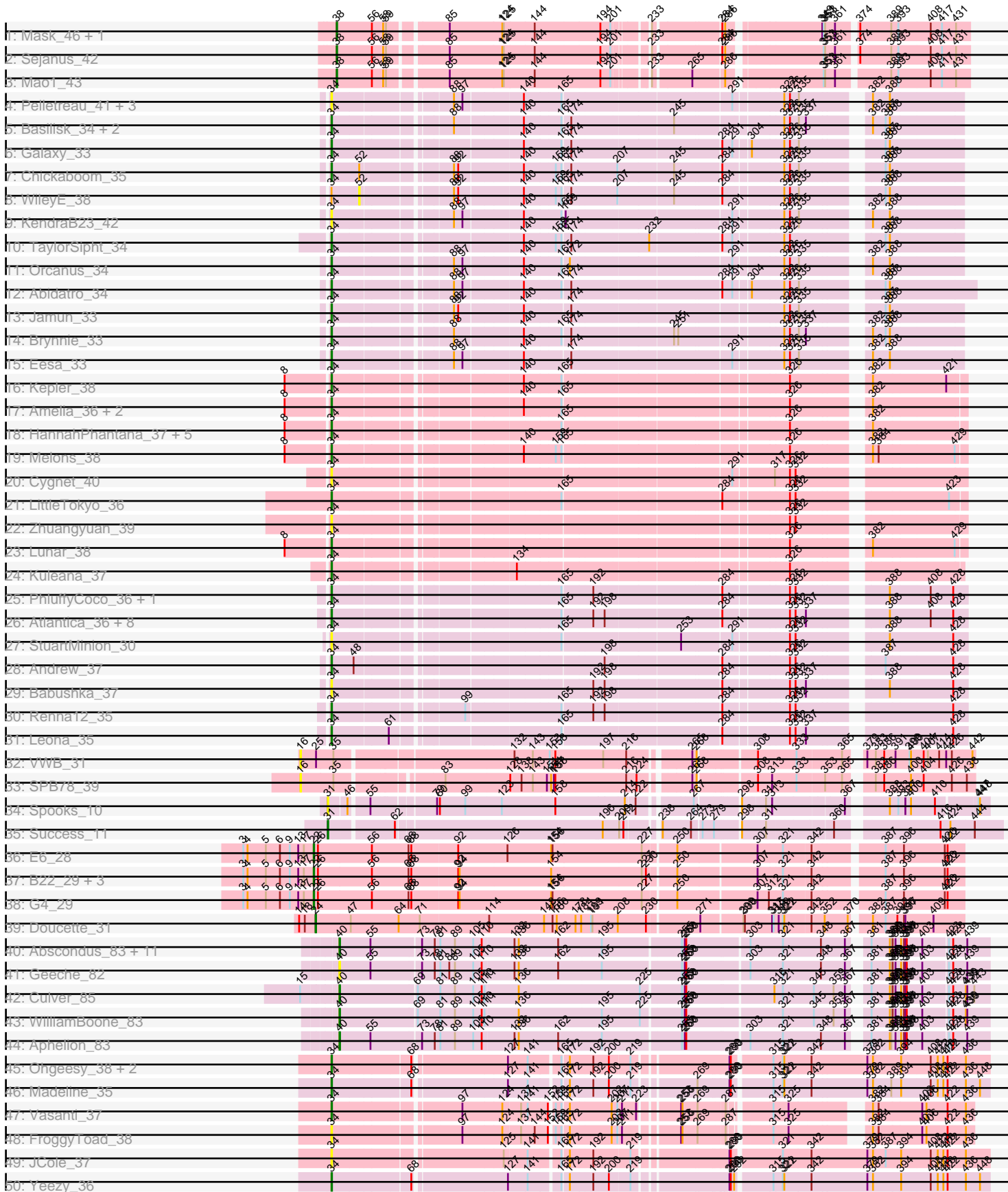
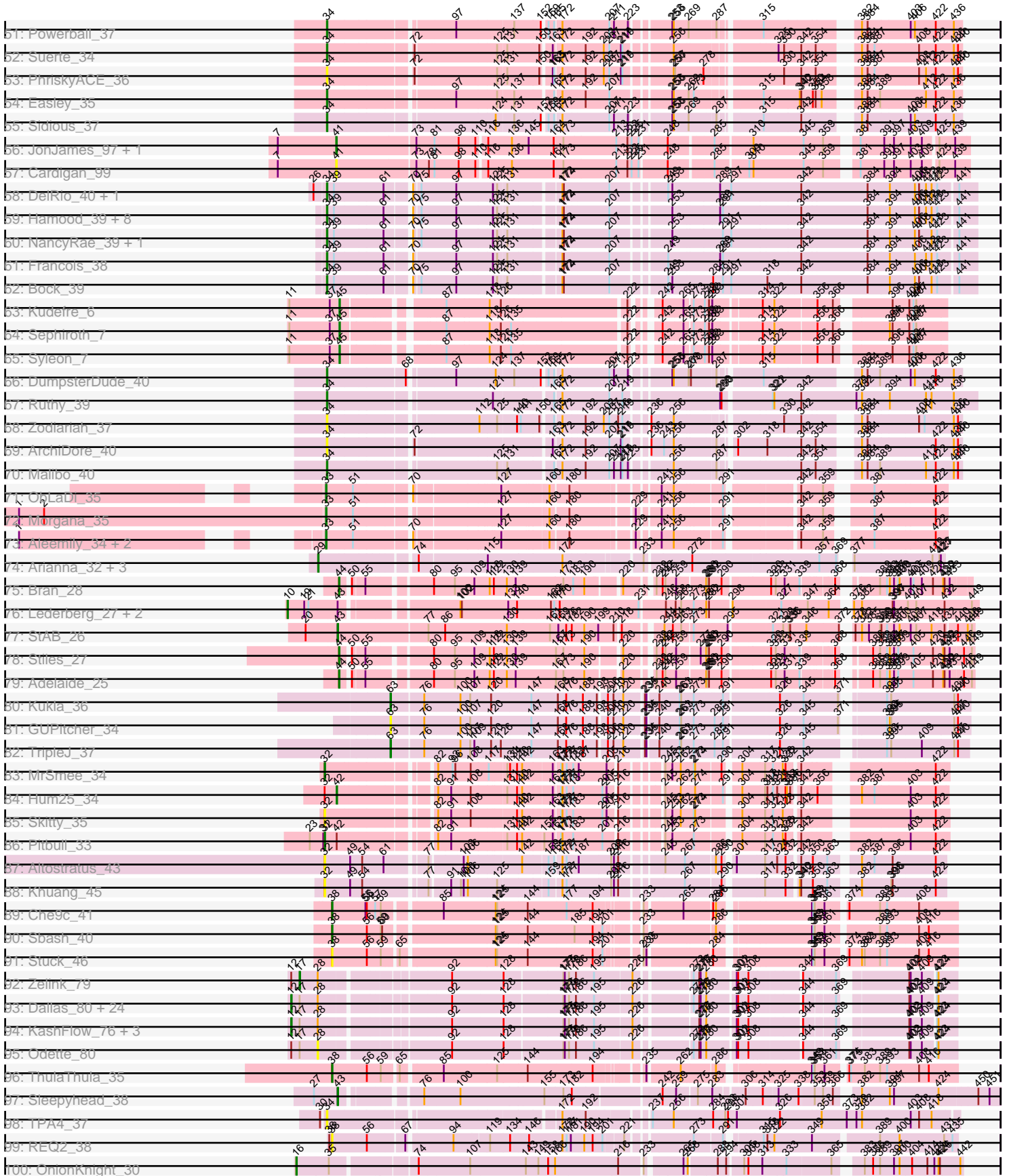


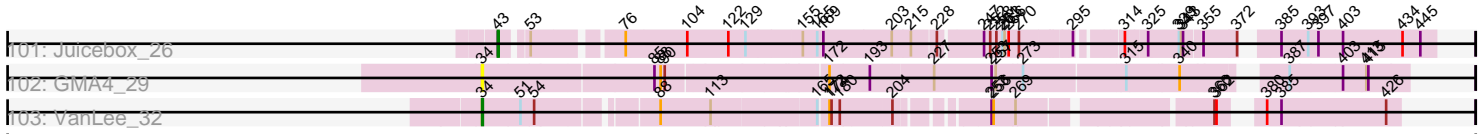
Pham 224317



Pham 224317



Pham 224317



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 224317 Report

This analysis was run 03/28/25 on database version 593.

WARNING: Pham size does not match number of genes in report. Either unphamerated genes have been added (by you) or starterator has removed genes due to invalid start codon.

Pham number 224317 has 186 members, 42 are drafts.

Phages represented in each track:

- Track 1 : Mask_46, Dori_45
- Track 2 : Sejanus_42
- Track 3 : Mao1_43
- Track 4 : Pelletreau_41, Gravel_41, Westrich_40, Toad24_36
- Track 5 : Basilisk_34, Ruchi_33, Vulpecula_33
- Track 6 : Galaxy_33
- Track 7 : Chickaboom_35
- Track 8 : WileyE_38
- Track 9 : KendraB23_42
- Track 10 : TaylorSipht_34
- Track 11 : Orcanus_34
- Track 12 : Abidatro_34
- Track 13 : Jamun_33
- Track 14 : Brynnie_33
- Track 15 : Eesa_33
- Track 16 : Kepler_38
- Track 17 : Amelia_36, Daob_38, Colusalem_39
- Track 18 : HannahPhantana_37, Cote_38, Coral_36, OtsoOtso_40, Bedetta_40, Polka_36
- Track 19 : Melons_38
- Track 20 : Cygnet_40
- Track 21 : LittleTokyo_36
- Track 22 : Zhuangyuan_39
- Track 23 : Lunar_38
- Track 24 : Kuleana_37
- Track 25 : PhluffyCoco_36, Rattail_36
- Track 26 : Atlantica_36, Glotell_38, HamCheese_35, Camara_36, RedFox_36, KHumphrey_36, AmiCi24_35, Juno112_35, DanHam62_36
- Track 27 : StuartMinion_30
- Track 28 : Andrew_37
- Track 29 : Babushka_37
- Track 30 : Renna12_35
- Track 31 : Leona_35

- Track 32 : VWB_31
- Track 33 : SPB78_39
- Track 34 : Spooks_10
- Track 35 : Success_11
- Track 36 : E6_28
- Track 37 : B22_29, E1_28, B3_28, Anatole_28
- Track 38 : G4_29
- Track 39 : Doucette_31
- Track 40 : Abscondus_83, Bachita_85, Norvs_84, Smoothie_85, Cucurbita_85, Toniann_84, ClubL_83, Miskis_76, PhinkBoden_83, Engineer_85, Dusty_80, Lozinak_84
- Track 41 : Geeche_82
- Track 42 : Culver_85
- Track 43 : WilliamBoone_83
- Track 44 : Aphelion_83
- Track 45 : Ohgeesy_38, BaxterFox_37, PantheRoc_37
- Track 46 : Madeline_35
- Track 47 : Vasanti_37
- Track 48 : FroggyToad_38
- Track 49 : JCole_37
- Track 50 : Yeezy_36
- Track 51 : Powerball_37
- Track 52 : Suerte_34
- Track 53 : PhriskyACE_36
- Track 54 : Easley_35
- Track 55 : Sidious_37
- Track 56 : JonJames_97, Yvonnetastic_95
- Track 57 : Cardigan_99
- Track 58 : DelRio_40, Pimento_39
- Track 59 : Hamood_39, Chop_39, Parada_39, Nadeem_39, WheatThin_39, Brylie_39, Ayotoya_39, GrandSlam_39, Mulch_39
- Track 60 : NancyRae_39, BetterKatz_39
- Track 61 : Francois_38
- Track 62 : Bock_39
- Track 63 : Kudrefre_6
- Track 64 : Sephiroth_7
- Track 65 : Syleon_7
- Track 66 : DumpsterDude_40
- Track 67 : Ruthy_39
- Track 68 : Zodiariah_37
- Track 69 : ArchiDore_40
- Track 70 : Malibo_40
- Track 71 : ObLaDi_35
- Track 72 : Morgana_35
- Track 73 : Aleemily_34, ModicumRichard_35, Cafasso_35
- Track 74 : Arianna_32, TouchMeNot_32, Poushou_32, Colleen_32
- Track 75 : Bran_28
- Track 76 : Lederberg_27, SamW_27, Troy_27
- Track 77 : StAB_26
- Track 78 : Stiles_27
- Track 79 : Adelaide_25
- Track 80 : Kukla_36
- Track 81 : GUPitcher_34

- Track 82 : TripleJ_37
- Track 83 : MrSmee_34
- Track 84 : Hum25_34
- Track 85 : Skitty_35
- Track 86 : Pitbull_33
- Track 87 : Altostratus_43
- Track 88 : Khuang_45
- Track 89 : Che9c_41
- Track 90 : Sbash_40
- Track 91 : Stuck_46
- Track 92 : Zelink_79
- Track 93 : Dallas_80, NihilNomen_82, Kalah2_76, Bombitas_71, Dove_67, BAKA_86, Phoebus_84, Minerva_84, Duke13_85, JuicyJay_79, Redno2_78, DmpstrDiver_82, Beem_81, Pound_82, Yeet_76, EricMillard_80, ThreeRngTarjay_79, Klein_81, HokkenD_73, Hughesyang_81, Optimus_79, Bagrid_82, Wanda_85, Halley_83, Schatzie_77
- Track 94 : KashFlow_76, Thibault_69, Ejimix_81, Constella_68
- Track 95 : Odette_80
- Track 96 : ThulaThula_35
- Track 97 : Sleepyhead_38
- Track 98 : TPA4_37
- Track 99 : REQ2_38
- Track 100 : OnionKnight_30
- Track 101 : Juicebox_26
- Track 102 : GMA4_29
- Track 103 : VanLee_32

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

The start number called the most often in the published annotations is 34, it was called in 58 of the 144 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Abidatro_34, Amelia_36, AmiCi24_35, Andrew_37, ArchiDore_40, Atlantica_36, Ayotoya_39, Babushka_37, Basilisk_34, BaxterFox_37, Bedetta_40, BetterKatz_39, Bock_39, Brylie_39, Brynnie_33, Camara_36, Chickaboom_35, Chop_39, Colusalem_39, Coral_36, Cote_38, Cygnet_40, DanHam62_36, Daob_38, DelRio_40, DumpsterDude_40, Easley_35, Eesa_33, Francois_38, FroggyToad_38, GMA4_29, Galaxy_33, Glotell_38, GrandSlam_39, Gravel_41, HamCheese_35, Hamood_39, HannahPhantana_37, JCole_37, Jamun_33, Juno112_35, KHumphrey_36, KendraB23_42, Kepler_38, Kuleana_37, Leona_35, LittleTokyo_36, Lunar_38, Madeline_35, Malibo_40, Melons_38, Mulch_39, Nadeem_39, NancyRae_39, Ohgeesy_38, Orcanus_34, OtsoOtso_40, PantheRoc_37, Parada_39, Pelletreau_41, PhluffyCoco_36, PhriskyACE_36, Pimento_39, Polka_36, Powerball_37, Rattail_36, RedFox_36, Renna12_35, Ruchi_33, Ruthy_39, Sidious_37, StuartMinion_30, Suerte_34, TPA4_37, TaylorSipht_34, Toad24_36, VanLee_32, Vasanti_37, Vulpecula_33, Westrich_40, WheatThin_39, Yeezy_36, Zhuangyuan_39, Zodiariah_37,

