluster X:

- Start number 50 was manually annotated 2 times for cluster X.

Gene Information:

Gene: Abscondus_44 Start: 18658, Stop: 19619, Start Num: 17

Candidate Starts for Abscondus_44:

(Start: 17 @18658 has 15 MA's), (39, 18769), (Start: 40 @18772 has 49 MA's), (84, 18919), (87, 18931), (97, 18964), (107, 19003), (119, 19054), (153, 19174), (158, 19186), (183, 19291), (189, 19327), (197, 19351), (200, 19363), (209, 19411), (254, 19582), (261, 19609),

Gene: Agatha_15 Start: 8885, Stop: 9639, Start Num: 44

Candidate Starts for Agatha_15:

(Start: 44 @8885 has 42 MA's), (62, 8969), (106, 9083), (108, 9089), (109, 9092), (114, 9116), (117, 9128), (163, 9299), (196, 9389), (200, 9395), (227, 9509), (232, 9524), (252, 9605), (260, 9629),

Gene: AikoCarson_14 Start: 8613, Stop: 9367, Start Num: 44

Candidate Starts for AikoCarson_14:

(Start: 44 @8613 has 42 MA's), (62, 8685), (109, 8808), (114, 8832), (117, 8844), (122, 8871), (163, 9015), (166, 9024), (175, 9051), (220, 9210), (232, 9252), (260, 9357),

Gene: Alatato_14 Start: 8514, Stop: 9367, Start Num: 24

Candidate Starts for Alatato_14:

(2, 8190), (5, 8259), (8, 8367), (Start: 24 @8514 has 17 MA's), (65, 8676), (89, 8748), (99, 8769), (101, 8772), (120, 8862), (135, 8922), (206, 9165), (233, 9270), (246, 9327),

Gene: Aleemily_16 Start: 9981, Stop: 10933, Start Num: 12

Candidate Starts for Aleemily_16:

(Start: 12 @9981 has 5 MA's), (28, 10113), (49, 10191), (58, 10233), (68, 10278), (107, 10401), (127, 10470), (159, 10575), (244, 10866),

Gene: Amok_14 Start: 8613, Stop: 9367, Start Num: 44

Candidate Starts for Amok_14:

(Start: 44 @8613 has 42 MA's), (62, 8685), (109, 8808), (114, 8832), (117, 8844), (122, 8871), (163, 9015), (166, 9024), (175, 9051), (220, 9210), (232, 9252), (260, 9357),

Gene: AndPeggy_14 Start: 8901, Stop: 9655, Start Num: 44

Candidate Starts for AndPeggy_14:

(Start: 44 @8901 has 42 MA's), (62, 8973), (64, 8979), (109, 9096), (114, 9120), (117, 9132), (122, 9159), (163, 9303), (166, 9312), (181, 9357), (220, 9498), (232, 9540), (260, 9645),

Gene: Aoka_16 Start: 10072, Stop: 10934, Start Num: 24

Candidate Starts for Aoka_16:

(Start: 24 @10072 has 17 MA's), (65, 10243), (89, 10315), (99, 10336), (101, 10339), (121, 10432), (146, 10528), (149, 10534),

Gene: Aphelion_45 Start: 18927, Stop: 19888, Start Num: 17

Candidate Starts for Aphelion_45:

(Start: 17 @18927 has 15 MA's), (39, 19038), (Start: 40 @19041 has 49 MA's), (84, 19188), (87, 19200), (97, 19233), (107, 19272), (119, 19323), (153, 19443), (158, 19455), (183, 19560), (189, 19596), (197, 19620), (200, 19632), (209, 19680), (254, 19851), (261, 19878),

Gene: Apiary_42 Start: 24321, Stop: 25141, Start Num: 40

Candidate Starts for Apiary_42:

(3, 23934), (4, 23958), (Start: 40 @24321 has 49 MA's), (73, 24420), (83, 24444), (85, 24450), (118, 24576), (128, 24609), (217, 24963), (259, 25116),

Gene: Arianna_16 Start: 10804, Stop: 11615, Start Num: 24

Candidate Starts for Arianna_16:

(Start: 24 @10804 has 17 MA's), (36, 10858), (80, 10993), (92, 11029), (103, 11065), (105, 11074), (132, 11182), (137, 11203), (153, 11257), (163, 11302), (178, 11353), (191, 11395), (210, 11458), (212, 11464),

Gene: Arti_38 Start: 22581, Stop: 23383, Start Num: 40

Candidate Starts for Arti_38:

(Start: 40 @22581 has 49 MA's), (85, 22713), (96, 22749), (109, 22794), (118, 22839), (128, 22872), (152, 22962), (259, 23361),

Gene: Asapag_16 Start: 8335, Stop: 9014, Start Num: 46

Candidate Starts for Asapag_16:

(37, 8314), (Start: 46 @8335 has 12 MA's), (102, 8500), (115, 8554), (116, 8560), (117, 8563), (122, 8590), (154, 8689), (161, 8716), (181, 8791), (196, 8827), (209, 8872), (222, 8926), (229, 8956), (234, 8974), (239, 8992),

Gene: Axym_15 Start: 8885, Stop: 9639, Start Num: 44

Candidate Starts for Axym_15:

(Start: 44 @8885 has 42 MA's), (62, 8969), (106, 9083), (108, 9089), (109, 9092), (114, 9116), (117, 9128), (163, 9299), (196, 9389), (200, 9395), (227, 9509), (232, 9524), (252, 9605), (260, 9629),

Gene: Azira_17 Start: 9884, Stop: 10629, Start Num: 45

Candidate Starts for Azira_17:

(41, 9875), (Start: 45 @9884 has 11 MA's), (54, 9914), (60, 9944), (109, 10079), (114, 10103), (117, 10115), (131, 10160), (159, 10253), (169, 10301), (172, 10307), (209, 10418), (219, 10463), (232, 10508), (256, 10598), (261, 10619),

Gene: BENtherdunthat_16 Start: 8335, Stop: 9014, Start Num: 46

Candidate Starts for BENtherdunthat_16:

(37, 8314), (Start: 46 @8335 has 12 MA's), (102, 8500), (115, 8554), (116, 8560), (117, 8563), (122, 8590), (154, 8689), (161, 8716), (181, 8791), (196, 8827), (209, 8872), (222, 8926), (229, 8956), (234, 8974), (239, 8992),

Gene: Bachita_47 Start: 19360, Stop: 20321, Start Num: 17

Candidate Starts for Bachita_47:

(Start: 17 @19360 has 15 MA's), (39, 19471), (Start: 40 @19474 has 49 MA's), (84, 19621), (87, 19633), (97, 19666), (107, 19705), (119, 19756), (153, 19876), (158, 19888), (183, 19993), (189, 20029), (197, 20053), (200, 20065), (209, 20113), (254, 20284), (261, 20311),

Gene: Bantam_27 Start: 16393, Stop: 17321, Start Num: 18

Candidate Starts for Bantam_27:

(Start: 18 @16393 has 4 MA's), (Start: 40 @16501 has 49 MA's), (86, 16654), (98, 16693), (110, 16741), (111, 16744), (129, 16798), (139, 16840), (159, 16903), (181, 16993), (201, 17068),

Gene: BiPauneto_41 Start: 22337, Stop: 23145, Start Num: 40

Candidate Starts for BiPauneto_41:

(Start: 40 @22337 has 49 MA's), (61, 22412), (85, 22472), (90, 22499), (118, 22598), (142, 22691), (152, 22721), (259, 23123),

Gene: BigChungus_14 Start: 8662, Stop: 9410, Start Num: 44

Candidate Starts for BigChungus_14:

(Start: 44 @8662 has 42 MA's), (62, 8734), (98, 8830), (109, 8857), (114, 8881), (117, 8893), (123, 8926), (155, 9025), (180, 9115), (223, 9256), (227, 9274), (262, 9403),

Gene: BillDoor_17 Start: 8866, Stop: 9620, Start Num: 44

Candidate Starts for BillDoor_17:

(Start: 44 @8866 has 42 MA's), (62, 8938), (64, 8944), (109, 9061), (114, 9085), (117, 9097), (122, 9124), (163, 9268), (166, 9277), (181, 9322), (219, 9460), (220, 9463), (227, 9490), (232, 9505), (260, 9610),

Gene: Biskit_16 Start: 8872, Stop: 9626, Start Num: 44

Candidate Starts for Biskit_16:

(Start: 32 @8830 has 1 MA's), (Start: 44 @8872 has 42 MA's), (109, 9067), (114, 9091), (117, 9103), (122, 9130), (163, 9274), (166, 9283), (260, 9616),

Gene: Blondies_16 Start: 8858, Stop: 9612, Start Num: 44

Candidate Starts for Blondies_16:

(Start: 32 @8816 has 1 MA's), (Start: 44 @8858 has 42 MA's), (109, 9053), (114, 9077), (117, 9089), (122, 9116), (163, 9260), (166, 9269), (260, 9602),

Gene: Bonum_41 Start: 22920, Stop: 23722, Start Num: 40

Candidate Starts for Bonum_41:

(Start: 40 @22920 has 49 MA's), (85, 23052), (118, 23178), (165, 23358), (257, 23688),

Gene: Braxoaddie_42 Start: 24310, Stop: 25130, Start Num: 40

Candidate Starts for Braxoaddie_42:

(3, 23923), (4, 23947), (Start: 40 @24310 has 49 MA's), (73, 24409), (83, 24433), (85, 24439), (118, 24565), (128, 24598), (217, 24952), (259, 25105),

Gene: BrayBeast_15 Start: 8914, Stop: 9761, Start Num: 24

Candidate Starts for BrayBeast_15:

(10, 8797), (Start: 24 @8914 has 17 MA's), (65, 9076), (79, 9112), (89, 9148), (99, 9169), (101, 9172), (120, 9262), (135, 9322), (140, 9337), (178, 9475), (181, 9484), (217, 9613), (246, 9724),

Gene: BrutonGaster_33 Start: 15537, Stop: 16510, Start Num: 16

Candidate Starts for BrutonGaster_33:

(Start: 16 @15537 has 2 MA's), (Start: 40 @15666 has 49 MA's), (84, 15813), (87, 15825), (127, 15978), (158, 16080), (168, 16131), (178, 16164), (187, 16206), (189, 16221), (261, 16500),

Gene: Bubble_15 Start: 8885, Stop: 9639, Start Num: 44

Candidate Starts for Bubble_15:

(Start: 44 @8885 has 42 MA's), (62, 8969), (109, 9092), (114, 9116), (117, 9128), (163, 9299), (196, 9389), (200, 9395), (227, 9509), (232, 9524), (252, 9605), (260, 9629),

Gene: Buggaboo_39 Start: 23405, Stop: 24210, Start Num: 40

Candidate Starts for Buggaboo_39:

(Start: 40 @23405 has 49 MA's), (85, 23537), (118, 23663),

Gene: Burnsey_15 Start: 8886, Stop: 9640, Start Num: 44

Candidate Starts for Burnsey_15:

(Start: 44 @8886 has 42 MA's), (62, 8970), (77, 9006), (109, 9093), (114, 9117), (117, 9129), (163, 9300), (196, 9390), (200, 9396), (227, 9510), (232, 9525), (252, 9606), (260, 9630),

Gene: Button_16 Start: 8897, Stop: 9627, Start Num: 48

Candidate Starts for Button_16:

(34, 8864), (Start: 48 @8897 has 7 MA's), (55, 8927), (77, 9002), (109, 9089), (114, 9113), (117, 9125), (123, 9158), (137, 9194), (142, 9212), (155, 9254), (220, 9470), (237, 9536), (260, 9617),

Gene: Buttrmlkdreams_15 Start: 8857, Stop: 9611, Start Num: 44

Candidate Starts for Buttrmlkdreams_15:

(Start: 32 @8815 has 1 MA's), (Start: 44 @8857 has 42 MA's), (109, 9052), (114, 9076), (117, 9088), (122, 9115), (163, 9259), (166, 9268), (260, 9601),

Gene: C3PO_27 Start: 20302, Stop: 21122, Start Num: 42

Candidate Starts for C3PO_27:

(Start: 42 @20302 has 8 MA's), (51, 20320), (83, 20440), (91, 20476), (106, 20521), (113, 20551), (118, 20575), (125, 20602), (135, 20641), (138, 20650), (175, 20788), (204, 20878), (217, 20944), (218, 20947), (221, 20956), (229, 20989), (254, 21076),

Gene: Cafasso_16 Start: 9969, Stop: 10921, Start Num: 12

Candidate Starts for Cafasso_16:

(Start: 12 @9969 has 5 MA's), (28, 10101), (39, 10155), (49, 10179), (58, 10221), (68, 10266), (107, 10389), (127, 10458), (159, 10563), (244, 10854),

Gene: CherryonLim_16 Start: 9392, Stop: 10140, Start Num: 44

Candidate Starts for CherryonLim_16:

(Start: 44 @9392 has 42 MA's), (62, 9464), (109, 9587), (114, 9611), (117, 9623), (136, 9689), (155, 9755), (176, 9833), (181, 9848), (227, 10004), (262, 10133),

Gene: ChewyVIII_53 Start: 31497, Stop: 32314, Start Num: 40

Candidate Starts for ChewyVIII_53:

(Start: 40 @31497 has 49 MA's), (97, 31674), (106, 31710), (118, 31764), (128, 31803), (151, 31887), (155, 31902), (214, 32127),

Gene: Cleo_15 Start: 9174, Stop: 9919, Start Num: 45

Candidate Starts for Cleo_15:

(41, 9165), (Start: 45 @9174 has 11 MA's), (62, 9246), (109, 9369), (114, 9393), (117, 9405), (122, 9432), (159, 9543), (172, 9597), (219, 9753), (227, 9783), (232, 9798), (256, 9888), (261, 9909),

Gene: ClubL_45 Start: 18849, Stop: 19810, Start Num: 17

Candidate Starts for ClubL_45:

(Start: 17 @18849 has 15 MA's), (39, 18960), (Start: 40 @18963 has 49 MA's), (84, 19110), (87, 19122), (97, 19155), (107, 19194), (119, 19245), (153, 19365), (158, 19377), (183, 19482), (189, 19518), (197, 19542), (200, 19554), (209, 19602), (254, 19773), (261, 19800),

Gene: CocoCinnamon_19 Start: 10261, Stop: 11117, Start Num: 24

Candidate Starts for CocoCinnamon_19:

(Start: 24 @10261 has 17 MA's), (65, 10423), (67, 10426), (89, 10495), (99, 10516), (120, 10609), (121, 10612), (134, 10666), (135, 10669), (177, 10822),

Gene: CoffeeBean_42 Start: 24265, Stop: 25088, Start Num: 40

Candidate Starts for CoffeeBean_42:

(3, 23878), (4, 23902), (Start: 40 @24265 has 49 MA's), (73, 24364), (83, 24388), (85, 24394), (118, 24520), (128, 24553), (184, 24763), (217, 24910), (259, 25063),

Gene: Colleen_16 Start: 10804, Stop: 11615, Start Num: 24

Candidate Starts for Colleen_16:

(Start: 24 @10804 has 17 MA's), (36, 10858), (80, 10993), (92, 11029), (103, 11065), (105, 11074), (132, 11182), (137, 11203), (153, 11257), (163, 11302), (178, 11353), (191, 11395), (210, 11458), (212, 11464),

Gene: Colossa_17 Start: 10018, Stop: 10895, Start Num: 19

Candidate Starts for Colossa_17:

(1, 9658), (Start: 19 @10018 has 2 MA's), (38, 10114), (79, 10258), (86, 10276), (127, 10408), (139, 10453), (150, 10489),

Gene: Commandaria_40 Start: 23900, Stop: 24714, Start Num: 40

Candidate Starts for Commandaria_40:

(Start: 40 @23900 has 49 MA's), (85, 24032), (116, 24146), (118, 24158), (128, 24191), (140, 24239), (152, 24281), (177, 24380), (259, 24692),

Gene: Cozz_15 Start: 8886, Stop: 9640, Start Num: 44

Candidate Starts for Cozz_15:

(Start: 44 @8886 has 42 MA's), (62, 8970), (106, 9084), (108, 9090), (109, 9093), (114, 9117), (117, 9129), (163, 9300), (196, 9390), (227, 9510), (232, 9525), (252, 9606), (260, 9630),

Gene: Cruella_28 Start: 20302, Stop: 21122, Start Num: 42

Candidate Starts for Cruella_28:

(Start: 42 @20302 has 8 MA's), (51, 20320), (83, 20440), (91, 20476), (106, 20521), (113, 20551), (118, 20575), (125, 20602), (135, 20641), (138, 20650), (175, 20788), (204, 20878), (217, 20944), (218, 20947), (221, 20956), (229, 20989), (254, 21076),

Gene: Cucurbita_47 Start: 20219, Stop: 21180, Start Num: 17

Candidate Starts for Cucurbita_47:

(Start: 17 @20219 has 15 MA's), (39, 20330), (Start: 40 @20333 has 49 MA's), (84, 20480), (87, 20492), (97, 20525), (107, 20564), (119, 20615), (153, 20735), (158, 20747), (183, 20852), (189, 20888), (197, 20912), (200, 20924), (209, 20972), (254, 21143), (261, 21170),

Gene: Culver_45 Start: 18658, Stop: 19619, Start Num: 17

Candidate Starts for Culver_45:

(Start: 17 @18658 has 15 MA's), (39, 18769), (Start: 40 @18772 has 49 MA's), (84, 18919), (87, 18931), (97, 18964), (107, 19003), (119, 19054), (153, 19174), (158, 19186), (183, 19291), (189, 19327), (197, 19351), (200, 19363), (209, 19411), (254, 19582), (261, 19609),

Gene: DS6A_18 Start: 11578, Stop: 12356, Start Num: 35

Candidate Starts for DS6A_18:

(Start: 35 @11578 has 1 MA's), (Start: 43 @11602 has 1 MA's), (51, 11623), (53, 11635), (55, 11641), (72, 11704), (74, 11707), (75, 11713), (88, 11755), (118, 11848), (158, 11971), (163, 12004), (221, 12190),

Gene: Dalilpop_43 Start: 24905, Stop: 25716, Start Num: 40

Candidate Starts for Dalilpop_43:

(Start: 40 @24905 has 49 MA's), (85, 25037), (106, 25109), (113, 25139), (118, 25163), (128, 25196), (145, 25265), (149, 25277), (195, 25451), (259, 25694),

Gene: Daredevil_26 Start: 14796, Stop: 15721, Start Num: 18

Candidate Starts for Daredevil_26:

(Start: 18 @14796 has 4 MA's), (26, 14835), (29, 14853), (Start: 40 @14889 has 49 MA's), (76, 15018), (86, 15042), (98, 15081), (107, 15114), (110, 15129), (112, 15138), (139, 15228), (181, 15381), (185, 15396), (236, 15609),

Gene: Darwin_30 Start: 19987, Stop: 20807, Start Num: 42

Candidate Starts for Darwin_30:

(Start: 42 @19987 has 8 MA's), (51, 20005), (83, 20125), (91, 20161), (106, 20206), (113, 20236), (118, 20260), (125, 20287), (135, 20326), (138, 20335), (175, 20473), (179, 20485), (204, 20563), (217, 20629), (218, 20632), (221, 20641), (229, 20674), (254, 20761),

Gene: DatBoi_28 Start: 17182, Stop: 18110, Start Num: 18

Candidate Starts for DatBoi_28:

(Start: 18 @17182 has 4 MA's), (Start: 40 @17290 has 49 MA's), (86, 17443), (98, 17482), (110, 17530), (111, 17533), (129, 17587), (139, 17629), (159, 17692),

Gene: Dre3_15 Start: 9121, Stop: 9866, Start Num: 45

Candidate Starts for Dre3_15:

(41, 9112), (Start: 45 @9121 has 11 MA's), (62, 9193), (109, 9316), (114, 9340), (117, 9352), (122, 9379), (131, 9397), (159, 9490), (172, 9544), (219, 9700), (227, 9730), (232, 9745), (256, 9835), (261, 9856),

Gene: Dusty_44 Start: 18658, Stop: 19619, Start Num: 17

Candidate Starts for Dusty_44:

(Start: 17 @18658 has 15 MA's), (39, 18769), (Start: 40 @18772 has 49 MA's), (84, 18919), (87, 18931), (97, 18964), (107, 19003), (119, 19054), (153, 19174), (158, 19186), (183, 19291), (189, 19327), (197, 19351), (200, 19363), (209, 19411), (254, 19582), (261, 19609),

Gene: Elinal_16 Start: 8643, Stop: 9391, Start Num: 44

Candidate Starts for Elinal_16:

(Start: 44 @8643 has 42 MA's), (62, 8715), (109, 8838), (114, 8862), (117, 8874), (137, 8943), (155, 9006), (180, 9096), (223, 9237), (227, 9255), (262, 9384),

Gene: Emalyn_14 Start: 8612, Stop: 9366, Start Num: 44

Candidate Starts for Emalyn_14:

(Start: 44 @8612 has 42 MA's), (62, 8684), (109, 8807), (114, 8831), (117, 8843), (122, 8870), (163, 9014), (166, 9023), (175, 9050), (220, 9209), (232, 9251), (260, 9356),

Gene: Emianna_38 Start: 23597, Stop: 24402, Start Num: 40

Candidate Starts for Emianna_38:

(Start: 40 @23597 has 49 MA's), (85, 23729), (96, 23765), (109, 23810), (118, 23855), (128, 23888), (152, 23978), (229, 24272), (259, 24380),

Gene: Engineer_45 Start: 18875, Stop: 19836, Start Num: 17

Candidate Starts for Engineer_45:

(Start: 17 @18875 has 15 MA's), (39, 18986), (Start: 40 @18989 has 49 MA's), (84, 19136), (87, 19148), (97, 19181), (107, 19220), (119, 19271), (153, 19391), (158, 19403), (183, 19508), (189, 19544), (197, 19568), (200, 19580), (209, 19628), (254, 19799), (261, 19826),

Gene: Ennea_44 Start: 24223, Stop: 25034, Start Num: 40

Candidate Starts for Ennea_44:

(Start: 40 @24223 has 49 MA's), (85, 24355), (108, 24433), (109, 24436), (118, 24481), (145, 24583), (149, 24595), (259, 25012),

Gene: EvenBluerMoon_16 Start: 10107, Stop: 10969, Start Num: 24

Candidate Starts for EvenBluerMoon_16:

(Start: 24 @10107 has 17 MA's), (65, 10278), (89, 10350), (99, 10371), (101, 10374), (121, 10467), (146, 10563), (149, 10569),

Gene: Feastonyeet_14 Start: 8662, Stop: 9410, Start Num: 44

Candidate Starts for Feastonyeet_14:

(Start: 44 @8662 has 42 MA's), (62, 8734), (98, 8830), (109, 8857), (114, 8881), (117, 8893), (123, 8926), (155, 9025), (180, 9115), (223, 9256), (227, 9274), (262, 9403),

Gene: Flapper_42 Start: 23966, Stop: 24777, Start Num: 40

Candidate Starts for Flapper_42:

(Start: 40 @23966 has 49 MA's), (85, 24098), (106, 24170), (113, 24200), (118, 24224), (128, 24257), (145, 24326), (149, 24338), (152, 24347), (195, 24512), (214, 24584), (229, 24647), (259, 24755),

Gene: Float294_40 Start: 23662, Stop: 24473, Start Num: 40

Candidate Starts for Float294_40:

(Start: 40 @23662 has 49 MA's), (85, 23794), (108, 23872), (109, 23875), (118, 23920), (145, 24022), (149, 24034), (181, 24154), (259, 24451),

Gene: Foxboro_39 Start: 24103, Stop: 24908, Start Num: 40

Candidate Starts for Foxboro_39:

(Start: 40 @24103 has 49 MA's), (85, 24235), (96, 24271), (109, 24316), (118, 24361), (128, 24394), (152, 24484), (229, 24778), (259, 24886),

Gene: Fribs8_16 Start: 9689, Stop: 10434, Start Num: 46

Candidate Starts for Fribs8_16:

(21, 9578), (23, 9581), (Start: 46 @9689 has 12 MA's), (62, 9761), (98, 9857), (109, 9884), (114, 9908), (117, 9920), (122, 9947), (159, 10058), (165, 10094), (172, 10112), (219, 10268), (227, 10298), (232, 10313), (261, 10424),

Gene: Fury_47 Start: 23325, Stop: 24127, Start Num: 40

Candidate Starts for Fury_47:

(Start: 40 @23325 has 49 MA's), (85, 23457), (118, 23583), (128, 23616), (133, 23640), (197, 23868), (240, 24042), (259, 24105),

Gene: GAL1_17 Start: 10786, Stop: 11669, Start Num: 20

Candidate Starts for GAL1_17:

(20, 10786), (62, 10990), (113, 11158), (128, 11218), (142, 11278), (149, 11296), (159, 11326), (163, 11356), (164, 11359), (165, 11362), (178, 11407), (181, 11416), (207, 11476), (208, 11482), (209, 11485), (231, 11575), (243, 11620), (247, 11638), (250, 11647), (252, 11653),

Gene: GMA4_15 Start: 9946, Stop: 10748, Start Num: 52

Candidate Starts for GMA4_15:

(14, 9769), (52, 9946), (70, 10039), (108, 10159), (110, 10171), (126, 10246), (139, 10294), (205, 10546), (242, 10699),

Gene: GRU1_27 Start: 15854, Stop: 16665, Start Num: 40

Candidate Starts for GRU1_27:

(Start: 40 @15854 has 49 MA's), (85, 15986), (106, 16058), (113, 16088), (118, 16112), (128, 16145), (145, 16214), (149, 16226), (162, 16280), (195, 16400), (197, 16403), (259, 16643),

Gene: GTE5_28 Start: 16818, Stop: 17629, Start Num: 40

Candidate Starts for GTE5_28:

(Start: 40 @16818 has 49 MA's), (85, 16950), (106, 17022), (113, 17052), (118, 17076), (128, 17109), (145, 17178), (149, 17190), (192, 17352), (195, 17364), (229, 17499), (259, 17607),

Gene: GTE8_27 Start: 16862, Stop: 17667, Start Num: 40

Candidate Starts for GTE8_27:

(Start: 40 @16862 has 49 MA's), (85, 16994), (96, 17030), (104, 17063), (109, 17075), (116, 17108), (118, 17120), (128, 17153), (152, 17243), (181, 17354), (251, 17618), (259, 17645),

Gene: Gagieri_42 Start: 24140, Stop: 24963, Start Num: 40

Candidate Starts for Gagieri_42:

(Start: 40 @24140 has 49 MA's), (73, 24239), (83, 24263), (85, 24269), (118, 24395), (128, 24428), (198, 24692), (202, 24707), (259, 24938),

Gene: Gaia_11 Start: 8760, Stop: 9442, Start Num: 50

Candidate Starts for Gaia_11:

(Start: 50 @8760 has 3 MA's), (60, 8805), (88, 8889), (93, 8898), (100, 8913), (108, 8934), (113, 8958), (131, 9018), (136, 9039), (138, 9045), (139, 9048), (140, 9051), (148, 9075), (161, 9123), (163, 9138), (169, 9156), (209, 9273), (216, 9306), (241, 9399), (248, 9423),

Gene: Getalong_16 Start: 8315, Stop: 8997, Start Num: 46

Candidate Starts for Getalong_16:

(Start: 46 @8315 has 12 MA's), (102, 8480), (115, 8534), (116, 8540), (117, 8543), (122, 8570), (154, 8672), (160, 8690), (161, 8699), (181, 8774), (196, 8810), (219, 8900), (220, 8903), (222, 8909), (229, 8939), (230, 8942), (234, 8957), (239, 8975),

Gene: GiKK_18 Start: 9200, Stop: 9930, Start Num: 48

Candidate Starts for GiKK_18:

(34, 9167), (Start: 48 @9200 has 7 MA's), (55, 9230), (77, 9305), (109, 9392), (114, 9416), (117, 9428), (123, 9461), (137, 9497), (142, 9515), (155, 9557), (220, 9773), (237, 9839), (260, 9920),

Gene: Gibbous_15 Start: 9121, Stop: 9866, Start Num: 45

Candidate Starts for Gibbous_15:

(41, 9112), (Start: 45 @9121 has 11 MA's), (62, 9193), (109, 9316), (114, 9340), (117, 9352), (122, 9379), (131, 9397), (159, 9490), (172, 9544), (219, 9700), (227, 9730), (232, 9745), (256, 9835), (261, 9856),

Gene: GrootJr_40 Start: 22976, Stop: 23778, Start Num: 40

Candidate Starts for GrootJr_40:

(Start: 40 @22976 has 49 MA's), (85, 23108), (96, 23144), (109, 23189), (118, 23234), (128, 23267), (152, 23357), (259, 23756),

Gene: Hexbug_17 Start: 9883, Stop: 10613, Start Num: 48

Candidate Starts for Hexbug_17:

(Start: 48 @9883 has 7 MA's), (59, 9937), (60, 9940), (117, 10111), (123, 10144), (142, 10198), (155, 10240), (219, 10453), (237, 10522), (260, 10603),

Gene: HippoPololi_17 Start: 9778, Stop: 10523, Start Num: 45

Candidate Starts for HippoPololi_17:

(41, 9769), (Start: 45 @9778 has 11 MA's), (62, 9850), (98, 9946), (109, 9973), (114, 9997), (117, 10009), (122, 10036), (172, 10201), (209, 10312), (219, 10357), (227, 10387), (232, 10402), (256, 10492), (261, 10513),

Gene: Holliday_15 Start: 8319, Stop: 8998, Start Num: 46

Candidate Starts for Holliday_15:

(30, 8271), (Start: 46 @8319 has 12 MA's), (102, 8484), (115, 8538), (116, 8544), (117, 8547), (122, 8574), (154, 8673), (161, 8700), (169, 8733), (181, 8775), (196, 8811), (220, 8904), (222, 8910), (230, 8943), (234, 8958),

Gene: HomeFry_44 Start: 21951, Stop: 22753, Start Num: 40

Candidate Starts for HomeFry_44:

(Start: 40 @21951 has 49 MA's), (85, 22083), (118, 22209), (128, 22242), (142, 22302), (158, 22350), (227, 22614), (229, 22623), (259, 22731),

Gene: Horseradish_16 Start: 8771, Stop: 9525, Start Num: 44

Candidate Starts for Horseradish_16:

(Start: 44 @8771 has 42 MA's), (109, 8966), (114, 8990), (117, 9002), (122, 9029), (163, 9173), (166, 9182), (172, 9197), (260, 9515),

Gene: Horus_16 Start: 8335, Stop: 9014, Start Num: 46

Candidate Starts for Horus_16:

(37, 8314), (Start: 46 @8335 has 12 MA's), (102, 8500), (115, 8554), (116, 8560), (117, 8563), (122, 8590), (154, 8689), (161, 8716), (181, 8791), (196, 8827), (209, 8872), (222, 8926), (229, 8956), (234, 8974), (239, 8992),

Gene: HubbaBubba_36 Start: 19355, Stop: 20163, Start Num: 40
Candidate Starts for HubbaBubba_36:
(Start: 40 @19355 has 49 MA's), (61, 19430), (85, 19490), (90, 19517), (118, 19616), (142, 19709),
(152, 19739), (259, 20141),

Gene: IDyn_39 Start: 20751, Stop: 21559, Start Num: 40
Candidate Starts for IDyn_39:
(Start: 40 @20751 has 49 MA's), (61, 20826), (85, 20886), (90, 20913), (118, 21012), (142, 21105),
(152, 21135), (259, 21537),

Gene: Jamzy_18 Start: 9210, Stop: 9940, Start Num: 48
Candidate Starts for Jamzy_18:
(34, 9177), (Start: 48 @9210 has 7 MA's), (55, 9240), (77, 9315), (109, 9402), (114, 9426), (117, 9438),
(123, 9471), (137, 9507), (142, 9525), (155, 9567), (220, 9783), (260, 9930),

Gene: JanetJ_16 Start: 9891, Stop: 10747, Start Num: 24
Candidate Starts for JanetJ_16:
(Start: 24 @9891 has 17 MA's), (65, 10056), (89, 10128), (99, 10149), (101, 10152), (107, 10182),
(120, 10242), (135, 10302), (212, 10569),

Gene: Jifall16_37 Start: 23251, Stop: 24056, Start Num: 40
Candidate Starts for Jifall16_37:
(Start: 40 @23251 has 49 MA's), (85, 23383), (96, 23419), (109, 23464), (118, 23509), (128, 23542),
(152, 23632), (229, 23926), (259, 24034),

Gene: JonJames_44 Start: 22784, Stop: 23772, Start Num: 15
Candidate Starts for JonJames_44:
(Start: 15 @22784 has 2 MA's), (84, 23066), (162, 23363), (173, 23405), (174, 23408), (209, 23558),
(213, 23573), (261, 23756),

Gene: Kabluna_41 Start: 22320, Stop: 23125, Start Num: 40
Candidate Starts for Kabluna_41:
(Start: 40 @22320 has 49 MA's), (85, 22452), (108, 22530), (118, 22578), (165, 22758),

Gene: KayGee_15 Start: 8643, Stop: 9391, Start Num: 44
Candidate Starts for KayGee_15:
(Start: 44 @8643 has 42 MA's), (62, 8715), (109, 8838), (114, 8862), (117, 8874), (137, 8943), (155,
9006), (180, 9096), (223, 9237), (227, 9255), (262, 9384),

Gene: Kenna_15 Start: 8335, Stop: 9014, Start Num: 46
Candidate Starts for Kenna_15:
(37, 8314), (Start: 46 @8335 has 12 MA's), (102, 8500), (115, 8554), (116, 8560), (117, 8563), (122,
8590), (154, 8689), (161, 8716), (181, 8791), (196, 8827), (209, 8872), (222, 8926), (229, 8956), (234,
8974), (239, 8992),

Gene: KidneyBean_38 Start: 23375, Stop: 24177, Start Num: 40
Candidate Starts for KidneyBean_38:
(Start: 40 @23375 has 49 MA's), (85, 23507), (96, 23543), (109, 23588), (118, 23633), (128, 23666),
(152, 23756), (181, 23867), (227, 24038), (229, 24047), (250, 24125), (259, 24155),

Gene: Kimchi1738_28 Start: 19390, Stop: 20210, Start Num: 42
Candidate Starts for Kimchi1738_28:

(Start: 42 @19390 has 8 MA's), (51, 19408), (83, 19528), (91, 19564), (106, 19609), (113, 19639), (118, 19663), (125, 19690), (135, 19729), (138, 19738), (175, 19876), (179, 19888), (204, 19966), (217, 20032), (218, 20035), (221, 20044), (229, 20077), (254, 20164),

Gene: Kumotta_16 Start: 9768, Stop: 10615, Start Num: 24

Candidate Starts for Kumotta_16:

(Start: 24 @9768 has 17 MA's), (Start: 40 @9840 has 49 MA's), (65, 9933), (70, 9945), (89, 10005), (95, 10017), (99, 10026), (101, 10029), (120, 10119), (135, 10179), (141, 10200), (158, 10251), (178, 10335), (206, 10422), (207, 10425), (209, 10434),

Gene: Kurt_38 Start: 23612, Stop: 24417, Start Num: 40

Candidate Starts for Kurt_38:

(Start: 40 @23612 has 49 MA's), (85, 23744), (96, 23780), (109, 23825), (118, 23870), (128, 23903), (152, 23993), (229, 24287), (259, 24395),

