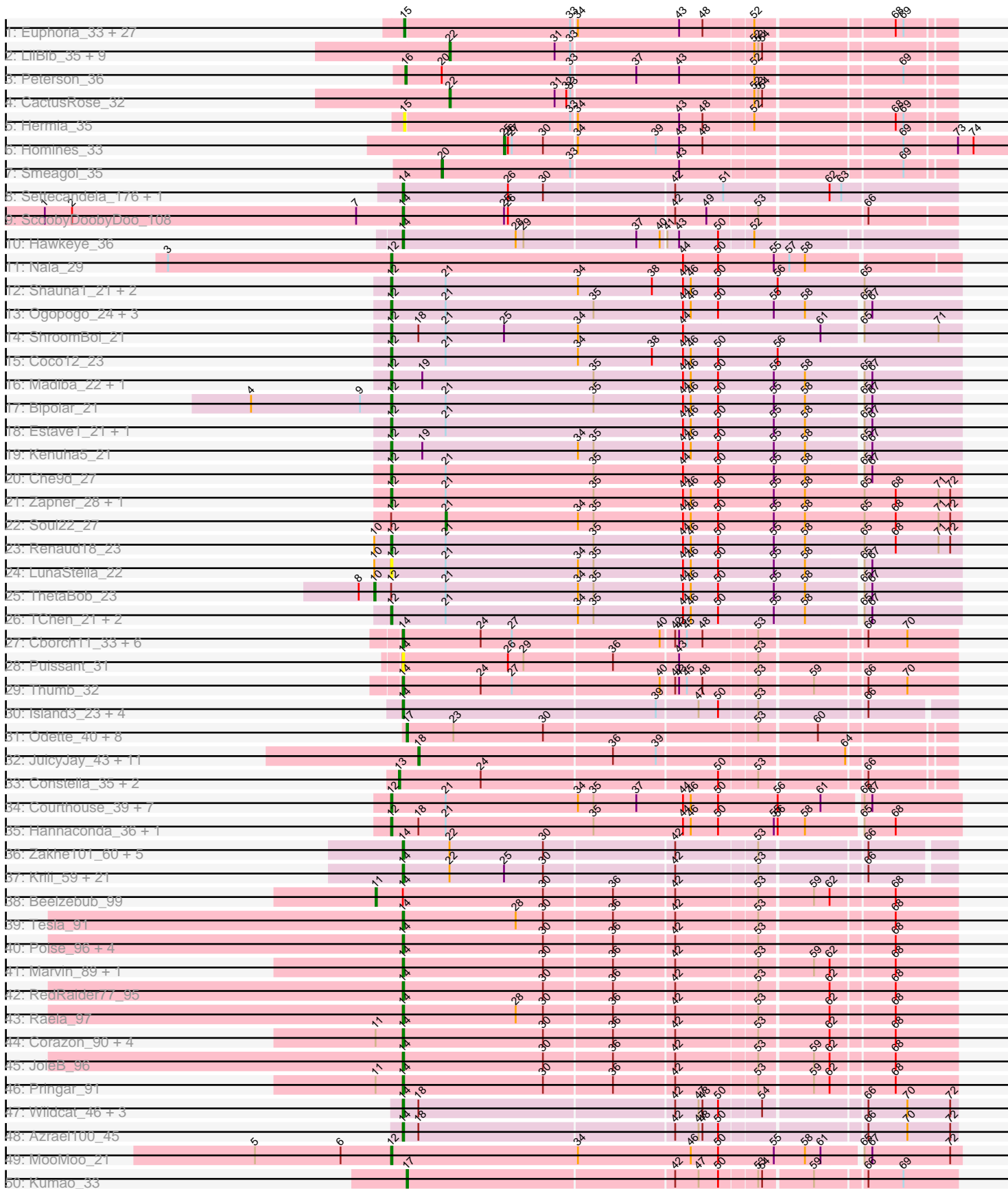


Pham 157628



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 157628 Report

This analysis was run 04/13/24 on database version 558.

Pham number 157628 has 174 members, 17 are drafts.