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

- WileyE_38,

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

- Abscondus_83, Adelaide_25, Aleemily_34, Altostratus_43, Anatole_28, Aphelion_83, Arianna_32, B22_29, B3_28, BAKA_86, Bachita_85, Bagrid_82, Beem_81, Bombitas_71, Bran_28, Cafasso_35, Cardigan_99, Che9c_41, ClubL_83, Colleen_32, Constella_68, Cucurbita_85, Culver_85, Dallas_80, DmpstrDiver_82, Dori_45, Doucette_31, Dove_67, Duke13_85, Dusty_80, E1_28, E6_28, Ejimix_81, Engineer_85, EricMillard_80, G4_29, GUPitcher_34, Geeche_82, Halley_83, HokkenD_73, Hughesyang_81, Hum25_34, JonJames_97, Juicebox_26, JuicyJay_79, Kalah2_76, KashFlow_76, Khuang_45, Klein_81, Kudrefre_6, Kukla_36, Lederberg_27, Lozinak_84, Mao1_43, Mask_46, Minerva_84, Miskis_76, ModicumRichard_35, Morgana_35, MrSmeem_34, NihilNomen_82, Norvs_84, ObLaDi_35, Odette_80, OnionKnight_30, Optimus_79, PhinkBoden_83, Phoebus_84, Pitbull_33, Pound_82, Poushou_32, REQ2_38, Redno2_78, SPB78_39, SamW_27, Sbash_40, Schatzie_77, Sejanus_42, Sephiroth_7, Skitty_35, Sleepyhead_38, Smoothie_85, Spooks_10, StAB_26, Stiles_27, Stuck_46, Success_11, Syleon_7, Thibault_69, ThreeRngTarjay_79, ThulaThula_35, Toniann_84, TouchMeNot_32, TripleJ_37, Troy_27, VWB_31, Wanda_85, WilliamBoone_83, Yeet_76, Yvonnestic_95, Zelink_79,

Summary by start number:

Start 10:

- Found in 3 of 186 (1.6%) of genes in pham
- Manual Annotations of this start: 3 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Lederberg_27 (EP), SamW_27 (EP), Troy_27 (EP),

Start 12:

- Found in 31 of 186 (16.7%) of genes in pham
- Manual Annotations of this start: 28 of 144
- Called 93.5% of time when present
- Phage (with cluster) where this start called: BAKA_86 (J), Bagrid_82 (J), Beem_81 (J), Bombitas_71 (J), Constella_68 (J), Dallas_80 (J), DmpstrDiver_82 (J), Dove_67 (J), Duke13_85 (J), Ejimix_81 (J), EricMillard_80 (J), Halley_83 (J), HokkenD_73 (J), Hughesyang_81 (J), JuicyJay_79 (J), Kalah2_76 (J), KashFlow_76 (J), Klein_81 (J), Minerva_84 (J), NihilNomen_82 (J), Optimus_79 (J), Phoebus_84 (J), Pound_82 (J), Redno2_78 (J), Schatzie_77 (J), Thibault_69 (J), ThreeRngTarjay_79 (J), Wanda_85 (J), Yeet_76 (J),

Start 16:

- Found in 3 of 186 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: OnionKnight_30 (singleton), SPB78_39 (BA), VWB_31 (BA),

Start 17:

- Found in 37 of 186 (19.9%) of genes in pham
- Manual Annotations of this start: 1 of 144
- Called 2.7% of time when present

- Phage (with cluster) where this start called: Zelink_79 (J),

Start 22:

- Found in 6 of 186 (3.2%) of genes in pham
- Manual Annotations of this start: 6 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anatole_28 (BV), B22_29 (BW), B3_28 (BV), E1_28 (BV), E6_28 (BW), G4_29 (BW),

Start 24:

- Found in 1 of 186 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Doucette_31 (BW),

Start 28:

- Found in 31 of 186 (16.7%) of genes in pham
- No Manual Annotations of this start.
- Called 3.2% of time when present
- Phage (with cluster) where this start called: Odette_80 (J),

Start 29:

- Found in 4 of 186 (2.2%) of genes in pham
- Manual Annotations of this start: 4 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Arianna_32 (EO), Colleen_32 (EO), Poushou_32 (EO), TouchMeNot_32 (EO),

Start 31:

- Found in 3 of 186 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 144
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Spooks_10 (BT), Success_11 (BT),

Start 32:

- Found in 6 of 186 (3.2%) of genes in pham
- Manual Annotations of this start: 2 of 144
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Altostratus_43 (FS), Khuang_45 (FS), MrSmeem_34 (FQ), Pitbull_33 (FQ), Skitty_35 (FQ),

Start 33:

- Found in 5 of 186 (2.7%) of genes in pham
- Manual Annotations of this start: 4 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aleemily_34 (DZ), Cafasso_35 (DZ), ModicumRichard_35 (DZ), Morgana_35 (DZ), ObLaDi_35 (DZ),

Start 34:

- Found in 85 of 186 (45.7%) of genes in pham
- Manual Annotations of this start: 58 of 144
- Called 98.8% of time when present

- Phage (with cluster) where this start called: Abidatro_34 (AS1), Amelia_36 (AS2), AmiCi24_35 (AS3), Andrew_37 (AS3), ArchiDore_40 (DW), Atlantica_36 (AS3), Ayotoya_39 (DI), Babushka_37 (AS3), Basilisk_34 (AS1), BaxterFox_37 (CZ3), Bedetta_40 (AS2), BetterKatz_39 (DI), Bock_39 (DI), Brylie_39 (DI), Brynnie_33 (AS1), Camara_36 (AS3), Chickaboom_35 (AS1), Chop_39 (DI), Colusalem_39 (AS2), Coral_36 (AS2), Cote_38 (AS2), Cygnet_40 (AS2), DanHam62_36 (AS3), Daob_38 (AS2), DelRio_40 (DI), DumpsterDude_40 (DW), Easley_35 (CZ4), Eesa_33 (AS1), Francois_38 (DI), FroggyToad_38 (CZ2), GMA4_29 (singleton), Galaxy_33 (AS1), Glotell_38 (AS3), GrandSlam_39 (DI), Gravel_41 (AS1), HamCheese_35 (AS3), Hamood_39 (DI), HannahPhantana_37 (AS2), JCole_37 (CZ2), Jamun_33 (AS1), Juno112_35 (AS3), KHumphrey_36 (AS3), KendraB23_42 (AS1), Kepler_38 (AS2), Kuleana_37 (AS2), Leona_35 (AS3), LittleTokyo_36 (AS2), Lunar_38 (AS2), Madeline_35 (CZ1), Malibo_40 (DW), Melons_38 (AS2), Mulch_39 (DI), Nadeem_39 (DI), NancyRae_39 (DI), Ohgeesy_38 (CZ), Orcanus_34 (AS1), OtsoOtso_40 (AS2), PantheRoc_37 (CZ3), Parada_39 (DI), Pelletreau_41 (AS1), PhluffyCoco_36 (AS3), PhriskyACE_36 (CZ4), Pimento_39 (DI), Polka_36 (AS2), Powerball_37 (CZ4), Rattail_36 (AS3), RedFox_36 (AS3), Renna12_35 (AS3), Ruchi_33 (AS1), Ruthy_39 (DW), Sidious_37 (CZ7), StuartMinion_30 (AS3), Suerte_34 (CZ4), TPA4_37 (singleton), TaylorSipht_34 (AS1), Toad24_36 (AS1), VanLee_32 (singleton), Vasanti_37 (CZ2), Vulpecula_33 (AS1), Westrich_40 (AS1), WheatThin_39 (DI), Yeezy_36 (CZ3), Zhuangyuan_39 (AS2), Zodiariah_37 (DW),

Start 38:

- Found in 9 of 186 (4.8%) of genes in pham
- Manual Annotations of this start: 7 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Che9c_41 (I2), Dori_45 (AD), Mao1_43 (AD), Mask_46 (AD), REQ2_38 (singleton), Sbash_40 (I2), Sejanus_42 (AD), Stuck_46 (I2), ThulaThula_35 (P5),

Start 40:

- Found in 16 of 186 (8.6%) of genes in pham
- Manual Annotations of this start: 14 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus_83 (CQ1), Aphelion_83 (CQ1), Bachita_85 (CQ1), ClubL_83 (CQ1), Cucurbita_85 (CQ1), Culver_85 (CQ1), Dusty_80 (CQ1), Engineer_85 (CQ1), Geeche_82 (CQ1), Lozinak_84 (CQ1), Miskis_76 (CQ1), Norvs_84 (CQ1), PhinkBoden_83 (CQ1), Smoothie_85 (CQ1), Toniann_84 (CQ1), WilliamBoone_83 (CQ1),

Start 41:

- Found in 3 of 186 (1.6%) of genes in pham
- Manual Annotations of this start: 2 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cardigan_99 (DD), JonJames_97 (DD), Yvonnestic_95 (DD),

Start 42:

- Found in 2 of 186 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 144
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Hum25_34 (FQ),

Start 43:

- Found in 6 of 186 (3.2%) of genes in pham
- Manual Annotations of this start: 3 of 144
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Juicebox_26 (singleton), Sleepyhead_38 (singleton), StAB_26 (EP),

Start 44:

- Found in 3 of 186 (1.6%) of genes in pham
- Manual Annotations of this start: 3 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adelaide_25 (EP), Bran_28 (EP), Stiles_27 (EP),

Start 45:

- Found in 3 of 186 (1.6%) of genes in pham
- Manual Annotations of this start: 3 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kudrefre_6 (DU1), Sephiroth_7 (DU1), Syleon_7 (DU1),

Start 52:

- Found in 2 of 186 (1.1%) of genes in pham
- No Manual Annotations of this start.
- Called 50.0% of time when present
- Phage (with cluster) where this start called: WileyE_38 (AS1),

Start 63:

- Found in 3 of 186 (1.6%) of genes in pham
- Manual Annotations of this start: 2 of 144
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GUPitcher_34 (FJ), Kukla_36 (FJ), TripleJ_37 (FJ),

Summary by clusters:

There are 29 clusters represented in this pham: FQ, singleton, FS, BA, DI, CZ2, CZ3, DD, CZ1, CZ7, CZ4, BT, BV, BW, DZ, DW, FJ, AS1, I2, DU1, CQ1, AS3, AS2, EO, AD, P5, J, CZ, EP,

Info for manual annotations of cluster AD:

- Start number 38 was manually annotated 4 times for cluster AD.

Info for manual annotations of cluster AS1:

- Start number 34 was manually annotated 11 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 34 was manually annotated 11 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 34 was manually annotated 7 times for cluster AS3.

Info for manual annotations of cluster BT:

- Start number 31 was manually annotated 1 time for cluster BT.

Info for manual annotations of cluster BV:

- Start number 22 was manually annotated 3 times for cluster BV.

Info for manual annotations of cluster BW:

- Start number 22 was manually annotated 3 times for cluster BW.
- Start number 24 was manually annotated 1 time for cluster BW.

Info for manual annotations of cluster CQ1:

- Start number 40 was manually annotated 14 times for cluster CQ1.

Info for manual annotations of cluster CZ:

- Start number 34 was manually annotated 1 time for cluster CZ.

Info for manual annotations of cluster CZ1:

- Start number 34 was manually annotated 1 time for cluster CZ1.

Info for manual annotations of cluster CZ2:

- Start number 34 was manually annotated 1 time for cluster CZ2.

Info for manual annotations of cluster CZ3:

- Start number 34 was manually annotated 3 times for cluster CZ3.

Info for manual annotations of cluster CZ4:

- Start number 34 was manually annotated 3 times for cluster CZ4.

Info for manual annotations of cluster CZ7:

- Start number 34 was manually annotated 1 time for cluster CZ7.

Info for manual annotations of cluster DD:

- Start number 41 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DI:

- Start number 34 was manually annotated 15 times for cluster DI.

Info for manual annotations of cluster DU1:

- Start number 45 was manually annotated 3 times for cluster DU1.

Info for manual annotations of cluster DW:

- Start number 34 was manually annotated 3 times for cluster DW.

Info for manual annotations of cluster DZ:

- Start number 33 was manually annotated 4 times for cluster DZ.

Info for manual annotations of cluster EO:

- Start number 29 was manually annotated 4 times for cluster EO.

Info for manual annotations of cluster EP:

- Start number 10 was manually annotated 3 times for cluster EP.
- Start number 43 was manually annotated 1 time for cluster EP.
- Start number 44 was manually annotated 3 times for cluster EP.

Info for manual annotations of cluster FJ:

- Start number 63 was manually annotated 2 times for cluster FJ.

Info for manual annotations of cluster FQ:

- Start number 32 was manually annotated 2 times for cluster FQ.
- Start number 42 was manually annotated 1 time for cluster FQ.

Info for manual annotations of cluster I2:

- Start number 38 was manually annotated 2 times for cluster I2.

Info for manual annotations of cluster J:

- Start number 12 was manually annotated 28 times for cluster J.
- Start number 17 was manually annotated 1 time for cluster J.

Info for manual annotations of cluster P5:

- Start number 38 was manually annotated 1 time for cluster P5.

Gene Information:

Gene: Abidatro_34 Start: 24278, Stop: 23067, Start Num: 34

Candidate Starts for Abidatro_34:

(Start: 34 @24278 has 58 MA's), (88, 24059), (97, 24041), (140, 23924), (165, 23849), (174, 23834), (284, 23540), (291, 23519), (304, 23492), (322, 23426), (326, 23414), (335, 23396), (387, 23252), (388, 23243),

Gene: Abscondus_83 Start: 51076, Stop: 52374, Start Num: 40

Candidate Starts for Abscondus_83:

(Start: 40 @51076 has 14 MA's), (55, 51142), (73, 51244), (78, 51271), (81, 51283), (89, 51313), (105, 51352), (110, 51370), (132, 51436), (136, 51445), (162, 51529), (195, 51619), (255, 51778), (259, 51784), (260, 51787), (303, 51913), (321, 51982), (348, 52060), (367, 52111), (381, 52138), (388, 52174), (389, 52177), (390, 52180), (391, 52186), (394, 52198), (396, 52204), (397, 52207), (398, 52210), (403, 52240), (423, 52288), (428, 52297), (439, 52327),

Gene: Adelaide_25 Start: 24090, Stop: 22960, Start Num: 44

Candidate Starts for Adelaide_25:

(Start: 44 @24090 has 3 MA's), (50, 24075), (55, 24051), (80, 23937), (95, 23898), (109, 23856), (118, 23823), (122, 23814), (130, 23787), (139, 23769), (167, 23685), (173, 23670), (190, 23625), (220, 23565), (239, 23523), (242, 23511), (245, 23505), (259, 23484), (280, 23430), (281, 23427), (282, 23424), (290, 23403), (320, 23319), (323, 23313), (331, 23295), (339, 23265), (368, 23208), (386, 23166), (389, 23151), (393, 23136), (394, 23130), (397, 23121), (399, 23112), (405, 23082), (420, 23040), (430, 23019), (432, 23016), (433, 23007), (446, 22980), (449, 22965),

Gene: Aleemily_34 Start: 29847, Stop: 28720, Start Num: 33

Candidate Starts for Aleemily_34:

(1, 30327), (Start: 33 @29847 has 4 MA's), (51, 29793), (70, 29688), (127, 29517), (160, 29427), (180, 29391), (229, 29277), (241, 29238), (256, 29214), (291, 29118), (342, 28986), (359, 28941), (387, 28869), (422, 28743),

Gene: Altostratus_43 Start: 28384, Stop: 27227, Start Num: 32

Candidate Starts for Altostratus_43:

(Start: 32 @28384 has 2 MA's), (49, 28333), (54, 28309), (61, 28264), (77, 28189), (103, 28126), (106, 28117), (142, 28012), (159, 27961), (165, 27949), (172, 27937), (177, 27928), (187, 27907), (209, 27838), (211, 27832), (216, 27823), (245, 27748), (267, 27706), (286, 27649), (290, 27637), (301, 27622), (317, 27568), (324, 27544), (332, 27526), (342, 27505), (350, 27481), (363, 27451), (382, 27400), (387, 27373), (396, 27337), (422, 27247),