Gene: Lauer_14 Start: 8692, Stop: 9440, Start Num: 44

Candidate Starts for Lauer_14:

(Start: 44 @8692 has 42 MA's), (62, 8764), (109, 8887), (114, 8911), (117, 8923), (123, 8956), (137, 8992), (155, 9055), (180, 9145), (223, 9286), (227, 9304), (262, 9433),

Gene: Leroy_16 Start: 8336, Stop: 9015, Start Num: 46

Candidate Starts for Leroy_16:

(37, 8315), (Start: 46 @8336 has 12 MA's), (102, 8501), (115, 8555), (116, 8561), (117, 8564), (122, 8591), (154, 8690), (161, 8717), (181, 8792), (196, 8828), (209, 8873), (222, 8927), (229, 8957), (234, 8975), (239, 8993),

Gene: LilSpotty_14 Start: 8433, Stop: 9124, Start Num: 43

Candidate Starts for LilSpotty_14:

(Start: 43 @8433 has 1 MA's), (63, 8502), (66, 8508), (88, 8559), (108, 8604), (115, 8634), (118, 8652), (228, 9021),

Gene: Lollipop1437_43 Start: 24211, Stop: 25022, Start Num: 40

Candidate Starts for Lollipop1437_43:

(Start: 40 @24211 has 49 MA's), (85, 24343), (108, 24421), (109, 24424), (118, 24469), (145, 24571), (149, 24583), (259, 25000),

Gene: Lozinak_45 Start: 18930, Stop: 19891, Start Num: 17

Candidate Starts for Lozinak_45:

(Start: 17 @18930 has 15 MA's), (39, 19041), (Start: 40 @19044 has 49 MA's), (84, 19191), (87, 19203), (97, 19236), (107, 19275), (119, 19326), (153, 19446), (158, 19458), (183, 19563), (189, 19599), (197, 19623), (200, 19635), (209, 19683), (254, 19854), (261, 19881),

Gene: Lutum_16 Start: 8335, Stop: 9014, Start Num: 46

Candidate Starts for Lutum_16:

(37, 8314), (Start: 46 @8335 has 12 MA's), (102, 8500), (115, 8554), (116, 8560), (117, 8563), (122, 8590), (154, 8689), (161, 8716), (181, 8791), (196, 8827), (209, 8872), (222, 8926), (229, 8956), (234, 8974), (239, 8992),

Gene: MAnor_15 Start: 8635, Stop: 9383, Start Num: 44

Candidate Starts for MAnor_15:

(Start: 44 @8635 has 42 MA's), (62, 8707), (109, 8830), (114, 8854), (117, 8866), (137, 8935), (155, 8998), (176, 9076), (181, 9091), (209, 9172), (227, 9247), (232, 9262), (255, 9349), (262, 9376),

Gene: MScarn_17 Start: 8857, Stop: 9611, Start Num: 44

Candidate Starts for MScarn_17:

(Start: 32 @8815 has 1 MA's), (Start: 44 @8857 has 42 MA's), (109, 9052), (114, 9076), (117, 9088), (122, 9115), (163, 9259), (166, 9268), (260, 9601),

Gene: MaVan_17 Start: 9884, Stop: 10629, Start Num: 45

Candidate Starts for MaVan_17:

(41, 9875), (Start: 45 @9884 has 11 MA's), (54, 9914), (60, 9944), (109, 10079), (114, 10103), (117, 10115), (131, 10160), (159, 10253), (169, 10301), (172, 10307), (209, 10418), (219, 10463), (232, 10508), (256, 10598), (261, 10619),

Gene: MacGully_47 Start: 24813, Stop: 25627, Start Num: 40

Candidate Starts for MacGully_47:

(Start: 40 @24813 has 49 MA's), (85, 24942), (88, 24966), (90, 24969), (118, 25068), (146, 25173), (189, 25335), (194, 25347), (259, 25602),

Gene: Maja_15 Start: 9389, Stop: 10245, Start Num: 24

Candidate Starts for Maja_15:

(Start: 24 @9389 has 17 MA's), (65, 9554), (89, 9626), (99, 9647), (101, 9650), (106, 9677), (135, 9800), (140, 9815), (158, 9869), (163, 9902), (218, 10097), (246, 10205),

Gene: Margaret_18 Start: 9558, Stop: 10321, Start Num: 33

Candidate Starts for Margaret_18:

(6, 9264), (7, 9306), (9, 9381), (13, 9432), (Start: 33 @9558 has 1 MA's), (41, 9582), (Start: 47 @9591 has 1 MA's), (55, 9621), (60, 9648), (93, 9744), (109, 9783), (116, 9816), (117, 9819), (123, 9852), (142, 9906), (155, 9948), (220, 10164), (237, 10230), (260, 10311),

Gene: Marietta_40 Start: 20667, Stop: 21475, Start Num: 40

Candidate Starts for Marietta_40:

(Start: 40 @20667 has 49 MA's), (61, 20742), (85, 20802), (90, 20829), (118, 20928), (142, 21021), (152, 21051), (259, 21453),

Gene: Maselop_42 Start: 24341, Stop: 25164, Start Num: 40

Candidate Starts for Maselop_42:

(3, 23954), (4, 23978), (Start: 40 @24341 has 49 MA's), (73, 24440), (83, 24464), (85, 24470), (118, 24596), (128, 24629), (184, 24839), (217, 24986), (259, 25139),

Gene: Mayweather_16 Start: 9265, Stop: 10013, Start Num: 44

Candidate Starts for Mayweather_16:

(Start: 44 @9265 has 42 MA's), (62, 9337), (109, 9460), (114, 9484), (117, 9496), (137, 9565), (155, 9628), (176, 9706), (181, 9721), (209, 9802), (227, 9877), (262, 10006),

Gene: MerCougar_39 Start: 23519, Stop: 24324, Start Num: 40

Candidate Starts for MerCougar_39:

(Start: 40 @23519 has 49 MA's), (85, 23651), (118, 23777), (128, 23810), (152, 23900), (158, 23918),

Gene: MicyPS_14 Start: 9534, Stop: 10483, Start Num: 11

Candidate Starts for MicyPS_14:

(Start: 11 @9534 has 2 MA's), (27, 9669), (31, 9690), (Start: 46 @9738 has 12 MA's), (52, 9756), (71, 9843), (80, 9867), (82, 9870), (96, 9915), (112, 9981), (119, 10011), (130, 10053), (139, 10083), (142, 10098), (164, 10176), (170, 10194), (182, 10248), (188, 10260), (199, 10293), (212, 10344),

Gene: Miskis_43 Start: 18693, Stop: 19654, Start Num: 17

Candidate Starts for Miskis_43:

(Start: 17 @18693 has 15 MA's), (39, 18804), (Start: 40 @18807 has 49 MA's), (84, 18954), (87, 18966), (97, 18999), (107, 19038), (119, 19089), (153, 19209), (158, 19221), (183, 19326), (189, 19362), (197, 19386), (200, 19398), (209, 19446), (254, 19617), (261, 19644),

Gene: ModicumRichard_16 Start: 9969, Stop: 10921, Start Num: 12

Candidate Starts for ModicumRichard_16:

(Start: 12 @9969 has 5 MA's), (28, 10101), (39, 10155), (49, 10179), (58, 10221), (68, 10266), (107, 10389), (127, 10458), (159, 10563),

Gene: Mollymur_28 Start: 17282, Stop: 18201, Start Num: 22

Candidate Starts for Mollymur_28:

(Start: 22 @17282 has 1 MA's), (Start: 40 @17369 has 49 MA's), (76, 17498), (86, 17522), (98, 17561), (110, 17609), (112, 17618), (139, 17708), (196, 17930), (258, 18161),

Gene: Morgana_16 Start: 9973, Stop: 10925, Start Num: 12

Candidate Starts for Morgana_16:

(Start: 12 @9973 has 5 MA's), (28, 10105), (68, 10270), (70, 10279), (73, 10285), (107, 10393), (127, 10462), (149, 10537), (159, 10567),

Gene: MunkgeeRoachy_15 Start: 8933, Stop: 9687, Start Num: 44

Candidate Starts for MunkgeeRoachy_15:

(Start: 44 @8933 has 42 MA's), (62, 9017), (108, 9137), (109, 9140), (114, 9164), (117, 9176), (163, 9347), (196, 9437), (227, 9557), (232, 9572), (252, 9653), (260, 9677),

Gene: NadineRae_38 Start: 19914, Stop: 20722, Start Num: 40

Candidate Starts for NadineRae_38:

(Start: 40 @19914 has 49 MA's), (61, 19989), (85, 20049), (90, 20076), (118, 20175), (142, 20268), (152, 20298), (221, 20562), (259, 20700),

Gene: NatB6_37 Start: 22648, Stop: 23453, Start Num: 40

Candidate Starts for NatB6_37:

(Start: 40 @22648 has 49 MA's), (85, 22780), (96, 22816), (109, 22861), (118, 22906), (128, 22939), (152, 23029), (229, 23323), (259, 23431),