Phages represented in each track:

- Track 1 : Euphoria_33, Jasper_34, MetalQZJ_33, Eyeball_33, Graduation_35, SwissCheese_35, Violet_32, PherrisBueller_34, Kenmech_36, Forsytheast_33, BaconJack_36, lLeeKay_35, Bones_33, RidgeCB_33, MaryBeth_33, Bruns_32, Dreamboat_34, Hope4ever_33, Trip13t_34, Licorice_35, Abbysshoes_35, Dussy_34, Corvo_34, Cueyllyss_33, GrecoEtereo_35, Moose_33, Papez_35, Beatrix_33
- Track 2 : LilBib_35, Smairt_34, IgnatiusPatJac_33, HanShotFirst_33, Wilkins_33, Topgun_33, Dexes_34, HarryOW_34, JC27_35, Pelly_34
- Track 3 : Peterson_36
- Track 4 : CactusRose_32
- Track 5 : Hermia_35
- Track 6 : Homines_33
- Track 7 : Smeagol_35
- Track 8 : Settecandela_176, Phrappuccino_176
- Track 9 : ScoobyDoobyDoo_108
- Track 10 : Hawkeye_36
- Track 11 : Nala_29
- Track 12 : Shauna1_21, Phanphagia_21, Kingsley_22
- Track 13 : Ogopogo_24, Avani_27, Kersh_22, MadMen_22
- Track 14 : ShroomBoi_21
- Track 15 : Coco12_23
- Track 16 : Madiba_22, Demsculpinboyz_27
- Track 17 : Bipolar_21
- Track 18 : Estave1_21, Cornie_23
- Track 19 : Kenuha5_21
- Track 20 : Che9d_27
- Track 21 : Zapner_28, Jabbawokkie_29
- Track 22 : Soul22_27
- Track 23 : Renaud18_23
- Track 24 : LunaStella_22
- Track 25 : ThetaBob_23
- Track 26 : TChen_21, Pollywog_24, Yoshi_27
- Track 27 : Cborch11_33, Phreeze_32, Beckerton_32, Oaker_32, Megatron06_35, Konstantine_37, Damien_32
- Track 28 : Puissant_31
- Track 29 : Thumb_32
- Track 30 : Island3_23, Bogie_22, Brujita_23, Pygmy_22, Shipwreck_22

- Track 31 : Odette_40, Dove_39, Yeet_39, Schatzie_38, NihilNomen_40, Hughesyang_39, Bombitas_37, Ejimix_41, Pound_42
- Track 32 : JuicyJay_43, Halley_41, ThreeRngTarjay_39, Klein_41, Beem_41, Kalah2_41, Dallas_42, Zelink_42, Phoebus_40, Redno2_39, HokkenD_36, EricMillard_41
- Track 33 : Constella_35, Thibault_37, Bobby_42
- Track 34 : Courthouse_39, Porcelain_38, Ariel_39, Superphikiman_39, Lucky2013_39, MiaZeal_39, Squint_38, DmpstrDiver_40
- Track 35 : Hannaconda_36, KashFlow_33
- Track 36 : Zakhe101_60, Winget_61, Firecracker_61, Dylan_60, Bora_58, Corndog_63
- Track 37 : Krili_59, SchoolBus_60, Idergollasper_60, YungJamal_65, Blessica_61, JangDynasty_60, Smooch_63, Wildflower_58, Shida_60, Catdawg_60, NiebruSaylor_59, TelAviv_57, Vorrrps_60, Ryadel_64, Ashwin_61, Alkhayr_58, Murai_61, Schuy_58, FoulBall_57, Familton_61, Mori_60, MadKillah_61
- Track 38 : Beelzebub_99
- Track 39 : Tesla_91
- Track 40 : Poise_96, MosMoris_91, Caprice_88, Blackbeetle_96, Gattaca_94
- Track 41 : Marvin_89, VasuNzinga_93
- Track 42 : RedRaider77_95
- Track 43 : Raela_97
- Track 44 : Corazon_90, LittleLaf_93, Lilbit_93, Huphlepuuff_97, Clarkson_96
- Track 45 : JoieB_96
- Track 46 : Pringar_91
- Track 47 : Wildcat_46, MaryV_46, Cosmo_46, EniyanLRS_43
- Track 48 : Azrael100_45
- Track 49 : MooMoo_21
- Track 50 : Kumao_33