Gene: Amelia_36 Start: 24019, Stop: 22832, Start Num: 34

Candidate Starts for Amelia_36:

(8, 24109), (Start: 34 @24019 has 58 MA's), (140, 23665), (165, 23590), (326, 23155), (382, 23020),

Gene: AmiCi24_35 Start: 23912, Stop: 22719, Start Num: 34

Candidate Starts for AmiCi24_35:

(Start: 34 @23912 has 58 MA's), (165, 23483), (192, 23426), (198, 23402), (284, 23174), (326, 23048), (332, 23036), (337, 23015), (388, 22877), (408, 22796), (428, 22748),

Gene: Anatole_28 Start: 21218, Stop: 22537, Start Num: 22

Candidate Starts for Anatole_28:

(3, 21068), (4, 21077), (5, 21116), (6, 21146), (9, 21167), (13, 21185), (Start: 17 @21197 has 1 MA's), (Start: 22 @21218 has 6 MA's), (26, 21227), (56, 21341), (66, 21419), (68, 21425), (92, 21521), (94, 21524), (154, 21716), (227, 21905), (230, 21914), (250, 21968), (307, 22130), (321, 22181), (342, 22238), (387, 22373), (396, 22409), (420, 22496), (422, 22502),

Gene: Andrew_37 Start: 23839, Stop: 22646, Start Num: 34

Candidate Starts for Andrew_37:

(Start: 34 @23839 has 58 MA's), (48, 23794), (198, 23329), (284, 23101), (326, 22975), (332, 22963), (387, 22813), (428, 22675),

Gene: Aphelion_83 Start: 51698, Stop: 52996, Start Num: 40

Candidate Starts for Aphelion_83:

(Start: 40 @51698 has 14 MA's), (55, 51764), (73, 51866), (78, 51893), (81, 51905), (89, 51935), (105, 51974), (110, 51992), (132, 52058), (136, 52067), (162, 52151), (195, 52241), (255, 52400), (259, 52406), (260, 52409), (303, 52535), (321, 52604), (348, 52682), (367, 52733), (381, 52760), (388, 52796), (389, 52799), (391, 52808), (394, 52820), (396, 52826), (397, 52829), (398, 52832), (403, 52862), (423, 52910), (428, 52919), (439, 52949),

Gene: ArchiDore_40 Start: 34244, Stop: 33075, Start Num: 34

Candidate Starts for ArchiDore_40:

(Start: 34 @34244 has 58 MA's), (72, 34082), (163, 33818), (172, 33803), (192, 33758), (207, 33710), (217, 33689), (219, 33686), (236, 33650), (243, 33623), (256, 33602), (287, 33521), (302, 33500), (318, 33443), (342, 33371), (354, 33341), (382, 33284), (384, 33272), (422, 33131), (436, 33092), (440, 33083),

Gene: Arianna_32 Start: 30114, Stop: 28903, Start Num: 29

Candidate Starts for Arianna_32:

(Start: 29 @30114 has 4 MA's), (74, 29940), (115, 29799), (172, 29640), (233, 29490), (272, 29400), (357, 29136), (369, 29100), (377, 29094), (419, 28929), (425, 28914), (427, 28911),

Gene: Atlantica_36 Start: 23914, Stop: 22721, Start Num: 34

Candidate Starts for Atlantica_36:

(Start: 34 @23914 has 58 MA's), (165, 23485), (192, 23428), (198, 23404), (284, 23176), (326, 23050), (332, 23038), (337, 23017), (388, 22879), (408, 22798), (428, 22750),

Gene: Ayotoya_39 Start: 32055, Stop: 30784, Start Num: 34

Candidate Starts for Ayotoya_39:

(Start: 34 @32055 has 58 MA's), (39, 32040), (61, 31938), (70, 31896), (75, 31884), (97, 31809), (121, 31734), (125, 31725), (131, 31707), (172, 31608), (174, 31605), (207, 31515), (253, 31410), (289, 31314), (291, 31308), (342, 31146), (384, 31005), (394, 30960), (406, 30909), (408, 30900), (412, 30885), (418, 30873), (423, 30861), (441, 30822),

Gene: B22_29 Start: 20933, Stop: 22252, Start Num: 22

Candidate Starts for B22_29:

(3, 20783), (4, 20792), (5, 20831), (6, 20861), (9, 20882), (13, 20900), (Start: 17 @20912 has 1 MA's), (Start: 22 @20933 has 6 MA's), (26, 20942), (56, 21056), (66, 21134), (68, 21140), (92, 21236), (94, 21239), (154, 21431), (227, 21620), (230, 21629), (250, 21683), (307, 21845), (321, 21896), (342, 21953), (387, 22088), (396, 22124), (420, 22211), (422, 22217),

Gene: B3_28 Start: 21212, Stop: 22531, Start Num: 22

Candidate Starts for B3_28:

(3, 21062), (4, 21071), (5, 21110), (6, 21140), (9, 21161), (13, 21179), (Start: 17 @21191 has 1 MA's), (Start: 22 @21212 has 6 MA's), (26, 21221), (56, 21335), (66, 21413), (68, 21419), (92, 21515), (94, 21518), (154, 21710), (227, 21899), (230, 21908), (250, 21962), (307, 22124), (321, 22175), (342, 22232), (387, 22367), (396, 22403), (420, 22490), (422, 22496),

Gene: BAKA_86 Start: 53552, Stop: 54781, Start Num: 12

Candidate Starts for BAKA_86:

(Start: 12 @53552 has 28 MA's), (Start: 17 @53570 has 1 MA's), (28, 53609), (92, 53846), (128, 53954), (173, 54074), (175, 54077), (179, 54086), (186, 54101), (195, 54140), (226, 54218), (273, 54323), (276, 54335), (277, 54338), (280, 54347), (301, 54398), (302, 54401), (308, 54419), (344, 54515), (369, 54572), (402, 54692), (403, 54695), (409, 54719), (423, 54743), (424, 54746),

Gene: Babushka_37 Start: 23843, Stop: 22650, Start Num: 34

Candidate Starts for Babushka_37:

(Start: 34 @23843 has 58 MA's), (192, 23357), (198, 23333), (284, 23105), (326, 22979), (332, 22967), (337, 22946), (388, 22808), (428, 22679),

Gene: Bachita_85 Start: 52123, Stop: 53421, Start Num: 40

Candidate Starts for Bachita_85:

(Start: 40 @52123 has 14 MA's), (55, 52189), (73, 52291), (78, 52318), (81, 52330), (89, 52360), (105, 52399), (110, 52417), (132, 52483), (136, 52492), (162, 52576), (195, 52666), (255, 52825), (259, 52831), (260, 52834), (303, 52960), (321, 53029), (348, 53107), (367, 53158), (381, 53185), (388, 53221), (389, 53224), (390, 53227), (391, 53233), (394, 53245), (396, 53251), (397, 53254), (398, 53257), (403, 53287), (423, 53335), (428, 53344), (439, 53374),

Gene: Bagrid_82 Start: 52202, Stop: 53431, Start Num: 12

Candidate Starts for Bagrid_82:

(Start: 12 @52202 has 28 MA's), (Start: 17 @52220 has 1 MA's), (28, 52259), (92, 52496), (128, 52604), (173, 52724), (175, 52727), (179, 52736), (186, 52751), (195, 52790), (226, 52868), (273, 52973), (276, 52985), (277, 52988), (280, 52997), (301, 53048), (302, 53051), (308, 53069), (344, 53165), (369, 53222), (402, 53342), (403, 53345), (409, 53369), (423, 53393), (424, 53396),

Gene: Basilisk_34 Start: 24758, Stop: 23574, Start Num: 34

Candidate Starts for Basilisk_34:

(Start: 34 @24758 has 58 MA's), (88, 24539), (140, 24404), (165, 24329), (174, 24314), (245, 24113), (322, 23906), (326, 23894), (335, 23876), (337, 23861), (382, 23759), (387, 23732), (388, 23723),

Gene: BaxterFox_37 Start: 31379, Stop: 30117, Start Num: 34

Candidate Starts for BaxterFox_37:

(Start: 34 @31379 has 58 MA's), (68, 31223), (127, 31040), (141, 31004), (165, 30944), (172, 30932), (192, 30887), (200, 30854), (219, 30812), (289, 30644), (290, 30641), (315, 30566), (321, 30548), (322, 30545), (342, 30488), (379, 30371), (382, 30359), (394, 30302), (408, 30242), (412, 30227), (418, 30215), (422, 30206), (436, 30167),

Gene: Bedetta_40 Start: 24167, Stop: 22980, Start Num: 34

Candidate Starts for Bedetta_40:

(8, 24257), (Start: 34 @24167 has 58 MA's), (165, 23738), (326, 23303), (382, 23168),

Gene: Beem_81 Start: 53063, Stop: 54292, Start Num: 12

Candidate Starts for Beem_81:

(Start: 12 @53063 has 28 MA's), (Start: 17 @53081 has 1 MA's), (28, 53120), (92, 53357), (128, 53465), (173, 53585), (175, 53588), (179, 53597), (186, 53612), (195, 53651), (226, 53729), (273, 53834), (276, 53846), (277, 53849), (280, 53858), (301, 53909), (302, 53912), (308, 53930), (344, 54026), (369, 54083), (402, 54203), (403, 54206), (409, 54230), (423, 54254), (424, 54257),

Gene: BetterKatz_39 Start: 31582, Stop: 30311, Start Num: 34

Candidate Starts for BetterKatz_39:

(Start: 34 @31582 has 58 MA's), (39, 31567), (61, 31465), (70, 31423), (75, 31411), (97, 31336), (121, 31261), (125, 31252), (131, 31234), (172, 31135), (174, 31132), (207, 31042), (253, 30937), (291, 30835), (297, 30817), (342, 30673), (384, 30532), (394, 30487), (406, 30436), (408, 30427), (418, 30400), (423, 30388), (441, 30349),

Gene: Bock_39 Start: 31274, Stop: 30003, Start Num: 34

Candidate Starts for Bock_39:

(Start: 34 @31274 has 58 MA's), (39, 31259), (61, 31157), (70, 31115), (75, 31103), (97, 31028), (121, 30953), (125, 30944), (131, 30926), (172, 30827), (174, 30824), (207, 30734), (249, 30638), (253, 30629), (284, 30548), (291, 30527), (297, 30509), (318, 30434), (342, 30365), (384, 30224), (394, 30179), (406, 30128), (408, 30119), (418, 30092), (423, 30080), (441, 30041),

Gene: Bombitas_71 Start: 50226, Stop: 51455, Start Num: 12

Candidate Starts for Bombitas_71:

(Start: 12 @50226 has 28 MA's), (Start: 17 @50244 has 1 MA's), (28, 50283), (92, 50520), (128, 50628), (173, 50748), (175, 50751), (179, 50760), (186, 50775), (195, 50814), (226, 50892), (273, 50997), (276, 51009), (277, 51012), (280, 51021), (301, 51072), (302, 51075), (308, 51093), (344, 51189), (369, 51246), (402, 51366), (403, 51369), (409, 51393), (423, 51417), (424, 51420),

Gene: Bran_28 Start: 25552, Stop: 24428, Start Num: 44

Candidate Starts for Bran_28:

(Start: 44 @25552 has 3 MA's), (50, 25537), (55, 25513), (80, 25399), (95, 25360), (109, 25318), (118, 25285), (122, 25276), (130, 25249), (139, 25231), (173, 25132), (183, 25111), (190, 25087), (220, 25027), (239, 24985), (242, 24973), (245, 24967), (259, 24946), (280, 24892), (281, 24889), (282, 24886), (290, 24865), (320, 24781), (323, 24775), (331, 24757), (339, 24727), (368, 24670), (389, 24613), (393, 24598), (394, 24592), (397, 24583), (399, 24574), (400, 24571), (403, 24550), (405, 24544), (409, 24526), (420, 24502), (430, 24481), (432, 24478), (433, 24469),

Gene: Brylie_39 Start: 31322, Stop: 30051, Start Num: 34

Candidate Starts for Brylie_39:

(Start: 34 @31322 has 58 MA's), (39, 31307), (61, 31205), (70, 31163), (75, 31151), (97, 31076), (121, 31001), (125, 30992), (131, 30974), (172, 30875), (174, 30872), (207, 30782), (253, 30677), (289, 30581), (291, 30575), (342, 30413), (384, 30272), (394, 30227), (406, 30176), (408, 30167), (412,

30152), (418, 30140), (423, 30128), (441, 30089),

Gene: Brynnie_33 Start: 24636, Stop: 23452, Start Num: 34

Candidate Starts for Brynnie_33:

(Start: 34 @24636 has 58 MA's), (88, 24417), (140, 24282), (165, 24207), (174, 24192), (245, 23991), (251, 23982), (322, 23784), (326, 23772), (335, 23754), (337, 23739), (382, 23637), (387, 23610), (388, 23601),

Gene: Cafasso_35 Start: 30421, Stop: 29294, Start Num: 33

Candidate Starts for Cafasso_35:

(1, 30901), (Start: 33 @30421 has 4 MA's), (51, 30367), (70, 30262), (127, 30091), (160, 30001), (180, 29965), (229, 29851), (241, 29812), (256, 29788), (291, 29692), (342, 29560), (359, 29515), (387, 29443), (422, 29317),

Gene: Camara_36 Start: 23916, Stop: 22723, Start Num: 34

Candidate Starts for Camara_36:

(Start: 34 @23916 has 58 MA's), (165, 23487), (192, 23430), (198, 23406), (284, 23178), (326, 23052), (332, 23040), (337, 23019), (388, 22881), (408, 22800), (428, 22752),

Gene: Cardigan_99 Start: 58096, Stop: 59343, Start Num: 41

Candidate Starts for Cardigan_99:

(7, 57970), (Start: 41 @58096 has 2 MA's), (73, 58261), (78, 58288), (81, 58300), (98, 58351), (110, 58387), (116, 58405), (136, 58456), (164, 58546), (173, 58567), (213, 58678), (222, 58702), (225, 58711), (231, 58726), (248, 58777), (285, 58861), (309, 58921), (310, 58930), (345, 59038), (359, 59080), (381, 59131), (391, 59179), (397, 59200), (403, 59233), (409, 59254), (425, 59281), (439, 59314),

Gene: Che9c_41 Start: 33550, Stop: 32348, Start Num: 38

Candidate Starts for Che9c_41:

(Start: 38 @33550 has 7 MA's), (55, 33478), (56, 33475), (57, 33457), (59, 33445), (85, 33340), (124, 33229), (125, 33226), (144, 33163), (177, 33082), (194, 33028), (233, 32953), (265, 32878), (284, 32824), (286, 32818), (349, 32641), (351, 32638), (353, 32635), (361, 32614), (374, 32578), (389, 32512), (393, 32497), (408, 32431),

Gene: Chickaboom_35 Start: 24249, Stop: 23065, Start Num: 34

Candidate Starts for Chickaboom_35:

(Start: 34 @24249 has 58 MA's), (52, 24192), (88, 24030), (92, 24021), (140, 23895), (159, 23832), (165, 23820), (174, 23805), (207, 23715), (245, 23604), (284, 23511), (322, 23397), (326, 23385), (335, 23367), (387, 23223), (388, 23214),

Gene: Chop_39 Start: 31803, Stop: 30532, Start Num: 34

Candidate Starts for Chop_39:

(Start: 34 @31803 has 58 MA's), (39, 31788), (61, 31686), (70, 31644), (75, 31632), (97, 31557), (121, 31482), (125, 31473), (131, 31455), (172, 31356), (174, 31353), (207, 31263), (253, 31158), (289, 31062), (291, 31056), (342, 30894), (384, 30753), (394, 30708), (406, 30657), (408, 30648), (412, 30633), (418, 30621), (423, 30609), (441, 30570),