Gene: Nebkiss_12 Start: 8761, Stop: 9443, Start Num: 50

Candidate Starts for Nebkiss_12:

(Start: 50 @8761 has 3 MA's), (60, 8806), (88, 8890), (93, 8899), (100, 8914), (108, 8935), (113, 8959), (131, 9019), (136, 9040), (138, 9046), (139, 9049), (140, 9052), (148, 9076), (161, 9124), (163, 9139), (169, 9157), (209, 9274), (216, 9307), (241, 9400), (248, 9424),

Gene: Nibbles_17 Start: 9884, Stop: 10629, Start Num: 45

Candidate Starts for Nibbles_17:

(41, 9875), (Start: 45 @9884 has 11 MA's), (54, 9914), (56, 9923), (60, 9944), (109, 10079), (114, 10103), (117, 10115), (131, 10160), (159, 10253), (169, 10301), (172, 10307), (209, 10418), (219, 10463), (232, 10508), (256, 10598), (261, 10619),

Gene: Nina_16 Start: 9918, Stop: 10672, Start Num: 44

Candidate Starts for Nina_16:

(Start: 44 @9918 has 42 MA's), (62, 10002), (108, 10122), (109, 10125), (114, 10149), (117, 10161), (163, 10332), (167, 10347), (196, 10422), (227, 10542), (232, 10557), (252, 10638), (260, 10662),

Gene: NoSwimming_17 Start: 11047, Stop: 11906, Start Num: 24

Candidate Starts for NoSwimming_17:

(Start: 24 @11047 has 17 MA's), (52, 11143), (65, 11215), (89, 11287), (99, 11308), (101, 11311), (108, 11344), (121, 11404), (126, 11425), (149, 11506), (153, 11521), (233, 11809),

Gene: Nodigi_17 Start: 9874, Stop: 10604, Start Num: 48

Candidate Starts for Nodigi_17:

(Start: 48 @9874 has 7 MA's), (55, 9904), (109, 10066), (117, 10102), (123, 10135), (142, 10189), (155, 10231), (219, 10444), (237, 10513), (260, 10594),

Gene: Norvs_46 Start: 18932, Stop: 19893, Start Num: 17

Candidate Starts for Norvs_46:

(Start: 17 @18932 has 15 MA's), (39, 19043), (Start: 40 @19046 has 49 MA's), (84, 19193), (87, 19205), (97, 19238), (107, 19277), (119, 19328), (153, 19448), (158, 19460), (183, 19565), (189, 19601), (197, 19625), (200, 19637), (209, 19685), (254, 19856), (261, 19883),

Gene: NosilaM_41 Start: 23217, Stop: 24022, Start Num: 40

Candidate Starts for NosilaM_41:

(Start: 40 @23217 has 49 MA's), (85, 23349), (118, 23475),

Gene: NovumRegina_38 Start: 22975, Stop: 23777, Start Num: 40

Candidate Starts for NovumRegina_38:

(Start: 40 @22975 has 49 MA's), (85, 23107), (96, 23143), (109, 23188), (118, 23233), (128, 23266), (152, 23356), (259, 23755),

Gene: ObLaDi_16 Start: 9957, Stop: 10909, Start Num: 12

Candidate Starts for ObLaDi_16:

(Start: 12 @9957 has 5 MA's), (28, 10089), (39, 10143), (49, 10167), (58, 10209), (68, 10254), (107, 10377), (127, 10446), (159, 10551), (244, 10842),

Gene: OneUp_39 Start: 16642, Stop: 17615, Start Num: 16

Candidate Starts for OneUp_39:

(Start: 16 @16642 has 2 MA's), (25, 16699), (Start: 40 @16771 has 49 MA's), (84, 16918), (87, 16930), (127, 17083), (153, 17173), (158, 17185), (178, 17269), (187, 17311), (189, 17326), (196, 17347),

Gene: Orla_17 Start: 9878, Stop: 10608, Start Num: 48

Candidate Starts for Orla_17:

(Start: 48 @9878 has 7 MA's), (55, 9908), (109, 10070), (117, 10106), (123, 10139), (142, 10193), (155, 10235), (219, 10448), (237, 10517), (260, 10598),

Gene: Outis_39 Start: 23207, Stop: 24012, Start Num: 40

Candidate Starts for Outis_39:

(Start: 40 @23207 has 49 MA's), (85, 23339), (108, 23417), (118, 23465), (152, 23588), (158, 23606),

Gene: PSonyx_14 Start: 9683, Stop: 10587, Start Num: 11

Candidate Starts for PSonyx_14:

(Start: 11 @9683 has 2 MA's), (25, 9773), (31, 9794), (80, 9971), (82, 9974), (96, 10019), (119, 10115), (130, 10157), (135, 10175), (142, 10202), (164, 10280), (171, 10301), (182, 10352), (188, 10364), (199, 10397), (212, 10448), (229, 10511),

Gene: Patio_41 Start: 23447, Stop: 24258, Start Num: 40

Candidate Starts for Patio_41:

(Start: 40 @23447 has 49 MA's), (85, 23579), (108, 23657), (109, 23660), (118, 23705), (145, 23807), (149, 23819), (259, 24236),

Gene: Periwinkle_16 Start: 8315, Stop: 8994, Start Num: 46

Candidate Starts for Periwinkle_16:

(Start: 46 @8315 has 12 MA's), (102, 8480), (115, 8534), (116, 8540), (117, 8543), (122, 8570), (154, 8669), (161, 8696), (181, 8771), (196, 8807), (209, 8852), (222, 8906), (229, 8936), (234, 8954), (239, 8972),

Gene: PeteyPab_30 Start: 21147, Stop: 21967, Start Num: 42

Candidate Starts for PeteyPab_30:

(Start: 42 @21147 has 8 MA's), (51, 21165), (83, 21285), (91, 21321), (106, 21366), (113, 21396), (118, 21420), (125, 21447), (135, 21486), (138, 21495), (175, 21633), (204, 21723), (217, 21789), (218, 21792), (221, 21801), (229, 21834), (254, 21921),

Gene: PhinkBoden_45 Start: 19313, Stop: 20274, Start Num: 17

Candidate Starts for PhinkBoden_45:

(Start: 17 @19313 has 15 MA's), (39, 19424), (Start: 40 @19427 has 49 MA's), (84, 19574), (87, 19586), (97, 19619), (107, 19658), (119, 19709), (153, 19829), (158, 19841), (183, 19946), (189, 19982), (197, 20006), (200, 20018), (209, 20066), (254, 20237), (261, 20264),

Gene: Phistory_16 Start: 8304, Stop: 8983, Start Num: 46

Candidate Starts for Phistory_16:

(Start: 46 @8304 has 12 MA's), (102, 8469), (115, 8523), (116, 8529), (117, 8532), (122, 8559), (154, 8658), (161, 8685), (181, 8760), (196, 8796), (209, 8841), (220, 8889), (222, 8895), (229, 8925), (230, 8928), (234, 8943),

Gene: Phomeo_37 Start: 23247, Stop: 24052, Start Num: 40

Candidate Starts for Phomeo_37:

(Start: 40 @23247 has 49 MA's), (85, 23379), (96, 23415), (109, 23460), (118, 23505), (128, 23538), (152, 23628), (229, 23922), (259, 24030),

Gene: Pleakley_47 Start: 23326, Stop: 24128, Start Num: 40

Candidate Starts for Pleakley_47:

(Start: 40 @23326 has 49 MA's), (85, 23458), (118, 23584), (128, 23617), (133, 23641), (197, 23869), (240, 24043), (259, 24106),

Gene: Polyzuki_42 Start: 24333, Stop: 25153, Start Num: 40

Candidate Starts for Polyzuki_42:

(3, 23946), (4, 23970), (Start: 40 @24333 has 49 MA's), (73, 24432), (83, 24456), (85, 24462), (118, 24588), (128, 24621), (217, 24975), (259, 25128),

Gene: Pons_15 Start: 8643, Stop: 9391, Start Num: 44

Candidate Starts for Pons_15:

(Start: 44 @8643 has 42 MA's), (62, 8715), (109, 8838), (114, 8862), (117, 8874), (137, 8943), (155, 9006), (176, 9084), (181, 9099), (209, 9180), (227, 9255), (262, 9384),

Gene: PotPie_15 Start: 9496, Stop: 10244, Start Num: 44

Candidate Starts for PotPie_15:

(Start: 44 @9496 has 42 MA's), (62, 9568), (109, 9691), (114, 9715), (117, 9727), (123, 9760), (155, 9859), (180, 9949), (223, 10090), (227, 10108), (262, 10237),

Gene: PotatoChip_30 Start: 21149, Stop: 21969, Start Num: 42

Candidate Starts for PotatoChip_30:

(Start: 42 @21149 has 8 MA's), (51, 21167), (83, 21287), (91, 21323), (106, 21368), (113, 21398), (118, 21422), (125, 21449), (135, 21488), (138, 21497), (175, 21635), (204, 21725), (217, 21791), (218, 21794), (221, 21803), (229, 21836), (254, 21923),