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

The start number called the most often in the published annotations is 14, it was called in 57 of the 157 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alkhayr_58, Ashwin_61, Azrael100_45, Beckerton_32, Blackbeetle_96, Blessica_61, Bogie_22, Bora_58, Brujita_23, Caprice_88, Catdawg_60, Cborch11_33, Clarkson_96, Corazon_90, Corndog_63, Cosmo_46, Damien_32, Dylan_60, EniyanLRS_43, Familton_61, Firecracker_61, FoulBall_57, Gattaca_94, Hawkeye_36, Huphlepuuff_97, Idergollasper_60, Island3_23, JangDynasty_60, JoieB_96, Konstantine_37, Krili_59, Lilbit_93, LittleLaf_93, MadKillah_61, Marvin_89, MaryV_46, Megatron06_35, Mori_60, MosMoris_91, Murai_61, NiebruSaylor_59, Oaker_32, Phrappuccino_176, Phreeze_32, Poise_96, Pringar_91, Puissant_31, Pygmy_22, Raela_97, RedRaider77_95, Ryadel_64, SchoolBus_60, Schuy_58, ScoobyDoobyDoo_108, Settecandela_176, Shida_60, Shipwreck_22, Smooch_63, TelAviv_57, Tesla_91, Thumb_32, VasuNzinga_93, Vorrrps_60, Wildcat_46, Wildflower_58, Winget_61, YungJamal_65, Zakhe101_60,

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

- Beelzebub_99,

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

- Abbys shoes_35, Ariel_39, Avani_27, BaconJack_36, Beatrix_33, Beem_41, Bipolar_21, Bobby_42, Bombitas_37, Bones_33, Bruns_32, CactusRose_32, Che9d_27, Coco12_23, Constella_35, Cornie_23, Corvo_34, Courthouse_39, Cueyllyss_33, Dallas_42, Demsculpinboyz_27, Dexes_34, DmpstrDiver_40, Dove_39, Dreamboat_34, Dussy_34, Ejimix_41, EricMillard_41, Estave1_21, Euphoria_33, Eyeball_33, Forsytheast_33, Graduation_35, GrecoEtereo_35, Halley_41, HanShotFirst_33, Hannaconda_36, HarryOW_34, Hermia_35, HokkenD_36, Homines_33, Hope4ever_33, Hughesyang_39, ILeeKay_35, IgnatiusPatJac_33, JC27_35, Jabbawokkie_29, Jasper_34, JuicyJay_43, Kalah2_41, KashFlow_33, Kenmech_36, Kenuha5_21, Kersh_22, Kingsley_22, Klein_41, Kumao_33, Licorice_35, LilBib_35, Lucky2013_39, LunaStella_22, MadMen_22, Madiba_22, MaryBeth_33, MetalQZJ_33, MiaZeal_39, MooMoo_21, Moose_33, Nala_29, NihilNomen_40, Odette_40, Ogopogo_24, Papez_35, Pelly_34, Peterson_36, Phanphagia_21, PherrisBueller_34, Phoebus_40, Pollywog_24, Porcelain_38, Pound_42, Redno2_39, Renaud18_23, RidgeCB_33, Schatzie_38, Shauna1_21, ShroomBoi_21, Smairt_34, Smeagol_35, Soul22_27, Squint_38, Superphikiman_39, SwissCheese_35, TChen_21, ThetaBob_23, Thibault_37, ThreeRngTarjay_39, Topgun_33, Tripl3t_34, Violet_32, Wilkins_33, Yeet_39, Yoshi_27, Zapner_28, Zelink_42,

Summary by start number:

Start 10:

- Found in 3 of 174 (1.7%) of genes in pham
- Manual Annotations of this start: 1 of 157
- Called 33.3% of time when present
- Phage (with cluster) where this start called: ThetaBob_23 (F4),

Start 11:

- Found in 7 of 174 (4.0%) of genes in pham
- Manual Annotations of this start: 1 of 157
- Called 14.3% of time when present
- Phage (with cluster) where this start called: Beelzebub_99 (S),

Start 12:

- Found in 37 of 174 (21.3%) of genes in pham
- Manual Annotations of this start: 34 of 157
- Called 94.6% of time when present
- Phage (with cluster) where this start called: Ariel_39 (J), Avani_27 (F2), Bipolar_21 (F1), Che9d_27 (F2), Coco12_23 (F1), Cornie_23 (F5), Courthouse_39 (J), Demsculpinboyz_27 (F2), DmpstrDiver_40 (J), Estave1_21 (F1), Hannaconda_36 (J), Jabbawokkie_29 (F2), KashFlow_33 (J), Kenuha5_21 (F1), Kersh_22 (F1), Kingsley_22 (F1), Lucky2013_39 (J), LunaStella_22 (F4), MadMen_22 (F1), Madiba_22 (F1), MiaZeal_39 (J), MooMoo_21 (singleton), Nala_29 (E), Ogopogo_24 (F1), Phanphagia_21 (F1), Pollywog_24 (F1), Porcelain_38 (J), Renaud18_23 (F4), Shauna1_21 (F1), ShroomBoi_21 (F1), Squint_38 (J), Superphikiman_39 (J), TChen_21 (F4), Yoshi_27 (F2), Zapner_28 (F2),

Start 13:

- Found in 3 of 174 (1.7%) of genes in pham
- Manual Annotations of this start: 3 of 157

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bobby_42 (J), Constella_35 (J), Thibault_37 (J),

Start 14:

- Found in 69 of 174 (39.7%) of genes in pham
- Manual Annotations of this start: 57 of 157
- Called 98.6% of time when present
- Phage (with cluster) where this start called: Alkhayr_58 (O), Ashwin_61 (O), Azrael100_45 (V), Beckerton_32 (H1), Blackbeetle_96 (S), Blessica_61 (O), Bogie_22 (P1), Bora_58 (O), Brujita_23 (I1), Caprice_88 (S), Catdawg_60 (O), Cborch11_33 (H1), Clarkson_96 (S), Corazon_90 (S), Corndog_63 (O), Cosmo_46 (V), Damien_32 (H1), Dylan_60 (O), EniyanLRS_43 (V), Familton_61 (O), Firecracker_61 (O), FoulBall_57 (O), Gattaca_94 (S), Hawkeye_36 (D2), Huphlepuuff_97 (S), Idergollasper_60 (O), Island3_23 (I1), JangDynasty_60 (O), JoieB_96 (S), Konstantine_37 (H1), Krili_59 (O), Lilbit_93 (S), LittleLaf_93 (S), MadKillah_61 (O), Marvin_89 (S), MaryV_46 (V), Megatron06_35 (H1), Mori_60 (O), MosMoris_91 (S), Murai_61 (O), NiebruSaylor_59 (O), Oaker_32 (H1), Phrappuccino_176 (AA), Phreeze_32 (H1), Poise_96 (S), Pringar_91 (S), Puissant_31 (H1), Pygmy_22 (P1), Raela_97 (S), RedRaider77_95 (S), Ryadel_64 (O), SchoolBus_60 (O), Schuy_58 (O), ScoobyDoobyDoo_108 (C2), Settecandela_176 (AA), Shida_60 (O), Shipwreck_22 (P1), Smooch_63 (O), TelAviv_57 (O), Tesla_91 (S), Thumb_32 (H1), VasuNzinga_93 (S), Vorrrps_60 (O), Wildcat_46 (V), Wildflower_58 (O), Winget_61 (O), YungJamal_65 (O), Zakhe101_60 (O),

Start 15:

- Found in 29 of 174 (16.7%) of genes in pham
- Manual Annotations of this start: 28 of 157
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abbysshoes_35 (A1), BaconJack_36 (A1), Beatrix_33 (A1), Bones_33 (A1), Bruns_32 (A1), Corvo_34 (A1), Cueyllyss_33 (A1), Dreamboat_34 (A1), Dussy_34 (A1), Euphoria_33 (A1), Eyeball_33 (A1), Forsytheast_33 (A1), Graduation_35 (A1), GrecoEtereo_35 (A1), Hermia_35 (A1), Hope4ever_33 (A1), ILeeKay_35 (A1), Jasper_34 (A1), Kenmech_36 (A1), Licorice_35 (A1), MaryBeth_33 (A1), MetalQZJ_33 (A1), Moose_33 (A1), Papez_35 (A1), PherrisBueller_34 (A1), RidgeCB_33 (A1), SwissCheese_35 (A1), Tripl3t_34 (A1), Violet_32 (A1),