Gene: ClubL_83 Start: 50811, Stop: 52109, Start Num: 40

Candidate Starts for ClubL_83:

(Start: 40 @50811 has 14 MA's), (55, 50877), (73, 50979), (78, 51006), (81, 51018), (89, 51048), (105, 51087), (110, 51105), (132, 51171), (136, 51180), (162, 51264), (195, 51354), (255, 51513), (259, 51519), (260, 51522), (303, 51648), (321, 51717), (348, 51795), (367, 51846), (381, 51873), (388, 51909), (389, 51912), (390, 51915), (391, 51921), (394, 51933), (396, 51939), (397, 51942), (398,

51945), (403, 51975), (423, 52023), (428, 52032), (439, 52062),

Gene: Colleen_32 Start: 30114, Stop: 28903, Start Num: 29

Candidate Starts for Colleen_32:

(Start: 29 @30114 has 4 MA's), (74, 29940), (115, 29799), (172, 29640), (233, 29490), (272, 29400), (357, 29136), (369, 29100), (377, 29094), (419, 28929), (425, 28914), (427, 28911),

Gene: Colusalem_39 Start: 23996, Stop: 22809, Start Num: 34

Candidate Starts for Colusalem_39:

(8, 24086), (Start: 34 @23996 has 58 MA's), (140, 23642), (165, 23567), (326, 23132), (382, 22997),

Gene: Constella_68 Start: 47200, Stop: 48429, Start Num: 12

Candidate Starts for Constella_68:

(Start: 12 @47200 has 28 MA's), (Start: 17 @47218 has 1 MA's), (28, 47257), (92, 47494), (128, 47602), (173, 47722), (175, 47725), (179, 47734), (186, 47749), (195, 47788), (226, 47866), (276, 47983), (277, 47986), (280, 47995), (301, 48046), (302, 48049), (308, 48067), (344, 48163), (369, 48220), (402, 48340), (403, 48343), (409, 48367), (423, 48391), (424, 48394),

Gene: Coral_36 Start: 23868, Stop: 22681, Start Num: 34

Candidate Starts for Coral_36:

(8, 23958), (Start: 34 @23868 has 58 MA's), (165, 23439), (326, 23004), (382, 22869),

Gene: Cote_38 Start: 24345, Stop: 23158, Start Num: 34

Candidate Starts for Cote_38:

(8, 24435), (Start: 34 @24345 has 58 MA's), (165, 23916), (326, 23481), (382, 23346),

Gene: Cucurbita_85 Start: 52630, Stop: 53928, Start Num: 40

Candidate Starts for Cucurbita_85:

(Start: 40 @52630 has 14 MA's), (55, 52696), (73, 52798), (78, 52825), (81, 52837), (89, 52867), (105, 52906), (110, 52924), (132, 52990), (136, 52999), (162, 53083), (195, 53173), (255, 53332), (259, 53338), (260, 53341), (303, 53467), (321, 53536), (348, 53614), (367, 53665), (381, 53692), (388, 53728), (389, 53731), (390, 53734), (391, 53740), (394, 53752), (396, 53758), (397, 53761), (398, 53764), (403, 53794), (423, 53842), (428, 53851), (439, 53881),

Gene: Culver_85 Start: 50733, Stop: 52031, Start Num: 40

Candidate Starts for Culver_85:

(15, 50664), (Start: 40 @50733 has 14 MA's), (69, 50892), (81, 50940), (89, 50970), (105, 51009), (110, 51027), (111, 51033), (136, 51102), (225, 51357), (255, 51435), (259, 51441), (260, 51444), (316, 51621), (321, 51639), (345, 51705), (359, 51744), (367, 51768), (381, 51795), (388, 51831), (389, 51834), (390, 51837), (391, 51843), (394, 51855), (396, 51861), (397, 51864), (398, 51867), (403, 51897), (423, 51945), (428, 51954), (436, 51981), (439, 51984), (443, 51999),

Gene: Cygnet_40 Start: 24788, Stop: 23595, Start Num: 34

Candidate Starts for Cygnet_40:

(Start: 34 @24788 has 58 MA's), (291, 24026), (317, 23951), (326, 23921), (332, 23909),

Gene: Dallas_80 Start: 51984, Stop: 53213, Start Num: 12

Candidate Starts for Dallas_80:

(Start: 12 @51984 has 28 MA's), (Start: 17 @52002 has 1 MA's), (28, 52041), (92, 52278), (128, 52386), (173, 52506), (175, 52509), (179, 52518), (186, 52533), (195, 52572), (226, 52650), (273, 52755), (276, 52767), (277, 52770), (280, 52779), (301, 52830), (302, 52833), (308, 52851), (344, 52947), (369, 53004), (402, 53124), (403, 53127), (409, 53151), (423, 53175), (424, 53178),

Gene: DanHam62_36 Start: 23913, Stop: 22720, Start Num: 34

Candidate Starts for DanHam62_36:

(Start: 34 @23913 has 58 MA's), (165, 23484), (192, 23427), (198, 23403), (284, 23175), (326, 23049), (332, 23037), (337, 23016), (388, 22878), (408, 22797), (428, 22749),

Gene: Daob_38 Start: 24353, Stop: 23166, Start Num: 34

Candidate Starts for Daob_38:

(8, 24443), (Start: 34 @24353 has 58 MA's), (140, 23999), (165, 23924), (326, 23489), (382, 23354),

Gene: DelRio_40 Start: 32511, Stop: 31240, Start Num: 34

Candidate Starts for DelRio_40:

(26, 32535), (Start: 34 @32511 has 58 MA's), (39, 32496), (61, 32394), (70, 32352), (75, 32340), (97, 32265), (121, 32190), (125, 32181), (131, 32163), (172, 32064), (174, 32061), (207, 31971), (249, 31875), (253, 31866), (289, 31770), (297, 31746), (342, 31602), (384, 31461), (394, 31416), (406, 31365), (408, 31356), (412, 31341), (418, 31329), (423, 31317), (441, 31278),

Gene: DmpstrDiver_82 Start: 52410, Stop: 53639, Start Num: 12

Candidate Starts for DmpstrDiver_82:

(Start: 12 @52410 has 28 MA's), (Start: 17 @52428 has 1 MA's), (28, 52467), (92, 52704), (128, 52812), (173, 52932), (175, 52935), (179, 52944), (186, 52959), (195, 52998), (226, 53076), (273, 53181), (276, 53193), (277, 53196), (280, 53205), (301, 53256), (302, 53259), (308, 53277), (344, 53373), (369, 53430), (402, 53550), (403, 53553), (409, 53577), (423, 53601), (424, 53604),

Gene: Dori_45 Start: 42022, Stop: 40820, Start Num: 38

Candidate Starts for Dori_45:

(Start: 38 @42022 has 7 MA's), (56, 41947), (58, 41923), (59, 41917), (85, 41812), (124, 41701), (125, 41698), (144, 41635), (194, 41500), (201, 41479), (233, 41425), (284, 41296), (286, 41290), (349, 41113), (351, 41110), (353, 41107), (361, 41086), (374, 41050), (389, 40984), (393, 40969), (408, 40903), (417, 40879), (431, 40849),

Gene: Doucette_31 Start: 22357, Stop: 23664, Start Num: 24

Candidate Starts for Doucette_31:

(14, 22324), (18, 22336), (Start: 24 @22357 has 1 MA's), (47, 22426), (64, 22528), (71, 22573), (114, 22717), (148, 22831), (156, 22849), (160, 22858), (178, 22897), (184, 22909), (189, 22930), (191, 22933), (208, 22987), (230, 23044), (271, 23146), (299, 23227), (300, 23230), (313, 23287), (315, 23290), (319, 23299), (321, 23308), (322, 23311), (342, 23365), (352, 23392), (370, 23440), (382, 23473), (387, 23500), (392, 23524), (396, 23536), (397, 23539), (409, 23599),

Gene: Dove_67 Start: 48492, Stop: 49721, Start Num: 12

Candidate Starts for Dove_67:

(Start: 12 @48492 has 28 MA's), (Start: 17 @48510 has 1 MA's), (28, 48549), (92, 48786), (128, 48894), (173, 49014), (175, 49017), (179, 49026), (186, 49041), (195, 49080), (226, 49158), (273, 49263), (276, 49275), (277, 49278), (280, 49287), (301, 49338), (302, 49341), (308, 49359), (344, 49455), (369, 49512), (402, 49632), (403, 49635), (409, 49659), (423, 49683), (424, 49686),

Gene: Duke13_85 Start: 52764, Stop: 53993, Start Num: 12

Candidate Starts for Duke13_85:

(Start: 12 @52764 has 28 MA's), (Start: 17 @52782 has 1 MA's), (28, 52821), (92, 53058), (128, 53166), (173, 53286), (175, 53289), (179, 53298), (186, 53313), (195, 53352), (226, 53430), (273, 53535), (276, 53547), (277, 53550), (280, 53559), (301, 53610), (302, 53613), (308, 53631), (344, 53727), (369, 53784), (402, 53904), (403, 53907), (409, 53931), (423, 53955), (424, 53958),

Gene: DumpsterDude_40 Start: 35157, Stop: 33988, Start Num: 34

Candidate Starts for DumpsterDude_40:

(Start: 34 @35157 has 58 MA's), (68, 35001), (97, 34914), (124, 34833), (137, 34797), (152, 34743), (159, 34737), (165, 34725), (172, 34713), (207, 34620), (211, 34614), (223, 34584), (253, 34515), (256, 34512), (269, 34482), (270, 34479), (287, 34431), (315, 34359), (382, 34197), (384, 34185), (389, 34158), (403, 34098), (406, 34089), (422, 34044), (436, 34005),

Gene: Dusty_80 Start: 50323, Stop: 51621, Start Num: 40

Candidate Starts for Dusty_80:

(Start: 40 @50323 has 14 MA's), (55, 50389), (73, 50491), (78, 50518), (81, 50530), (89, 50560), (105, 50599), (110, 50617), (132, 50683), (136, 50692), (162, 50776), (195, 50866), (255, 51025), (259, 51031), (260, 51034), (303, 51160), (321, 51229), (348, 51307), (367, 51358), (381, 51385), (388, 51421), (389, 51424), (390, 51427), (391, 51433), (394, 51445), (396, 51451), (397, 51454), (398, 51457), (403, 51487), (423, 51535), (428, 51544), (439, 51574),

Gene: E1_28 Start: 21218, Stop: 22537, Start Num: 22

Candidate Starts for E1_28:

(3, 21068), (4, 21077), (5, 21116), (6, 21146), (9, 21167), (13, 21185), (Start: 17 @21197 has 1 MA's), (Start: 22 @21218 has 6 MA's), (26, 21227), (56, 21341), (66, 21419), (68, 21425), (92, 21521), (94, 21524), (154, 21716), (227, 21905), (230, 21914), (250, 21968), (307, 22130), (321, 22181), (342, 22238), (387, 22373), (396, 22409), (420, 22496), (422, 22502),

Gene: E6_28 Start: 20940, Stop: 22259, Start Num: 22

Candidate Starts for E6_28:

(3, 20790), (4, 20799), (5, 20838), (6, 20868), (9, 20889), (13, 20907), (Start: 17 @20919 has 1 MA's), (Start: 22 @20940 has 6 MA's), (26, 20949), (56, 21063), (66, 21141), (68, 21147), (92, 21243), (126, 21345), (154, 21438), (156, 21441), (227, 21627), (250, 21690), (307, 21852), (321, 21903), (342, 21960), (387, 22095), (396, 22131), (420, 22218), (422, 22224),

Gene: Easley_35 Start: 28370, Stop: 27201, Start Num: 34

Candidate Starts for Easley_35:

(Start: 34 @28370 has 58 MA's), (97, 28127), (125, 28043), (137, 28010), (165, 27938), (172, 27926), (192, 27881), (207, 27833), (253, 27728), (256, 27725), (269, 27695), (273, 27686), (315, 27572), (340, 27500), (342, 27497), (350, 27473), (354, 27467), (358, 27455), (382, 27410), (384, 27398), (389, 27371), (412, 27278), (422, 27257), (436, 27218),

Gene: Eesa_33 Start: 25111, Stop: 23927, Start Num: 34

Candidate Starts for Eesa_33:

(Start: 34 @25111 has 58 MA's), (88, 24892), (97, 24874), (140, 24757), (174, 24667), (291, 24352), (322, 24259), (326, 24247), (335, 24229), (382, 24112), (388, 24076),

Gene: Ejimix_81 Start: 53852, Stop: 55081, Start Num: 12

Candidate Starts for Ejimix_81:

(Start: 12 @53852 has 28 MA's), (Start: 17 @53870 has 1 MA's), (28, 53909), (92, 54146), (128, 54254), (173, 54374), (175, 54377), (179, 54386), (186, 54401), (195, 54440), (226, 54518), (276, 54635), (277, 54638), (280, 54647), (301, 54698), (302, 54701), (308, 54719), (344, 54815), (369, 54872), (402, 54992), (403, 54995), (409, 55019), (423, 55043), (424, 55046),

Gene: Engineer_85 Start: 52096, Stop: 53394, Start Num: 40

Candidate Starts for Engineer_85:

(Start: 40 @52096 has 14 MA's), (55, 52162), (73, 52264), (78, 52291), (81, 52303), (89, 52333), (105, 52372), (110, 52390), (132, 52456), (136, 52465), (162, 52549), (195, 52639), (255, 52798), (259, 52804), (260, 52807), (303, 52933), (321, 53002), (348, 53080), (367, 53131), (381, 53158), (388, 53194), (389, 53197), (390, 53200), (391, 53206), (394, 53218), (396, 53224), (397, 53227), (398,

53230), (403, 53260), (423, 53308), (428, 53317), (439, 53347),

Gene: EricMillard_80 Start: 53055, Stop: 54284, Start Num: 12

Candidate Starts for EricMillard_80:

(Start: 12 @53055 has 28 MA's), (Start: 17 @53073 has 1 MA's), (28, 53112), (92, 53349), (128, 53457), (173, 53577), (175, 53580), (179, 53589), (186, 53604), (195, 53643), (226, 53721), (273, 53826), (276, 53838), (277, 53841), (280, 53850), (301, 53901), (302, 53904), (308, 53922), (344, 54018), (369, 54075), (402, 54195), (403, 54198), (409, 54222), (423, 54246), (424, 54249),

Gene: Francois_38 Start: 31405, Stop: 30134, Start Num: 34

Candidate Starts for Francois_38:

(Start: 34 @31405 has 58 MA's), (39, 31390), (61, 31288), (70, 31246), (97, 31159), (121, 31084), (125, 31075), (131, 31057), (172, 30958), (174, 30955), (207, 30865), (249, 30769), (289, 30664), (291, 30658), (342, 30496), (384, 30355), (394, 30310), (406, 30259), (412, 30235), (418, 30223), (423, 30211), (441, 30172),

Gene: FroggyToad_38 Start: 30081, Stop: 28912, Start Num: 34

Candidate Starts for FroggyToad_38:

(Start: 34 @30081 has 58 MA's), (97, 29838), (124, 29757), (137, 29721), (144, 29694), (152, 29667), (159, 29661), (165, 29649), (172, 29637), (202, 29553), (207, 29544), (211, 29538), (253, 29439), (256, 29436), (269, 29406), (287, 29355), (315, 29283), (325, 29253), (382, 29121), (384, 29109), (403, 29022), (406, 29013), (422, 28968), (436, 28929),

Gene: G4_29 Start: 21966, Stop: 23285, Start Num: 22

Candidate Starts for G4_29:

(3, 21816), (4, 21825), (5, 21864), (6, 21894), (9, 21915), (13, 21933), (Start: 17 @21945 has 1 MA's), (Start: 22 @21966 has 6 MA's), (26, 21975), (56, 22089), (66, 22167), (68, 22173), (92, 22269), (94, 22272), (154, 22464), (156, 22467), (227, 22653), (250, 22716), (307, 22878), (312, 22902), (321, 22929), (342, 22986), (387, 23121), (396, 23157), (420, 23244), (422, 23250),

Gene: GMA4_29 Start: 26449, Stop: 25217, Start Num: 34

Candidate Starts for GMA4_29:

(Start: 34 @26449 has 58 MA's), (85, 26212), (88, 26203), (90, 26197), (172, 25981), (193, 25924), (227, 25837), (253, 25753), (257, 25747), (273, 25711), (315, 25570), (340, 25498), (387, 25381), (403, 25309), (413, 25276), (415, 25273),

Gene: GUPitcher_34 Start: 28767, Stop: 27628, Start Num: 63

Candidate Starts for GUPitcher_34:

(Start: 63 @28767 has 2 MA's), (76, 28701), (100, 28626), (107, 28605), (120, 28560), (147, 28476), (168, 28419), (176, 28401), (188, 28365), (198, 28335), (206, 28320), (210, 28308), (220, 28287), (234, 28251), (235, 28248), (240, 28227), (261, 28185), (263, 28182), (273, 28158), (285, 28119), (291, 28101), (326, 27993), (345, 27942), (371, 27870), (393, 27801), (394, 27795), (395, 27792), (437, 27660), (440, 27654),

Gene: Galaxy_33 Start: 24046, Stop: 22862, Start Num: 34

Candidate Starts for Galaxy_33:

(Start: 34 @24046 has 58 MA's), (140, 23692), (165, 23617), (174, 23602), (284, 23308), (291, 23287), (304, 23260), (322, 23194), (326, 23182), (335, 23164), (387, 23020), (388, 23011),

Gene: Geeche_82 Start: 51160, Stop: 52458, Start Num: 40

Candidate Starts for Geeche_82:

(Start: 40 @51160 has 14 MA's), (55, 51226), (73, 51328), (78, 51355), (81, 51367), (84, 51385), (89, 51397), (105, 51436), (110, 51454), (132, 51520), (136, 51529), (162, 51613), (195, 51703), (255,

51862), (259, 51868), (260, 51871), (303, 51997), (321, 52066), (348, 52144), (367, 52195), (381, 52222), (388, 52258), (389, 52261), (390, 52264), (391, 52270), (394, 52282), (396, 52288), (397, 52291), (398, 52294), (403, 52324), (423, 52372), (428, 52381), (439, 52411),

Gene: Glotell_38 Start: 24072, Stop: 22879, Start Num: 34

Candidate Starts for Glotell_38:

(Start: 34 @24072 has 58 MA's), (165, 23643), (192, 23586), (198, 23562), (284, 23334), (326, 23208), (332, 23196), (337, 23175), (388, 23037), (408, 22956), (428, 22908),

Gene: GrandSlam_39 Start: 31803, Stop: 30532, Start Num: 34

Candidate Starts for GrandSlam_39:

(Start: 34 @31803 has 58 MA's), (39, 31788), (61, 31686), (70, 31644), (75, 31632), (97, 31557), (121, 31482), (125, 31473), (131, 31455), (172, 31356), (174, 31353), (207, 31263), (253, 31158), (289, 31062), (291, 31056), (342, 30894), (384, 30753), (394, 30708), (406, 30657), (408, 30648), (412, 30633), (418, 30621), (423, 30609), (441, 30570),

Gene: Gravel_41 Start: 25089, Stop: 23905, Start Num: 34

Candidate Starts for Gravel_41:

(Start: 34 @25089 has 58 MA's), (88, 24870), (97, 24852), (140, 24735), (165, 24660), (291, 24330), (322, 24237), (326, 24225), (335, 24207), (382, 24090), (388, 24054),

Gene: Halley_83 Start: 53063, Stop: 54292, Start Num: 12

Candidate Starts for Halley_83:

(Start: 12 @53063 has 28 MA's), (Start: 17 @53081 has 1 MA's), (28, 53120), (92, 53357), (128, 53465), (173, 53585), (175, 53588), (179, 53597), (186, 53612), (195, 53651), (226, 53729), (273, 53834), (276, 53846), (277, 53849), (280, 53858), (301, 53909), (302, 53912), (308, 53930), (344, 54026), (369, 54083), (402, 54203), (403, 54206), (409, 54230), (423, 54254), (424, 54257),

Gene: HamCheese_35 Start: 23900, Stop: 22707, Start Num: 34

Candidate Starts for HamCheese_35:

(Start: 34 @23900 has 58 MA's), (165, 23471), (192, 23414), (198, 23390), (284, 23162), (326, 23036), (332, 23024), (337, 23003), (388, 22865), (408, 22784), (428, 22736),

Gene: Hamood_39 Start: 31803, Stop: 30532, Start Num: 34

Candidate Starts for Hamood_39:

(Start: 34 @31803 has 58 MA's), (39, 31788), (61, 31686), (70, 31644), (75, 31632), (97, 31557), (121, 31482), (125, 31473), (131, 31455), (172, 31356), (174, 31353), (207, 31263), (253, 31158), (289, 31062), (291, 31056), (342, 30894), (384, 30753), (394, 30708), (406, 30657), (408, 30648), (412, 30633), (418, 30621), (423, 30609), (441, 30570),

Gene: HannahPhantana_37 Start: 24015, Stop: 22828, Start Num: 34

Candidate Starts for HannahPhantana_37:

(8, 24105), (Start: 34 @24015 has 58 MA's), (165, 23586), (326, 23151), (382, 23016),

Gene: HokkenD_73 Start: 51332, Stop: 52561, Start Num: 12

Candidate Starts for HokkenD_73:

(Start: 12 @51332 has 28 MA's), (Start: 17 @51350 has 1 MA's), (28, 51389), (92, 51626), (128, 51734), (173, 51854), (175, 51857), (179, 51866), (186, 51881), (195, 51920), (226, 51998), (273, 52103), (276, 52115), (277, 52118), (280, 52127), (301, 52178), (302, 52181), (308, 52199), (344, 52295), (369, 52352), (402, 52472), (403, 52475), (409, 52499), (423, 52523), (424, 52526),

Gene: Hughesyang_81 Start: 53021, Stop: 54250, Start Num: 12

Candidate Starts for Hughesyang_81:

(Start: 12 @53021 has 28 MA's), (Start: 17 @53039 has 1 MA's), (28, 53078), (92, 53315), (128, 53423), (173, 53543), (175, 53546), (179, 53555), (186, 53570), (195, 53609), (226, 53687), (273, 53792), (276, 53804), (277, 53807), (280, 53816), (301, 53867), (302, 53870), (308, 53888), (344, 53984), (369, 54041), (402, 54161), (403, 54164), (409, 54188), (423, 54212), (424, 54215),

Gene: Hum25_34 Start: 25182, Stop: 24091, Start Num: 42

Candidate Starts for Hum25_34:

(Start: 32 @25206 has 2 MA's), (Start: 42 @25182 has 1 MA's), (82, 25011), (91, 24984), (108, 24945), (131, 24876), (140, 24855), (142, 24846), (163, 24789), (171, 24777), (172, 24774), (177, 24765), (183, 24753), (201, 24693), (205, 24684), (216, 24669), (245, 24603), (262, 24570), (274, 24543), (291, 24489), (304, 24468), (317, 24420), (318, 24417), (321, 24405), (324, 24396), (332, 24378), (334, 24375), (336, 24369), (342, 24357), (356, 24324), (382, 24270), (387, 24243), (403, 24171), (422, 24117),

Gene: JCole_37 Start: 29060, Stop: 27801, Start Num: 34

Candidate Starts for JCole_37:

(Start: 34 @29060 has 58 MA's), (125, 28730), (141, 28685), (165, 28625), (172, 28613), (192, 28568), (219, 28496), (289, 28328), (290, 28325), (321, 28232), (342, 28172), (379, 28055), (382, 28043), (387, 28016), (394, 27986), (408, 27926), (412, 27911), (418, 27899), (422, 27890), (436, 27851),

Gene: Jamun_33 Start: 24299, Stop: 23115, Start Num: 34

Candidate Starts for Jamun_33:

(Start: 34 @24299 has 58 MA's), (88, 24080), (92, 24071), (140, 23945), (174, 23855), (322, 23447), (326, 23435), (335, 23417), (387, 23273), (388, 23264),

Gene: JonJames_97 Start: 58289, Stop: 59536, Start Num: 41

Candidate Starts for JonJames_97:

(7, 58163), (Start: 41 @58289 has 2 MA's), (73, 58454), (81, 58493), (98, 58544), (110, 58580), (116, 58598), (136, 58649), (145, 58685), (164, 58739), (173, 58760), (213, 58871), (222, 58895), (225, 58904), (231, 58919), (248, 58970), (285, 59054), (310, 59123), (345, 59231), (359, 59273), (381, 59324), (391, 59372), (397, 59393), (403, 59426), (409, 59447), (425, 59474), (439, 59507),

Gene: Juicebox_26 Start: 25055, Stop: 23880, Start Num: 43

Candidate Starts for Juicebox_26:

(Start: 43 @25055 has 3 MA's), (53, 25028), (76, 24917), (104, 24833), (122, 24773), (129, 24749), (155, 24671), (165, 24650), (169, 24641), (203, 24545), (215, 24518), (228, 24485), (247, 24428), (252, 24419), (258, 24410), (261, 24401), (263, 24398), (266, 24392), (270, 24380), (295, 24314), (314, 24266), (325, 24242), (339, 24200), (341, 24197), (343, 24194), (355, 24173), (372, 24125), (385, 24092), (393, 24053), (397, 24038), (403, 24005), (434, 23921), (445, 23897),

Gene: JuicyJay_79 Start: 54197, Stop: 55426, Start Num: 12

Candidate Starts for JuicyJay_79:

(Start: 12 @54197 has 28 MA's), (Start: 17 @54215 has 1 MA's), (28, 54254), (92, 54491), (128, 54599), (173, 54719), (175, 54722), (179, 54731), (186, 54746), (195, 54785), (226, 54863), (273, 54968), (276, 54980), (277, 54983), (280, 54992), (301, 55043), (302, 55046), (308, 55064), (344, 55160), (369, 55217), (402, 55337), (403, 55340), (409, 55364), (423, 55388), (424, 55391),

Gene: Juno112_35 Start: 23916, Stop: 22723, Start Num: 34

Candidate Starts for Juno112_35:

(Start: 34 @23916 has 58 MA's), (165, 23487), (192, 23430), (198, 23406), (284, 23178), (326, 23052), (332, 23040), (337, 23019), (388, 22881), (408, 22800), (428, 22752),

Gene: KHumphrey_36 Start: 23915, Stop: 22722, Start Num: 34

Candidate Starts for KHumphrey_36:

(Start: 34 @23915 has 58 MA's), (165, 23486), (192, 23429), (198, 23405), (284, 23177), (326, 23051), (332, 23039), (337, 23018), (388, 22880), (408, 22799), (428, 22751),

Gene: Kalah2_76 Start: 52356, Stop: 53585, Start Num: 12

Candidate Starts for Kalah2_76:

(Start: 12 @52356 has 28 MA's), (Start: 17 @52374 has 1 MA's), (28, 52413), (92, 52650), (128, 52758), (173, 52878), (175, 52881), (179, 52890), (186, 52905), (195, 52944), (226, 53022), (273, 53127), (276, 53139), (277, 53142), (280, 53151), (301, 53202), (302, 53205), (308, 53223), (344, 53319), (369, 53376), (402, 53496), (403, 53499), (409, 53523), (423, 53547), (424, 53550),

Gene: KashFlow_76 Start: 48091, Stop: 49320, Start Num: 12

Candidate Starts for KashFlow_76:

(Start: 12 @48091 has 28 MA's), (Start: 17 @48109 has 1 MA's), (28, 48148), (92, 48385), (128, 48493), (173, 48613), (175, 48616), (179, 48625), (186, 48640), (195, 48679), (226, 48757), (276, 48874), (277, 48877), (280, 48886), (301, 48937), (302, 48940), (308, 48958), (344, 49054), (369, 49111), (402, 49231), (403, 49234), (409, 49258), (423, 49282), (424, 49285),

Gene: KendraB23_42 Start: 25277, Stop: 24093, Start Num: 34

Candidate Starts for KendraB23_42:

(Start: 34 @25277 has 58 MA's), (88, 25058), (97, 25040), (140, 24923), (165, 24848), (169, 24845), (291, 24518), (322, 24425), (326, 24413), (335, 24395), (382, 24278), (388, 24242),

Gene: Kepler_38 Start: 24761, Stop: 23574, Start Num: 34

Candidate Starts for Kepler_38:

(8, 24851), (Start: 34 @24761 has 58 MA's), (140, 24407), (165, 24332), (326, 23897), (382, 23762), (421, 23612),

Gene: Khuang_45 Start: 28583, Stop: 27426, Start Num: 32

Candidate Starts for Khuang_45:

(Start: 32 @28583 has 2 MA's), (49, 28532), (54, 28508), (77, 28388), (91, 28349), (101, 28331), (103, 28325), (106, 28316), (125, 28259), (159, 28160), (172, 28136), (177, 28127), (209, 28037), (211, 28031), (216, 28022), (267, 27905), (290, 27836), (317, 27767), (332, 27725), (340, 27707), (342, 27704), (350, 27680), (363, 27650), (382, 27599), (395, 27539), (396, 27536), (422, 27446),

Gene: Klein_81 Start: 51782, Stop: 53011, Start Num: 12

Candidate Starts for Klein_81:

(Start: 12 @51782 has 28 MA's), (Start: 17 @51800 has 1 MA's), (28, 51839), (92, 52076), (128, 52184), (173, 52304), (175, 52307), (179, 52316), (186, 52331), (195, 52370), (226, 52448), (273, 52553), (276, 52565), (277, 52568), (280, 52577), (301, 52628), (302, 52631), (308, 52649), (344, 52745), (369, 52802), (402, 52922), (403, 52925), (409, 52949), (423, 52973), (424, 52976),

Gene: Kudrefre_6 Start: 2520, Stop: 1432, Start Num: 45

Candidate Starts for Kudrefre_6:

(11, 2625), (37, 2541), (Start: 45 @2520 has 3 MA's), (87, 2349), (118, 2259), (126, 2235), (222, 1983), (242, 1950), (265, 1908), (273, 1893), (279, 1872), (282, 1863), (283, 1857), (314, 1773), (322, 1758), (356, 1671), (366, 1638), (396, 1545), (402, 1512), (405, 1503), (407, 1497),

Gene: Kukla_36 Start: 28255, Stop: 27116, Start Num: 63

Candidate Starts for Kukla_36:

(Start: 63 @28255 has 2 MA's), (76, 28189), (100, 28114), (107, 28093), (120, 28048), (147, 27964), (168, 27907), (176, 27889), (188, 27853), (198, 27823), (206, 27808), (210, 27796), (220, 27775), (234, 27739), (235, 27736), (240, 27715), (261, 27673), (263, 27670), (273, 27646), (291, 27589),

(326, 27481), (345, 27430), (371, 27358), (393, 27289), (395, 27280), (437, 27148), (440, 27142),

Gene: Kuleana_37 Start: 24189, Stop: 23008, Start Num: 34

Candidate Starts for Kuleana_37:

(Start: 34 @24189 has 58 MA's), (134, 23850), (326, 23325),

Gene: Lederberg_27 Start: 25613, Stop: 24285, Start Num: 10

Candidate Starts for Lederberg_27:

(Start: 10 @25613 has 3 MA's), (19, 25577), (21, 25568), (Start: 43 @25511 has 3 MA's), (100, 25301), (102, 25298), (133, 25199), (140, 25181), (162, 25115), (165, 25109), (170, 25097), (231, 24932), (246, 24887), (258, 24866), (263, 24854), (273, 24830), (280, 24806), (282, 24800), (298, 24764), (327, 24668), (347, 24611), (364, 24566), (376, 24542), (382, 24527), (396, 24461), (397, 24458), (401, 24431), (407, 24413), (432, 24353), (449, 24299),

Gene: Leona_35 Start: 23984, Stop: 22791, Start Num: 34

Candidate Starts for Leona_35:

(Start: 34 @23984 has 58 MA's), (61, 23870), (165, 23555), (284, 23246), (326, 23120), (332, 23108), (337, 23087), (428, 22820),

Gene: LittleTokyo_36 Start: 23859, Stop: 22669, Start Num: 34

Candidate Starts for LittleTokyo_36:

(Start: 34 @23859 has 58 MA's), (165, 23427), (284, 23118), (326, 22992), (332, 22980), (423, 22701),

Gene: Lozinak_84 Start: 51934, Stop: 53232, Start Num: 40

Candidate Starts for Lozinak_84:

(Start: 40 @51934 has 14 MA's), (55, 52000), (73, 52102), (78, 52129), (81, 52141), (89, 52171), (105, 52210), (110, 52228), (132, 52294), (136, 52303), (162, 52387), (195, 52477), (255, 52636), (259, 52642), (260, 52645), (303, 52771), (321, 52840), (348, 52918), (367, 52969), (381, 52996), (388, 53032), (389, 53035), (390, 53038), (391, 53044), (394, 53056), (396, 53062), (397, 53065), (398, 53068), (403, 53098), (423, 53146), (428, 53155), (439, 53185),

Gene: Lunar_38 Start: 24679, Stop: 23492, Start Num: 34

Candidate Starts for Lunar_38:

(8, 24769), (Start: 34 @24679 has 58 MA's), (326, 23815), (382, 23680), (429, 23512),

Gene: Madeline_35 Start: 31541, Stop: 30279, Start Num: 34

Candidate Starts for Madeline_35:

(Start: 34 @31541 has 58 MA's), (68, 31385), (127, 31202), (141, 31166), (165, 31106), (172, 31094), (192, 31049), (200, 31016), (219, 30974), (269, 30860), (289, 30806), (290, 30803), (315, 30728), (321, 30710), (322, 30707), (342, 30650), (379, 30533), (382, 30521), (389, 30482), (394, 30464), (408, 30404), (412, 30389), (418, 30377), (422, 30368), (436, 30329), (448, 30299),

Gene: Malibo_40 Start: 32774, Stop: 31605, Start Num: 34

Candidate Starts for Malibo_40:

(Start: 34 @32774 has 58 MA's), (125, 32450), (131, 32432), (165, 32345), (172, 32333), (192, 32288), (207, 32240), (211, 32234), (217, 32219), (219, 32216), (223, 32204), (256, 32132), (287, 32051), (342, 31901), (354, 31871), (382, 31814), (384, 31802), (389, 31775), (412, 31682), (422, 31661), (436, 31622), (440, 31613),

Gene: Mao1_43 Start: 40085, Stop: 38883, Start Num: 38

Candidate Starts for Mao1_43:

(Start: 38 @40085 has 7 MA's), (56, 40010), (58, 39986), (59, 39980), (85, 39875), (124, 39764), (125, 39761), (144, 39698), (194, 39563), (201, 39542), (233, 39488), (265, 39413), (286, 39353), (351,

39173), (353, 39170), (361, 39149), (389, 39047), (393, 39032), (408, 38966), (417, 38942), (431, 38912),

Gene: Mask_46 Start: 43255, Stop: 42053, Start Num: 38

Candidate Starts for Mask_46:

(Start: 38 @43255 has 7 MA's), (56, 43180), (58, 43156), (59, 43150), (85, 43045), (124, 42934), (125, 42931), (144, 42868), (194, 42733), (201, 42712), (233, 42658), (284, 42529), (286, 42523), (349, 42346), (351, 42343), (353, 42340), (361, 42319), (374, 42283), (389, 42217), (393, 42202), (408, 42136), (417, 42112), (431, 42082),

Gene: Melons_38 Start: 24495, Stop: 23308, Start Num: 34

Candidate Starts for Melons_38:

(8, 24585), (Start: 34 @24495 has 58 MA's), (140, 24141), (159, 24078), (165, 24066), (326, 23631), (382, 23496), (384, 23484), (429, 23328),

Gene: Minerva_84 Start: 53196, Stop: 54425, Start Num: 12

Candidate Starts for Minerva_84:

(Start: 12 @53196 has 28 MA's), (Start: 17 @53214 has 1 MA's), (28, 53253), (92, 53490), (128, 53598), (173, 53718), (175, 53721), (179, 53730), (186, 53745), (195, 53784), (226, 53862), (273, 53967), (276, 53979), (277, 53982), (280, 53991), (301, 54042), (302, 54045), (308, 54063), (344, 54159), (369, 54216), (402, 54336), (403, 54339), (409, 54363), (423, 54387), (424, 54390),

Gene: Miskis_76 Start: 49839, Stop: 51137, Start Num: 40

Candidate Starts for Miskis_76:

(Start: 40 @49839 has 14 MA's), (55, 49905), (73, 50007), (78, 50034), (81, 50046), (89, 50076), (105, 50115), (110, 50133), (132, 50199), (136, 50208), (162, 50292), (195, 50382), (255, 50541), (259, 50547), (260, 50550), (303, 50676), (321, 50745), (348, 50823), (367, 50874), (381, 50901), (388, 50937), (389, 50940), (390, 50943), (391, 50949), (394, 50961), (396, 50967), (397, 50970), (398, 50973), (403, 51003), (423, 51051), (428, 51060), (439, 51090),

Gene: ModicumRichard_35 Start: 30420, Stop: 29293, Start Num: 33

Candidate Starts for ModicumRichard_35:

(1, 30900), (Start: 33 @30420 has 4 MA's), (51, 30366), (70, 30261), (127, 30090), (160, 30000), (180, 29964), (229, 29850), (241, 29811), (256, 29787), (291, 29691), (342, 29559), (359, 29514), (387, 29442), (422, 29316),

Gene: Morgana_35 Start: 30175, Stop: 29048, Start Num: 33

Candidate Starts for Morgana_35:

(1, 30832), (2, 30778), (Start: 33 @30175 has 4 MA's), (51, 30121), (127, 29845), (160, 29755), (180, 29719), (229, 29605), (241, 29566), (256, 29542), (291, 29446), (342, 29314), (359, 29269), (387, 29197), (422, 29071),

Gene: MrSmee_34 Start: 25508, Stop: 24390, Start Num: 32

Candidate Starts for MrSmee_34:

(Start: 32 @25508 has 2 MA's), (82, 25313), (93, 25283), (96, 25277), (108, 25247), (117, 25211), (131, 25178), (134, 25172), (140, 25157), (142, 25148), (163, 25091), (171, 25079), (172, 25076), (177, 25067), (183, 25055), (187, 25046), (205, 24986), (216, 24971), (245, 24905), (253, 24890), (262, 24872), (273, 24848), (274, 24845), (290, 24794), (304, 24770), (317, 24722), (321, 24707), (328, 24686), (332, 24680), (342, 24659), (422, 24419),

Gene: Mulch_39 Start: 31322, Stop: 30051, Start Num: 34

Candidate Starts for Mulch_39:

(Start: 34 @31322 has 58 MA's), (39, 31307), (61, 31205), (70, 31163), (75, 31151), (97, 31076), (121, 31001), (125, 30992), (131, 30974), (172, 30875), (174, 30872), (207, 30782), (253, 30677), (289, 30581), (291, 30575), (342, 30413), (384, 30272), (394, 30227), (406, 30176), (408, 30167), (412, 30152), (418, 30140), (423, 30128), (441, 30089),

Gene: Nadeem_39 Start: 31322, Stop: 30051, Start Num: 34

Candidate Starts for Nadeem_39:

(Start: 34 @31322 has 58 MA's), (39, 31307), (61, 31205), (70, 31163), (75, 31151), (97, 31076), (121, 31001), (125, 30992), (131, 30974), (172, 30875), (174, 30872), (207, 30782), (253, 30677), (289, 30581), (291, 30575), (342, 30413), (384, 30272), (394, 30227), (406, 30176), (408, 30167), (412, 30152), (418, 30140), (423, 30128), (441, 30089),

Gene: NancyRae_39 Start: 31331, Stop: 30060, Start Num: 34

Candidate Starts for NancyRae_39:

(Start: 34 @31331 has 58 MA's), (39, 31316), (61, 31214), (70, 31172), (75, 31160), (97, 31085), (121, 31010), (125, 31001), (131, 30983), (172, 30884), (174, 30881), (207, 30791), (253, 30686), (291, 30584), (297, 30566), (342, 30422), (384, 30281), (394, 30236), (406, 30185), (408, 30176), (418, 30149), (423, 30137), (441, 30098),

Gene: NihilNomen_82 Start: 53150, Stop: 54379, Start Num: 12

Candidate Starts for NihilNomen_82:

(Start: 12 @53150 has 28 MA's), (Start: 17 @53168 has 1 MA's), (28, 53207), (92, 53444), (128, 53552), (173, 53672), (175, 53675), (179, 53684), (186, 53699), (195, 53738), (226, 53816), (273, 53921), (276, 53933), (277, 53936), (280, 53945), (301, 53996), (302, 53999), (308, 54017), (344, 54113), (369, 54170), (402, 54290), (403, 54293), (409, 54317), (423, 54341), (424, 54344),

Gene: Norvs_84 Start: 51343, Stop: 52641, Start Num: 40

Candidate Starts for Norvs_84:

(Start: 40 @51343 has 14 MA's), (55, 51409), (73, 51511), (78, 51538), (81, 51550), (89, 51580), (105, 51619), (110, 51637), (132, 51703), (136, 51712), (162, 51796), (195, 51886), (255, 52045), (259, 52051), (260, 52054), (303, 52180), (321, 52249), (348, 52327), (367, 52378), (381, 52405), (388, 52441), (389, 52444), (390, 52447), (391, 52453), (394, 52465), (396, 52471), (397, 52474), (398, 52477), (403, 52507), (423, 52555), (428, 52564), (439, 52594),

Gene: ObLaDi_35 Start: 30398, Stop: 29271, Start Num: 33

Candidate Starts for ObLaDi_35:

(Start: 33 @30398 has 4 MA's), (51, 30344), (70, 30239), (127, 30068), (160, 29978), (180, 29942), (241, 29789), (256, 29765), (291, 29669), (342, 29537), (359, 29492), (387, 29420), (422, 29294),

Gene: Odette_80 Start: 52249, Stop: 53421, Start Num: 28

Candidate Starts for Odette_80:

(Start: 12 @52192 has 28 MA's), (Start: 17 @52210 has 1 MA's), (28, 52249), (92, 52486), (128, 52594), (173, 52714), (175, 52717), (179, 52726), (186, 52741), (195, 52780), (226, 52858), (273, 52963), (276, 52975), (277, 52978), (280, 52987), (301, 53038), (302, 53041), (308, 53059), (344, 53155), (369, 53212), (402, 53332), (403, 53335), (409, 53359), (423, 53383), (424, 53386),

Gene: Ohgeesy_38 Start: 32336, Stop: 31074, Start Num: 34

Candidate Starts for Ohgeesy_38:

(Start: 34 @32336 has 58 MA's), (68, 32180), (127, 31997), (141, 31961), (165, 31901), (172, 31889), (192, 31844), (200, 31811), (219, 31769), (289, 31601), (290, 31598), (315, 31523), (321, 31505), (322, 31502), (342, 31445), (379, 31328), (382, 31316), (394, 31259), (408, 31199), (412, 31184), (418, 31172), (422, 31163), (436, 31124),

Gene: OnionKnight_30 Start: 24231, Stop: 22948, Start Num: 16

Candidate Starts for OnionKnight_30:

(Start: 16 @24231 has 1 MA's), (35, 24165), (74, 24003), (107, 23898), (143, 23781), (149, 23754), (158, 23733), (166, 23718), (216, 23586), (233, 23544), (265, 23478), (268, 23469), (288, 23418), (294, 23400), (305, 23370), (308, 23361), (313, 23331), (333, 23286), (365, 23193), (383, 23151), (386, 23133), (389, 23118), (397, 23088), (400, 23076), (404, 23052), (414, 23019), (421, 23007), (424, 22998), (426, 22995), (442, 22953),

Gene: Optimus_79 Start: 51901, Stop: 53130, Start Num: 12

Candidate Starts for Optimus_79:

(Start: 12 @51901 has 28 MA's), (Start: 17 @51919 has 1 MA's), (28, 51958), (92, 52195), (128, 52303), (173, 52423), (175, 52426), (179, 52435), (186, 52450), (195, 52489), (226, 52567), (273, 52672), (276, 52684), (277, 52687), (280, 52696), (301, 52747), (302, 52750), (308, 52768), (344, 52864), (369, 52921), (402, 53041), (403, 53044), (409, 53068), (423, 53092), (424, 53095),

Gene: Orcanus_34 Start: 24639, Stop: 23455, Start Num: 34

Candidate Starts for Orcanus_34:

(Start: 34 @24639 has 58 MA's), (88, 24420), (97, 24402), (140, 24285), (165, 24210), (172, 24198), (291, 23880), (322, 23787), (326, 23775), (335, 23757), (382, 23640), (388, 23604),

Gene: OtsoOtso_40 Start: 23869, Stop: 22682, Start Num: 34

Candidate Starts for OtsoOtso_40:

(8, 23959), (Start: 34 @23869 has 58 MA's), (165, 23440), (326, 23005), (382, 22870),

Gene: PantheRoc_37 Start: 30354, Stop: 29092, Start Num: 34

Candidate Starts for PantheRoc_37:

(Start: 34 @30354 has 58 MA's), (68, 30198), (127, 30015), (141, 29979), (165, 29919), (172, 29907), (192, 29862), (200, 29829), (219, 29787), (289, 29619), (290, 29616), (315, 29541), (321, 29523), (322, 29520), (342, 29463), (379, 29346), (382, 29334), (394, 29277), (408, 29217), (412, 29202), (418, 29190), (422, 29181), (436, 29142),

Gene: Parada_39 Start: 31322, Stop: 30051, Start Num: 34

Candidate Starts for Parada_39:

(Start: 34 @31322 has 58 MA's), (39, 31307), (61, 31205), (70, 31163), (75, 31151), (97, 31076), (121, 31001), (125, 30992), (131, 30974), (172, 30875), (174, 30872), (207, 30782), (253, 30677), (289, 30581), (291, 30575), (342, 30413), (384, 30272), (394, 30227), (406, 30176), (408, 30167), (412, 30152), (418, 30140), (423, 30128), (441, 30089),

Gene: Pelletreau_41 Start: 25089, Stop: 23905, Start Num: 34

Candidate Starts for Pelletreau_41:

(Start: 34 @25089 has 58 MA's), (88, 24870), (97, 24852), (140, 24735), (165, 24660), (291, 24330), (322, 24237), (326, 24225), (335, 24207), (382, 24090), (388, 24054),

Gene: PhinkBoden_83 Start: 51724, Stop: 53022, Start Num: 40

Candidate Starts for PhinkBoden_83:

(Start: 40 @51724 has 14 MA's), (55, 51790), (73, 51892), (78, 51919), (81, 51931), (89, 51961), (105, 52000), (110, 52018), (132, 52084), (136, 52093), (162, 52177), (195, 52267), (255, 52426), (259, 52432), (260, 52435), (303, 52561), (321, 52630), (348, 52708), (367, 52759), (381, 52786), (388, 52822), (389, 52825), (390, 52828), (391, 52834), (394, 52846), (396, 52852), (397, 52855), (398, 52858), (403, 52888), (423, 52936), (428, 52945), (439, 52975),