Gene: Poushou_16 Start: 10804, Stop: 11615, Start Num: 24

Candidate Starts for Poushou_16:

(Start: 24 @10804 has 17 MA's), (36, 10858), (80, 10993), (92, 11029), (103, 11065), (105, 11074), (132, 11182), (137, 11203), (153, 11257), (163, 11302), (178, 11353), (191, 11395), (210, 11458), (212, 11464),

Gene: PrairieDogTown_16 Start: 10109, Stop: 10971, Start Num: 24

Candidate Starts for PrairieDogTown_16:

(Start: 24 @10109 has 17 MA's), (65, 10280), (89, 10352), (99, 10373), (101, 10376), (121, 10469), (146, 10565), (149, 10571),

Gene: Quasar_14 Start: 9494, Stop: 10248, Start Num: 44

Candidate Starts for Quasar_14:

(Start: 44 @9494 has 42 MA's), (62, 9578), (109, 9701), (114, 9725), (117, 9737), (163, 9908), (196, 9998), (200, 10004), (227, 10118), (232, 10133), (252, 10214), (260, 10238),

Gene: REQ2_17 Start: 11626, Stop: 12441, Start Num: 45

Candidate Starts for REQ2_17:

(Start: 45 @11626 has 11 MA's), (57, 11674), (102, 11821), (143, 11983), (147, 11992), (193, 12175), (203, 12217), (204, 12220), (211, 12262), (225, 12316),

Gene: RanchParmCat_18 Start: 9591, Stop: 10321, Start Num: 47

Candidate Starts for RanchParmCat_18:

(41, 9582), (Start: 47 @9591 has 1 MA's), (55, 9621), (60, 9648), (93, 9744), (109, 9783), (116, 9816), (117, 9819), (123, 9852), (142, 9906), (155, 9948), (220, 10164), (237, 10230), (260, 10311),

Gene: RedBaron_17 Start: 8929, Stop: 9683, Start Num: 44

Candidate Starts for RedBaron_17:

(Start: 44 @8929 has 42 MA's), (62, 9013), (64, 9019), (106, 9127), (108, 9133), (109, 9136), (114, 9160), (117, 9172), (163, 9343), (196, 9433), (227, 9553), (232, 9568), (252, 9649), (260, 9673),

Gene: RedRaider_45 Start: 25472, Stop: 26283, Start Num: 40

Candidate Starts for RedRaider_45:

(Start: 40 @25472 has 49 MA's), (85, 25604), (109, 25685), (118, 25730), (145, 25832), (149, 25844), (181, 25964), (259, 26261),

Gene: Sarge_15 Start: 8825, Stop: 9672, Start Num: 24

Candidate Starts for Sarge_15:

(10, 8708), (Start: 24 @8825 has 17 MA's), (65, 8987), (79, 9023), (89, 9059), (99, 9080), (101, 9083), (120, 9173), (135, 9233), (140, 9248), (178, 9386), (215, 9506), (217, 9524), (246, 9635),

Gene: Scotia_17 Start: 11047, Stop: 11906, Start Num: 24

Candidate Starts for Scotia_17:

(Start: 24 @11047 has 17 MA's), (52, 11143), (65, 11215), (89, 11287), (99, 11308), (101, 11311), (108, 11344), (121, 11404), (126, 11425), (178, 11617), (233, 11809),

Gene: SheckWes_14 Start: 8631, Stop: 9379, Start Num: 44

Candidate Starts for SheckWes_14:

(Start: 44 @8631 has 42 MA's), (62, 8703), (109, 8826), (114, 8850), (117, 8862), (137, 8931), (155, 8994), (180, 9084), (209, 9168), (227, 9243), (262, 9372),

Gene: Shoya_14 Start: 8461, Stop: 9308, Start Num: 24

Candidate Starts for Shoya_14:

(10, 8344), (Start: 24 @8461 has 17 MA's), (65, 8623), (84, 8668), (89, 8695), (99, 8716), (101, 8719), (120, 8809), (135, 8869), (140, 8884), (178, 9022), (217, 9160), (246, 9271),

Gene: SketchMex_14 Start: 8872, Stop: 9626, Start Num: 44

Candidate Starts for SketchMex_14:

(Start: 32 @8830 has 1 MA's), (Start: 44 @8872 has 42 MA's), (109, 9067), (114, 9091), (117, 9103), (122, 9130), (163, 9274), (166, 9283), (260, 9616),

Gene: Skysand_40 Start: 23664, Stop: 24475, Start Num: 40

Candidate Starts for Skysand_40:

(Start: 40 @23664 has 49 MA's), (85, 23796), (108, 23874), (109, 23877), (118, 23922), (145, 24024), (149, 24036), (181, 24156), (259, 24453),

Gene: Smoothie_46 Start: 18930, Stop: 19891, Start Num: 17

Candidate Starts for Smoothie_46:

(Start: 17 @18930 has 15 MA's), (39, 19041), (Start: 40 @19044 has 49 MA's), (84, 19191), (87, 19203), (97, 19236), (107, 19275), (119, 19326), (153, 19446), (158, 19458), (183, 19563), (189, 19599), (197, 19623), (200, 19635), (209, 19683), (254, 19854), (261, 19881),

Gene: Socotra_16 Start: 8885, Stop: 9639, Start Num: 44

Candidate Starts for Socotra_16:

(Start: 44 @8885 has 42 MA's), (62, 8969), (77, 9005), (109, 9092), (114, 9116), (117, 9128), (163, 9299), (196, 9389), (200, 9395), (227, 9509), (232, 9524), (252, 9605), (260, 9629),

Gene: SpeedDemon_290 Start: 18239, Stop: 19167, Start Num: 18

Candidate Starts for SpeedDemon_290:

(Start: 18 @18239 has 4 MA's), (Start: 40 @18347 has 49 MA's), (86, 18500), (98, 18539), (110, 18587), (111, 18590), (129, 18644), (139, 18686), (141, 18695), (159, 18749), (181, 18839), (201, 18914),

Gene: Squiddly_18 Start: 9737, Stop: 10419, Start Num: 46

Candidate Starts for Squiddly_18:

(Start: 46 @9737 has 12 MA's), (102, 9902), (115, 9956), (116, 9962), (117, 9965), (122, 9992), (154, 10094), (161, 10121), (181, 10196), (190, 10214), (200, 10238), (220, 10325), (222, 10331), (230, 10364), (234, 10379),

Gene: StarStruck_39 Start: 23207, Stop: 24012, Start Num: 40

Candidate Starts for StarStruck_39:

(Start: 40 @23207 has 49 MA's), (85, 23339), (108, 23417), (118, 23465), (152, 23588), (158, 23606),

Gene: SteamedHams_17 Start: 8902, Stop: 9656, Start Num: 44

Candidate Starts for SteamedHams_17:

(Start: 44 @8902 has 42 MA's), (62, 8974), (64, 8980), (109, 9097), (114, 9121), (117, 9133), (122, 9160), (163, 9304), (166, 9313), (181, 9358), (220, 9499), (232, 9541), (260, 9646),

Gene: Stellammi_12 Start: 7669, Stop: 8342, Start Num: 50

Candidate Starts for Stellammi_12:

(Start: 50 @7669 has 3 MA's), (64, 7717), (77, 7747), (78, 7750), (88, 7783), (93, 7792), (100, 7807), (110, 7840), (116, 7864), (163, 8032), (175, 8068), (199, 8125), (209, 8167), (224, 8227), (226, 8233), (238, 8278), (241, 8293), (253, 8332),

Gene: Stickynote_30 Start: 20569, Stop: 21389, Start Num: 42

Candidate Starts for Stickynote_30:

(Start: 42 @20569 has 8 MA's), (51, 20587), (83, 20707), (91, 20743), (106, 20788), (113, 20818), (118, 20842), (125, 20869), (135, 20908), (138, 20917), (175, 21055), (204, 21145), (218, 21214), (221, 21223), (229, 21256), (254, 21343),

Gene: Sukkupi_40 Start: 22228, Stop: 23036, Start Num: 40

Candidate Starts for Sukkupi_40:

(Start: 40 @22228 has 49 MA's), (61, 22303), (85, 22363), (90, 22390), (118, 22489), (142, 22582), (152, 22612), (259, 23014),

Gene: SummitAcademy_14 Start: 8711, Stop: 9459, Start Num: 44

Candidate Starts for SummitAcademy_14:

(Start: 44 @8711 has 42 MA's), (62, 8783), (109, 8906), (114, 8930), (117, 8942), (123, 8975), (155, 9074), (223, 9305), (227, 9323), (262, 9452),

Gene: SuperSulley_39 Start: 23405, Stop: 24210, Start Num: 40

Candidate Starts for SuperSulley_39:

(Start: 40 @23405 has 49 MA's), (85, 23537), (118, 23663),

Gene: Survivors_17 Start: 9739, Stop: 10484, Start Num: 45

Candidate Starts for Survivors_17:

(41, 9730), (Start: 45 @9739 has 11 MA's), (60, 9799), (94, 9898), (109, 9934), (114, 9958), (117, 9970), (131, 10015), (159, 10108), (169, 10156), (172, 10162), (209, 10273), (219, 10318), (232, 10363), (256, 10453), (261, 10474),

Gene: SweatNTears_17 Start: 9383, Stop: 10137, Start Num: 44

Candidate Starts for SweatNTears_17:

(Start: 32 @9341 has 1 MA's), (Start: 44 @9383 has 42 MA's), (109, 9578), (114, 9602), (117, 9614), (122, 9641), (163, 9785), (166, 9794), (172, 9809), (260, 10127),

Gene: Tarnish_15 Start: 9010, Stop: 9758, Start Num: 44

Candidate Starts for Tarnish_15:

(Start: 44 @9010 has 42 MA's), (62, 9082), (109, 9205), (114, 9229), (117, 9241), (137, 9310), (155, 9373), (223, 9604), (227, 9622), (262, 9751),

Gene: Tolls_17 Start: 8905, Stop: 9659, Start Num: 44

Candidate Starts for Tolls_17:

(Start: 44 @8905 has 42 MA's), (62, 8977), (64, 8983), (109, 9100), (114, 9124), (117, 9136), (122, 9163), (163, 9307), (166, 9316), (181, 9361), (220, 9502), (232, 9544), (260, 9649),

Gene: Toniann_45 Start: 18875, Stop: 19836, Start Num: 17

Candidate Starts for Toniann_45:

(Start: 17 @18875 has 15 MA's), (39, 18986), (Start: 40 @18989 has 49 MA's), (84, 19136), (87, 19148), (97, 19181), (107, 19220), (119, 19271), (153, 19391), (158, 19403), (183, 19508), (189, 19544), (197, 19568), (200, 19580), (209, 19628), (254, 19799), (261, 19826),

Gene: TouchMeNot_16 Start: 10804, Stop: 11615, Start Num: 24

Candidate Starts for TouchMeNot_16:

(Start: 24 @10804 has 17 MA's), (36, 10858), (80, 10993), (92, 11029), (103, 11065), (105, 11074), (132, 11182), (137, 11203), (153, 11257), (163, 11302), (178, 11353), (191, 11395), (210, 11458), (212, 11464),

Gene: Tracker_38 Start: 22375, Stop: 23180, Start Num: 40

Candidate Starts for Tracker_38:

(Start: 40 @22375 has 49 MA's), (85, 22507), (96, 22543), (109, 22588), (118, 22633), (128, 22666), (152, 22756), (229, 23050), (259, 23158),

Gene: Troje_15 Start: 8815, Stop: 9611, Start Num: 32

Candidate Starts for Troje_15:

(Start: 32 @8815 has 1 MA's), (Start: 44 @8857 has 42 MA's), (109, 9052), (114, 9076), (117, 9088), (122, 9115), (163, 9259), (166, 9268), (260, 9601),

Gene: Turuncu_42 Start: 23671, Stop: 24482, Start Num: 40

Candidate Starts for Turuncu_42:

(Start: 40 @23671 has 49 MA's), (85, 23803), (106, 23875), (113, 23905), (118, 23929), (128, 23962), (145, 24031), (149, 24043), (195, 24217), (229, 24352), (259, 24460),

Gene: Typhonomachy_15 Start: 8885, Stop: 9639, Start Num: 44

Candidate Starts for Typhonomachy_15:

(Start: 44 @8885 has 42 MA's), (62, 8969), (108, 9089), (109, 9092), (114, 9116), (117, 9128), (163, 9299), (196, 9389), (200, 9395), (227, 9509), (232, 9524), (252, 9605), (260, 9629),

Gene: VanLee_17 Start: 10020, Stop: 10897, Start Num: 19

Candidate Starts for VanLee_17:

(Start: 19 @10020 has 2 MA's), (38, 10116), (79, 10260), (86, 10278), (127, 10410), (139, 10455), (230, 10779),

Gene: Vine_16 Start: 9640, Stop: 10388, Start Num: 44

Candidate Starts for Vine_16:

(Start: 44 @9640 has 42 MA's), (62, 9712), (109, 9835), (114, 9859), (117, 9871), (137, 9940), (155, 10003), (180, 10093), (223, 10234), (227, 10252), (262, 10381),

Gene: Whack_15 Start: 9533, Stop: 10330, Start Num: 45

Candidate Starts for Whack_15:

(Start: 45 @9533 has 11 MA's), (69, 9635), (81, 9665), (88, 9698), (124, 9818), (156, 9923), (186, 10046), (235, 10256), (245, 10295),

Gene: Wheezy_38 Start: 22580, Stop: 23385, Start Num: 40

Candidate Starts for Wheezy_38:

(Start: 40 @22580 has 49 MA's), (85, 22712), (96, 22748), (109, 22793), (118, 22838), (128, 22871), (152, 22961), (229, 23255), (259, 23363),

Gene: WhoseManz_40 Start: 20280, Stop: 21088, Start Num: 40

Candidate Starts for WhoseManz_40:

(Start: 40 @20280 has 49 MA's), (61, 20355), (85, 20415), (90, 20442), (118, 20541), (142, 20634), (152, 20664), (259, 21066),

Gene: WilliamBoone_45 Start: 18239, Stop: 19200, Start Num: 17

Candidate Starts for WilliamBoone_45:

(Start: 17 @18239 has 15 MA's), (39, 18350), (Start: 40 @18353 has 49 MA's), (84, 18500), (87, 18512), (107, 18584), (119, 18635), (153, 18755), (158, 18767), (178, 18851), (209, 18992), (249,

19151), (254, 19163), (261, 19190),

Gene: Wolfwood_17 Start: 9883, Stop: 10628, Start Num: 45

Candidate Starts for Wolfwood_17:

(41, 9874), (Start: 45 @9883 has 11 MA's), (54, 9913), (60, 9943), (109, 10078), (114, 10102), (117, 10114), (131, 10159), (159, 10252), (169, 10300), (172, 10306), (209, 10417), (219, 10462), (232, 10507), (256, 10597), (261, 10618),

Gene: Yakult_16 Start: 8776, Stop: 9506, Start Num: 48

Candidate Starts for Yakult_16:

(Start: 48 @8776 has 7 MA's), (54, 8803), (60, 8833), (62, 8845), (117, 9004), (123, 9037), (144, 9097), (157, 9136), (209, 9301), (219, 9346), (224, 9367), (227, 9376), (260, 9496),

Gene: Yarn_14 Start: 8895, Stop: 9649, Start Num: 44

Candidate Starts for Yarn_14:

(Start: 44 @8895 has 42 MA's), (62, 8967), (64, 8973), (109, 9090), (114, 9114), (117, 9126), (122, 9153), (163, 9297), (166, 9306), (181, 9351), (220, 9492), (232, 9534), (260, 9639),

Gene: Yndexa_40 Start: 22228, Stop: 23036, Start Num: 40

Candidate Starts for Yndexa_40:

(Start: 40 @22228 has 49 MA's), (61, 22303), (85, 22363), (90, 22390), (118, 22489), (142, 22582), (152, 22612), (259, 23014),

Gene: Yucky_15 Start: 9500, Stop: 10248, Start Num: 44

Candidate Starts for Yucky_15:

(Start: 44 @9500 has 42 MA's), (62, 9572), (109, 9695), (114, 9719), (117, 9731), (137, 9800), (155, 9863), (180, 9953), (223, 10094), (227, 10112), (262, 10241),

Gene: Yummy_16 Start: 8771, Stop: 9525, Start Num: 44

Candidate Starts for Yummy_16:

(Start: 44 @8771 has 42 MA's), (109, 8966), (114, 8990), (117, 9002), (122, 9029), (163, 9173), (166, 9182), (172, 9197), (260, 9515),

Gene: Yvonnetastic_42 Start: 20319, Stop: 21307, Start Num: 15

Candidate Starts for Yvonnetastic_42:

(Start: 15 @20319 has 2 MA's), (84, 20601), (162, 20898), (173, 20940), (174, 20943), (196, 21036), (209, 21093), (213, 21108), (261, 21291),

Gene: Zareef_17 Start: 9885, Stop: 10630, Start Num: 45

Candidate Starts for Zareef_17:

(41, 9876), (Start: 45 @9885 has 11 MA's), (54, 9915), (60, 9945), (109, 10080), (114, 10104), (117, 10116), (131, 10161), (159, 10254), (169, 10302), (172, 10308), (209, 10419), (219, 10464), (232, 10509), (256, 10599), (261, 10620),

Gene: Zion_30 Start: 21147, Stop: 21967, Start Num: 42

Candidate Starts for Zion_30:

(Start: 42 @21147 has 8 MA's), (51, 21165), (83, 21285), (91, 21321), (106, 21366), (113, 21396), (118, 21420), (125, 21447), (135, 21486), (138, 21495), (175, 21633), (204, 21723), (217, 21789), (218, 21792), (221, 21801), (229, 21834), (254, 21921),