Gene: PhluffyCoco_36 Start: 23912, Stop: 22719, Start Num: 34

Candidate Starts for PhluffyCoco_36:

(Start: 34 @23912 has 58 MA's), (165, 23483), (192, 23426), (284, 23174), (326, 23048), (332, 23036), (388, 22877), (408, 22796), (428, 22748),

Gene: Phoebus_84 Start: 54332, Stop: 55561, Start Num: 12

Candidate Starts for Phoebus_84:

(Start: 12 @54332 has 28 MA's), (Start: 17 @54350 has 1 MA's), (28, 54389), (92, 54626), (128, 54734), (173, 54854), (175, 54857), (179, 54866), (186, 54881), (195, 54920), (226, 54998), (273, 55103), (276, 55115), (277, 55118), (280, 55127), (301, 55178), (302, 55181), (308, 55199), (344, 55295), (369, 55352), (402, 55472), (403, 55475), (409, 55499), (423, 55523), (424, 55526),

Gene: PhriskyACE_36 Start: 30974, Stop: 29805, Start Num: 34

Candidate Starts for PhriskyACE_36:

(Start: 34 @30974 has 58 MA's), (72, 30812), (125, 30650), (131, 30632), (150, 30566), (163, 30548), (165, 30545), (172, 30533), (192, 30488), (202, 30449), (207, 30440), (217, 30419), (219, 30416), (256, 30332), (257, 30329), (278, 30272), (330, 30137), (342, 30101), (354, 30071), (382, 30014), (384, 30002), (387, 29987), (408, 29897), (412, 29882), (422, 29861), (436, 29822), (440, 29813),

Gene: Pimento_39 Start: 30980, Stop: 29709, Start Num: 34

Candidate Starts for Pimento_39:

(26, 31004), (Start: 34 @30980 has 58 MA's), (39, 30965), (61, 30863), (70, 30821), (75, 30809), (97, 30734), (121, 30659), (125, 30650), (131, 30632), (172, 30533), (174, 30530), (207, 30440), (249, 30344), (253, 30335), (289, 30239), (297, 30215), (342, 30071), (384, 29930), (394, 29885), (406, 29834), (408, 29825), (412, 29810), (418, 29798), (423, 29786), (441, 29747),

Gene: Pitbull_33 Start: 24636, Stop: 23518, Start Num: 32

Candidate Starts for Pitbull_33:

(23, 24666), (Start: 31 @24639 has 1 MA's), (Start: 32 @24636 has 2 MA's), (Start: 42 @24612 has 1 MA's), (82, 24441), (91, 24414), (131, 24306), (140, 24285), (142, 24276), (155, 24237), (163, 24219), (171, 24207), (172, 24204), (183, 24183), (201, 24123), (216, 24099), (245, 24033), (253, 24018), (273, 23976), (304, 23898), (317, 23850), (321, 23835), (328, 23814), (332, 23808), (342, 23787), (403, 23601), (422, 23547),

Gene: Polka_36 Start: 23869, Stop: 22682, Start Num: 34

Candidate Starts for Polka_36:

(8, 23959), (Start: 34 @23869 has 58 MA's), (165, 23440), (326, 23005), (382, 22870),

Gene: Pound_82 Start: 54468, Stop: 55697, Start Num: 12

Candidate Starts for Pound_82:

(Start: 12 @54468 has 28 MA's), (Start: 17 @54486 has 1 MA's), (28, 54525), (92, 54762), (128, 54870), (173, 54990), (175, 54993), (179, 55002), (186, 55017), (195, 55056), (226, 55134), (273, 55239), (276, 55251), (277, 55254), (280, 55263), (301, 55314), (302, 55317), (308, 55335), (344, 55431), (369, 55488), (402, 55608), (403, 55611), (409, 55635), (423, 55659), (424, 55662),

Gene: Poushou_32 Start: 29943, Stop: 28732, Start Num: 29

Candidate Starts for Poushou_32:

(Start: 29 @29943 has 4 MA's), (74, 29769), (115, 29628), (172, 29469), (233, 29319), (272, 29229), (357, 28965), (369, 28929), (377, 28923), (419, 28758), (425, 28743), (427, 28740),

Gene: Powerball_37 Start: 30563, Stop: 29394, Start Num: 34

Candidate Starts for Powerball_37:

(Start: 34 @30563 has 58 MA's), (97, 30320), (137, 30203), (152, 30149), (159, 30143), (165, 30131), (172, 30119), (207, 30026), (211, 30020), (223, 29990), (253, 29921), (256, 29918), (269, 29888), (287, 29837), (315, 29765), (382, 29603), (384, 29591), (403, 29504), (406, 29495), (422, 29450),

(436, 29411),

Gene: REQ2_38 Start: 31529, Stop: 30324, Start Num: 38

Candidate Starts for REQ2_38:

(36, 31535), (Start: 38 @31529 has 7 MA's), (56, 31454), (67, 31382), (94, 31292), (119, 31220), (134, 31178), (146, 31139), (172, 31070), (177, 31061), (181, 31052), (190, 31025), (194, 31007), (201, 30986), (221, 30950), (273, 30833), (291, 30776), (315, 30716), (318, 30710), (322, 30695), (349, 30614), (389, 30485), (400, 30443), (431, 30353), (435, 30335),

Gene: Rattail_36 Start: 23998, Stop: 22805, Start Num: 34

Candidate Starts for Rattail_36:

(Start: 34 @23998 has 58 MA's), (165, 23569), (192, 23512), (284, 23260), (326, 23134), (332, 23122), (388, 22963), (408, 22882), (428, 22834),

Gene: RedFox_36 Start: 23911, Stop: 22718, Start Num: 34

Candidate Starts for RedFox_36:

(Start: 34 @23911 has 58 MA's), (165, 23482), (192, 23425), (198, 23401), (284, 23173), (326, 23047), (332, 23035), (337, 23014), (388, 22876), (408, 22795), (428, 22747),

Gene: Redno2_78 Start: 49946, Stop: 51175, Start Num: 12

Candidate Starts for Redno2_78:

(Start: 12 @49946 has 28 MA's), (Start: 17 @49964 has 1 MA's), (28, 50003), (92, 50240), (128, 50348), (173, 50468), (175, 50471), (179, 50480), (186, 50495), (195, 50534), (226, 50612), (273, 50717), (276, 50729), (277, 50732), (280, 50741), (301, 50792), (302, 50795), (308, 50813), (344, 50909), (369, 50966), (402, 51086), (403, 51089), (409, 51113), (423, 51137), (424, 51140),

Gene: Renna12_35 Start: 23953, Stop: 22760, Start Num: 34

Candidate Starts for Renna12_35:

(Start: 34 @23953 has 58 MA's), (99, 23710), (165, 23524), (192, 23467), (198, 23443), (284, 23215), (326, 23089), (332, 23077), (428, 22789),

Gene: Ruchi_33 Start: 24704, Stop: 23520, Start Num: 34

Candidate Starts for Ruchi_33:

(Start: 34 @24704 has 58 MA's), (88, 24485), (140, 24350), (165, 24275), (174, 24260), (245, 24059), (322, 23852), (326, 23840), (335, 23822), (337, 23807), (382, 23705), (387, 23678), (388, 23669),

Gene: Ruthy_39 Start: 33142, Stop: 31883, Start Num: 34

Candidate Starts for Ruthy_39:

(Start: 34 @33142 has 58 MA's), (121, 32821), (165, 32707), (172, 32695), (207, 32602), (219, 32578), (289, 32410), (290, 32407), (321, 32314), (322, 32311), (342, 32254), (379, 32137), (382, 32125), (394, 32068), (412, 31993), (418, 31981), (436, 31933),

Gene: SPB78_39 Start: 30658, Stop: 29387, Start Num: 16

Candidate Starts for SPB78_39:

(Start: 16 @30658 has 1 MA's), (35, 30592), (83, 30403), (128, 30268), (138, 30244), (143, 30220), (151, 30190), (154, 30181), (157, 30175), (158, 30172), (216, 30025), (224, 30007), (265, 29917), (268, 29908), (308, 29800), (313, 29770), (333, 29722), (353, 29665), (365, 29629), (383, 29587), (386, 29569), (400, 29512), (404, 29488), (426, 29431), (438, 29404),

Gene: SamW_27 Start: 25228, Stop: 23900, Start Num: 10

Candidate Starts for SamW_27:

(Start: 10 @25228 has 3 MA's), (19, 25192), (21, 25183), (Start: 43 @25126 has 3 MA's), (100, 24916), (102, 24913), (133, 24814), (140, 24796), (162, 24730), (165, 24724), (170, 24712), (231, 24547),

(246, 24502), (258, 24481), (263, 24469), (273, 24445), (280, 24421), (282, 24415), (298, 24379), (327, 24283), (347, 24226), (364, 24181), (376, 24157), (382, 24142), (396, 24076), (397, 24073), (401, 24046), (407, 24028), (432, 23968), (449, 23914),

Gene: Sbash_40 Start: 34462, Stop: 33260, Start Num: 38

Candidate Starts for Sbash_40:

(Start: 38 @34462 has 7 MA's), (56, 34387), (59, 34357), (60, 34354), (124, 34141), (125, 34138), (144, 34075), (185, 33979), (194, 33940), (201, 33919), (233, 33865), (286, 33730), (349, 33553), (351, 33550), (353, 33547), (361, 33526), (389, 33424), (393, 33409), (408, 33343), (416, 33322),

Gene: Schatzie_77 Start: 51939, Stop: 53168, Start Num: 12

Candidate Starts for Schatzie_77:

(Start: 12 @51939 has 28 MA's), (Start: 17 @51957 has 1 MA's), (28, 51996), (92, 52233), (128, 52341), (173, 52461), (175, 52464), (179, 52473), (186, 52488), (195, 52527), (226, 52605), (273, 52710), (276, 52722), (277, 52725), (280, 52734), (301, 52785), (302, 52788), (308, 52806), (344, 52902), (369, 52959), (402, 53079), (403, 53082), (409, 53106), (423, 53130), (424, 53133),

Gene: Sejanus_42 Start: 40492, Stop: 39290, Start Num: 38

Candidate Starts for Sejanus_42:

(Start: 38 @40492 has 7 MA's), (56, 40417), (58, 40393), (59, 40387), (85, 40282), (124, 40171), (125, 40168), (144, 40105), (194, 39970), (201, 39949), (233, 39895), (284, 39766), (286, 39760), (351, 39580), (353, 39577), (361, 39556), (374, 39520), (389, 39454), (393, 39439), (408, 39373), (417, 39349), (431, 39319),

Gene: Sephiroth_7 Start: 2692, Stop: 1604, Start Num: 45

Candidate Starts for Sephiroth_7:

(11, 2797), (37, 2713), (Start: 45 @2692 has 3 MA's), (87, 2521), (118, 2431), (126, 2407), (135, 2386), (222, 2155), (242, 2122), (265, 2080), (273, 2065), (279, 2044), (282, 2035), (283, 2029), (314, 1945), (322, 1930), (356, 1843), (366, 1810), (394, 1723), (396, 1717), (402, 1684), (405, 1675), (407, 1669),

Gene: Sidious_37 Start: 31771, Stop: 30602, Start Num: 34

Candidate Starts for Sidious_37:

(Start: 34 @31771 has 58 MA's), (124, 31447), (137, 31411), (152, 31357), (159, 31351), (165, 31339), (172, 31327), (207, 31234), (211, 31228), (223, 31198), (253, 31129), (256, 31126), (269, 31096), (287, 31045), (315, 30973), (342, 30898), (382, 30811), (384, 30799), (403, 30712), (406, 30703), (422, 30658), (436, 30619),

Gene: Skitty_35 Start: 24174, Stop: 23056, Start Num: 32

Candidate Starts for Skitty_35:

(Start: 32 @24174 has 2 MA's), (82, 23979), (91, 23952), (108, 23913), (140, 23823), (142, 23814), (163, 23757), (171, 23745), (172, 23742), (177, 23733), (183, 23721), (201, 23661), (205, 23652), (216, 23637), (245, 23571), (253, 23556), (262, 23538), (273, 23514), (274, 23511), (304, 23436), (317, 23388), (321, 23373), (328, 23352), (342, 23325), (403, 23139), (422, 23085),

Gene: Sleepyhead_38 Start: 29423, Stop: 28182, Start Num: 43

Candidate Starts for Sleepyhead_38:

(27, 29465), (Start: 43 @29423 has 3 MA's), (76, 29285), (100, 29213), (155, 29036), (173, 28997), (182, 28979), (242, 28808), (259, 28781), (275, 28742), (283, 28715), (306, 28667), (314, 28634), (325, 28610), (338, 28568), (353, 28538), (359, 28520), (366, 28499), (382, 28469), (394, 28409), (397, 28400), (424, 28307), (450, 28229), (451, 28205),

Gene: Smoothie_85 Start: 51934, Stop: 53232, Start Num: 40

Candidate Starts for Smoothie_85:

(Start: 40 @51934 has 14 MA's), (55, 52000), (73, 52102), (78, 52129), (81, 52141), (89, 52171), (105, 52210), (110, 52228), (132, 52294), (136, 52303), (162, 52387), (195, 52477), (255, 52636), (259, 52642), (260, 52645), (303, 52771), (321, 52840), (348, 52918), (367, 52969), (381, 52996), (388, 53032), (389, 53035), (390, 53038), (391, 53044), (394, 53056), (396, 53062), (397, 53065), (398, 53068), (403, 53098), (423, 53146), (428, 53155), (439, 53185),

Gene: Spooks_10 Start: 8825, Stop: 7629, Start Num: 31

Candidate Starts for Spooks_10:

(Start: 31 @8825 has 1 MA's), (46, 8792), (55, 8759), (79, 8645), (80, 8639), (99, 8588), (123, 8516), (158, 8405), (214, 8264), (222, 8246), (267, 8153), (298, 8075), (311, 8030), (313, 8018), (367, 7886), (388, 7820), (393, 7802), (397, 7787), (400, 7775), (410, 7727), (447, 7652), (448, 7649),

Gene: StAB_26 Start: 25588, Stop: 24371, Start Num: 43

Candidate Starts for StAB_26:

(20, 25651), (Start: 43 @25588 has 3 MA's), (77, 25408), (86, 25375), (130, 25243), (161, 25153), (169, 25135), (176, 25120), (182, 25108), (190, 25081), (199, 25054), (210, 25021), (218, 25012), (244, 24949), (254, 24931), (263, 24916), (273, 24895), (295, 24829), (321, 24751), (329, 24730), (335, 24718), (336, 24715), (346, 24685), (372, 24616), (378, 24610), (382, 24598), (385, 24583), (389, 24559), (390, 24556), (393, 24544), (397, 24529), (400, 24517), (403, 24496), (407, 24484), (418, 24451), (432, 24424), (440, 24406), (448, 24385), (449, 24376),

Gene: Stiles_27 Start: 25121, Stop: 23991, Start Num: 44

Candidate Starts for Stiles_27:

(Start: 44 @25121 has 3 MA's), (50, 25106), (55, 25082), (80, 24968), (95, 24929), (109, 24887), (118, 24854), (122, 24845), (130, 24818), (139, 24800), (167, 24716), (173, 24701), (190, 24656), (220, 24596), (239, 24554), (242, 24542), (245, 24536), (259, 24515), (277, 24470), (280, 24461), (281, 24458), (282, 24455), (290, 24434), (320, 24350), (323, 24344), (331, 24326), (339, 24296), (368, 24239), (386, 24197), (389, 24182), (393, 24167), (394, 24161), (397, 24152), (399, 24143), (405, 24113), (420, 24071), (430, 24050), (432, 24047), (433, 24038), (446, 24011), (449, 23996),

Gene: StuartMinion_30 Start: 20996, Stop: 19803, Start Num: 34

Candidate Starts for StuartMinion_30:

(Start: 34 @20996 has 58 MA's), (165, 20567), (253, 20336), (291, 20237), (326, 20132), (332, 20120), (388, 19961), (428, 19832),

Gene: Stuck_46 Start: 36731, Stop: 35529, Start Num: 38

Candidate Starts for Stuck_46:

(Start: 38 @36731 has 7 MA's), (56, 36656), (59, 36626), (65, 36602), (124, 36410), (125, 36407), (144, 36344), (194, 36209), (201, 36188), (233, 36134), (235, 36128), (284, 36005), (349, 35822), (351, 35819), (353, 35816), (361, 35795), (374, 35759), (382, 35732), (383, 35726), (389, 35693), (393, 35678), (408, 35612), (416, 35591),

Gene: Success_11 Start: 8095, Stop: 6848, Start Num: 31

Candidate Starts for Success_11:

(Start: 31 @8095 has 1 MA's), (62, 7975), (196, 7570), (209, 7537), (212, 7528), (238, 7474), (264, 7420), (273, 7402), (279, 7381), (298, 7336), (311, 7285), (360, 7162), (416, 6976), (424, 6955), (444, 6907),

Gene: Suerte_34 Start: 29564, Stop: 28395, Start Num: 34

Candidate Starts for Suerte_34:

(Start: 34 @29564 has 58 MA's), (72, 29402), (125, 29240), (131, 29222), (150, 29156), (163, 29138), (172, 29123), (192, 29078), (202, 29039), (207, 29030), (217, 29009), (219, 29006), (256, 28922), (325, 28739), (330, 28727), (342, 28691), (354, 28661), (382, 28604), (384, 28592), (387, 28577),

(408, 28487), (422, 28451), (436, 28412), (440, 28403),

Gene: Syleon_7 Start: 2611, Stop: 1523, Start Num: 45

Candidate Starts for Syleon_7:

(11, 2716), (37, 2632), (Start: 45 @2611 has 3 MA's), (87, 2440), (118, 2350), (126, 2326), (135, 2305), (222, 2074), (242, 2041), (265, 1999), (273, 1984), (279, 1963), (282, 1954), (283, 1948), (314, 1864), (322, 1849), (356, 1762), (366, 1729), (396, 1636), (402, 1603), (405, 1594), (407, 1588),

Gene: TPA4_37 Start: 32608, Stop: 31376, Start Num: 34

Candidate Starts for TPA4_37:

(30, 32614), (Start: 34 @32608 has 58 MA's), (172, 32161), (192, 32116), (237, 32005), (256, 31960), (284, 31879), (293, 31855), (296, 31849), (301, 31831), (326, 31741), (358, 31654), (373, 31603), (379, 31582), (382, 31570), (403, 31471), (408, 31453), (418, 31426),

Gene: TaylorSipht_34 Start: 24061, Stop: 22877, Start Num: 34

Candidate Starts for TaylorSipht_34:

(Start: 34 @24061 has 58 MA's), (140, 23707), (159, 23644), (165, 23632), (174, 23617), (232, 23464), (284, 23323), (291, 23302), (322, 23209), (326, 23197), (387, 23035), (388, 23026),

Gene: Thibault_69 Start: 48145, Stop: 49374, Start Num: 12

Candidate Starts for Thibault_69:

(Start: 12 @48145 has 28 MA's), (Start: 17 @48163 has 1 MA's), (28, 48202), (92, 48439), (128, 48547), (173, 48667), (175, 48670), (179, 48679), (186, 48694), (195, 48733), (226, 48811), (276, 48928), (277, 48931), (280, 48940), (301, 48991), (302, 48994), (308, 49012), (344, 49108), (369, 49165), (402, 49285), (403, 49288), (409, 49312), (423, 49336), (424, 49339),

Gene: ThreeRngTarjay_79 Start: 53224, Stop: 54453, Start Num: 12

Candidate Starts for ThreeRngTarjay_79:

(Start: 12 @53224 has 28 MA's), (Start: 17 @53242 has 1 MA's), (28, 53281), (92, 53518), (128, 53626), (173, 53746), (175, 53749), (179, 53758), (186, 53773), (195, 53812), (226, 53890), (273, 53995), (276, 54007), (277, 54010), (280, 54019), (301, 54070), (302, 54073), (308, 54091), (344, 54187), (369, 54244), (402, 54364), (403, 54367), (409, 54391), (423, 54415), (424, 54418),

Gene: ThulaThula_35 Start: 29873, Stop: 28671, Start Num: 38

Candidate Starts for ThulaThula_35:

(Start: 38 @29873 has 7 MA's), (56, 29798), (59, 29768), (65, 29744), (85, 29663), (125, 29549), (144, 29486), (194, 29351), (235, 29270), (262, 29207), (286, 29141), (349, 28964), (351, 28961), (353, 28958), (361, 28937), (374, 28901), (375, 28898), (383, 28868), (389, 28835), (393, 28820), (408, 28754), (416, 28733),

Gene: Toad24_36 Start: 25330, Stop: 24146, Start Num: 34

Candidate Starts for Toad24_36:

(Start: 34 @25330 has 58 MA's), (88, 25111), (97, 25093), (140, 24976), (165, 24901), (291, 24571), (322, 24478), (326, 24466), (335, 24448), (382, 24331), (388, 24295),

Gene: Toniann_84 Start: 51286, Stop: 52584, Start Num: 40

Candidate Starts for Toniann_84:

(Start: 40 @51286 has 14 MA's), (55, 51352), (73, 51454), (78, 51481), (81, 51493), (89, 51523), (105, 51562), (110, 51580), (132, 51646), (136, 51655), (162, 51739), (195, 51829), (255, 51988), (259, 51994), (260, 51997), (303, 52123), (321, 52192), (348, 52270), (367, 52321), (381, 52348), (388, 52384), (389, 52387), (390, 52390), (391, 52396), (394, 52408), (396, 52414), (397, 52417), (398, 52420), (403, 52450), (423, 52498), (428, 52507), (439, 52537),

Gene: TouchMeNot_32 Start: 30114, Stop: 28903, Start Num: 29

Candidate Starts for TouchMeNot_32:

(Start: 29 @30114 has 4 MA's), (74, 29940), (115, 29799), (172, 29640), (233, 29490), (272, 29400), (357, 29136), (369, 29100), (377, 29094), (419, 28929), (425, 28914), (427, 28911),

Gene: TripleJ_37 Start: 28096, Stop: 26960, Start Num: 63

Candidate Starts for TripleJ_37:

(Start: 63 @28096 has 2 MA's), (76, 28030), (100, 27955), (107, 27934), (109, 27925), (120, 27889), (126, 27868), (147, 27805), (168, 27748), (176, 27730), (188, 27694), (198, 27664), (206, 27649), (210, 27637), (220, 27616), (234, 27580), (235, 27577), (240, 27556), (261, 27514), (263, 27511), (273, 27487), (285, 27448), (291, 27430), (326, 27322), (345, 27271), (393, 27130), (395, 27121), (409, 27058), (437, 26989), (440, 26983),

Gene: Troy_27 Start: 25228, Stop: 23900, Start Num: 10

Candidate Starts for Troy_27:

(Start: 10 @25228 has 3 MA's), (19, 25192), (21, 25183), (Start: 43 @25126 has 3 MA's), (100, 24916), (102, 24913), (133, 24814), (140, 24796), (162, 24730), (165, 24724), (170, 24712), (231, 24547), (246, 24502), (258, 24481), (263, 24469), (273, 24445), (280, 24421), (282, 24415), (298, 24379), (327, 24283), (347, 24226), (364, 24181), (376, 24157), (382, 24142), (396, 24076), (397, 24073), (401, 24046), (407, 24028), (432, 23968), (449, 23914),

Gene: VWB_31 Start: 27412, Stop: 26129, Start Num: 16

Candidate Starts for VWB_31:

(Start: 16 @27412 has 1 MA's), (25, 27379), (35, 27346), (132, 27001), (143, 26962), (153, 26926), (158, 26914), (197, 26815), (216, 26767), (265, 26659), (268, 26650), (308, 26542), (333, 26464), (365, 26371), (379, 26347), (383, 26329), (386, 26311), (391, 26287), (399, 26257), (400, 26254), (404, 26230), (407, 26221), (414, 26197), (421, 26185), (426, 26173), (442, 26134),

Gene: VanLee_32 Start: 27924, Stop: 26788, Start Num: 34

Candidate Starts for VanLee_32:

(Start: 34 @27924 has 58 MA's), (51, 27870), (54, 27852), (88, 27702), (113, 27630), (165, 27489), (172, 27477), (174, 27474), (180, 27462), (204, 27393), (253, 27291), (256, 27288), (269, 27258), (360, 27015), (362, 27012), (380, 26976), (385, 26955), (426, 26808),

Gene: Vasanti_37 Start: 29057, Stop: 27888, Start Num: 34

Candidate Starts for Vasanti_37:

(Start: 34 @29057 has 58 MA's), (97, 28814), (124, 28733), (137, 28697), (141, 28685), (152, 28643), (159, 28637), (165, 28625), (172, 28613), (202, 28529), (207, 28520), (211, 28514), (223, 28484), (253, 28415), (256, 28412), (269, 28382), (287, 28331), (315, 28259), (325, 28229), (382, 28097), (384, 28085), (403, 27998), (406, 27989), (422, 27944), (436, 27905),

Gene: Vulpecula_33 Start: 24379, Stop: 23195, Start Num: 34

Candidate Starts for Vulpecula_33:

(Start: 34 @24379 has 58 MA's), (88, 24160), (140, 24025), (165, 23950), (174, 23935), (245, 23734), (322, 23527), (326, 23515), (335, 23497), (337, 23482), (382, 23380), (387, 23353), (388, 23344),

Gene: Wanda_85 Start: 52091, Stop: 53320, Start Num: 12

Candidate Starts for Wanda_85:

(Start: 12 @52091 has 28 MA's), (Start: 17 @52109 has 1 MA's), (28, 52148), (92, 52385), (128, 52493), (173, 52613), (175, 52616), (179, 52625), (186, 52640), (195, 52679), (226, 52757), (273, 52862), (276, 52874), (277, 52877), (280, 52886), (301, 52937), (302, 52940), (308, 52958), (344, 53054), (369, 53111), (402, 53231), (403, 53234), (409, 53258), (423, 53282), (424, 53285),

Gene: Westrich_40 Start: 25013, Stop: 23829, Start Num: 34

Candidate Starts for Westrich_40:

(Start: 34 @25013 has 58 MA's), (88, 24794), (97, 24776), (140, 24659), (165, 24584), (291, 24254), (322, 24161), (326, 24149), (335, 24131), (382, 24014), (388, 23978),

Gene: WheatThin_39 Start: 31322, Stop: 30051, Start Num: 34

Candidate Starts for WheatThin_39:

(Start: 34 @31322 has 58 MA's), (39, 31307), (61, 31205), (70, 31163), (75, 31151), (97, 31076), (121, 31001), (125, 30992), (131, 30974), (172, 30875), (174, 30872), (207, 30782), (253, 30677), (289, 30581), (291, 30575), (342, 30413), (384, 30272), (394, 30227), (406, 30176), (408, 30167), (412, 30152), (418, 30140), (423, 30128), (441, 30089),

Gene: WileyE_38 Start: 24192, Stop: 23065, Start Num: 52

Candidate Starts for WileyE_38:

(Start: 34 @24249 has 58 MA's), (52, 24192), (88, 24030), (92, 24021), (140, 23895), (159, 23832), (165, 23820), (174, 23805), (207, 23715), (245, 23604), (284, 23511), (322, 23397), (326, 23385), (335, 23367), (387, 23223), (388, 23214),

Gene: WilliamBoone_83 Start: 50036, Stop: 51334, Start Num: 40

Candidate Starts for WilliamBoone_83:

(Start: 40 @50036 has 14 MA's), (69, 50195), (81, 50243), (89, 50273), (105, 50312), (110, 50330), (111, 50336), (136, 50405), (195, 50579), (225, 50660), (255, 50738), (259, 50744), (260, 50747), (321, 50942), (345, 51008), (359, 51047), (367, 51071), (381, 51098), (388, 51134), (389, 51137), (390, 51140), (391, 51146), (394, 51158), (396, 51164), (397, 51167), (398, 51170), (403, 51200), (423, 51248), (428, 51257), (436, 51284), (439, 51287),

Gene: Yeet_76 Start: 51441, Stop: 52670, Start Num: 12

Candidate Starts for Yeet_76:

(Start: 12 @51441 has 28 MA's), (Start: 17 @51459 has 1 MA's), (28, 51498), (92, 51735), (128, 51843), (173, 51963), (175, 51966), (179, 51975), (186, 51990), (195, 52029), (226, 52107), (273, 52212), (276, 52224), (277, 52227), (280, 52236), (301, 52287), (302, 52290), (308, 52308), (344, 52404), (369, 52461), (402, 52581), (403, 52584), (409, 52608), (423, 52632), (424, 52635),

Gene: Yeezy_36 Start: 30168, Stop: 28906, Start Num: 34

Candidate Starts for Yeezy_36:

(Start: 34 @30168 has 58 MA's), (68, 30012), (127, 29829), (141, 29793), (165, 29733), (172, 29721), (192, 29676), (200, 29643), (219, 29601), (289, 29433), (290, 29430), (292, 29424), (315, 29355), (321, 29337), (322, 29334), (342, 29277), (379, 29160), (382, 29148), (394, 29091), (408, 29031), (412, 29016), (418, 29004), (422, 28995), (436, 28956), (448, 28926),

Gene: Yvonnetastic_95 Start: 55831, Stop: 57078, Start Num: 41

Candidate Starts for Yvonnetastic_95:

(7, 55705), (Start: 41 @55831 has 2 MA's), (73, 55996), (81, 56035), (98, 56086), (110, 56122), (116, 56140), (136, 56191), (145, 56227), (164, 56281), (173, 56302), (213, 56413), (222, 56437), (225, 56446), (231, 56461), (248, 56512), (285, 56596), (310, 56665), (345, 56773), (359, 56815), (381, 56866), (391, 56914), (397, 56935), (403, 56968), (409, 56989), (425, 57016), (439, 57049),

Gene: Zelink_79 Start: 53554, Stop: 54765, Start Num: 17

Candidate Starts for Zelink_79:

(Start: 12 @53536 has 28 MA's), (Start: 17 @53554 has 1 MA's), (28, 53593), (92, 53830), (128, 53938), (173, 54058), (175, 54061), (179, 54070), (186, 54085), (195, 54124), (226, 54202), (273, 54307), (276, 54319), (277, 54322), (280, 54331), (301, 54382), (302, 54385), (308, 54403), (344, 54499), (369, 54556), (402, 54676), (403, 54679), (409, 54703), (423, 54727), (424, 54730),

Gene: Zhuangyuan_39 Start: 24716, Stop: 23526, Start Num: 34

Candidate Starts for Zhuangyuan_39:

(Start: 34 @24716 has 58 MA's), (326, 23849), (332, 23837),

Gene: Zodiariah_37 Start: 32793, Stop: 31624, Start Num: 34

Candidate Starts for Zodiariah_37:

(Start: 34 @32793 has 58 MA's), (112, 32505), (125, 32469), (140, 32430), (141, 32424), (150, 32385),
(165, 32364), (172, 32352), (192, 32307), (202, 32268), (207, 32259), (216, 32244), (219, 32235),
(236, 32199), (256, 32151), (330, 31956), (342, 31920), (382, 31833), (384, 31821), (408, 31716),
(411, 31704), (436, 31641), (440, 31632),