Start 16:

- Found in 1 of 174 (0.6%) of genes in pham
- Manual Annotations of this start: 1 of 157
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Peterson_36 (A1),

Start 17:

- Found in 10 of 174 (5.7%) of genes in pham
- Manual Annotations of this start: 8 of 157
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bombitas_37 (J), Dove_39 (J), Ejimix_41 (J), Hughesyang_39 (J), Kumao_33 (singleton), NihilNomen_40 (J), Odette_40 (J), Pound_42 (J), Schatzie_38 (J), Yeet_39 (J),

Start 18:

- Found in 20 of 174 (11.5%) of genes in pham
- Manual Annotations of this start: 12 of 157
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Beem_41 (J), Dallas_42 (J), EricMillard_41 (J), Halley_41 (J), HokkenD_36 (J), JuicyJay_43 (J), Kalah2_41 (J), Klein_41 (J), Phoebus_40 (J), Redno2_39 (J), ThreeRngTarjay_39 (J), Zelink_42 (J),

Start 20:

- Found in 2 of 174 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 157
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Smeagol_35 (A1),

Start 21:

- Found in 32 of 174 (18.4%) of genes in pham
- Manual Annotations of this start: 1 of 157
- Called 3.1% of time when present
- Phage (with cluster) where this start called: Soul22_27 (F2),

Start 22:

- Found in 39 of 174 (22.4%) of genes in pham
- Manual Annotations of this start: 9 of 157
- Called 28.2% of time when present
- Phage (with cluster) where this start called: CactusRose_32 (A1), Dexes_34 (A1), HanShotFirst_33 (A1), HarryOW_34 (A1), IgnatiusPatJac_33 (A1), JC27_35 (A1), LilBib_35 (A1), Pelly_34 (A1), Smairt_34 (A1), Topgun_33 (A1), Wilkins_33 (A1),

Start 25:

- Found in 25 of 174 (14.4%) of genes in pham
- Manual Annotations of this start: 1 of 157
- Called 4.0% of time when present
- Phage (with cluster) where this start called: Homines_33 (A1),

Summary by clusters:

There are 17 clusters represented in this pham: AA, F1, F2, H1, F4, F5, I1, J, singleton, O, A1, S, P1, V, E, D2, C2,

Info for manual annotations of cluster A1:

- Start number 15 was manually annotated 28 times for cluster A1.
- Start number 16 was manually annotated 1 time for cluster A1.
- Start number 20 was manually annotated 1 time for cluster A1.
- Start number 22 was manually annotated 9 times for cluster A1.
- Start number 25 was manually annotated 1 time for cluster A1.

Info for manual annotations of cluster AA:

- Start number 14 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster C2:

- Start number 14 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster D2:

- Start number 14 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster E:

- Start number 12 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster F1:

- Start number 12 was manually annotated 13 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 12 was manually annotated 6 times for cluster F2.
- Start number 21 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F4:

- Start number 10 was manually annotated 1 time for cluster F4.
- Start number 12 was manually annotated 2 times for cluster F4.

Info for manual annotations of cluster F5:

- Start number 12 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster H1:

- Start number 14 was manually annotated 7 times for cluster H1.

Info for manual annotations of cluster I1:

- Start number 14 was manually annotated 2 times for cluster I1.

Info for manual annotations of cluster J:

- Start number 12 was manually annotated 10 times for cluster J.
- Start number 13 was manually annotated 3 times for cluster J.
- Start number 17 was manually annotated 7 times for cluster J.
- Start number 18 was manually annotated 12 times for cluster J.

Info for manual annotations of cluster O:

- Start number 14 was manually annotated 22 times for cluster O.

Info for manual annotations of cluster P1:

- Start number 14 was manually annotated 2 times for cluster P1.

Info for manual annotations of cluster S:

- Start number 11 was manually annotated 1 time for cluster S.
- Start number 14 was manually annotated 15 times for cluster S.

Info for manual annotations of cluster V:

- Start number 14 was manually annotated 5 times for cluster V.

Gene Information:

Gene: Abbyshoes_35 Start: 27637, Stop: 28038, Start Num: 15

Candidate Starts for Abbyshoes_35:

(Start: 15 @27637 has 28 MA's), (33, 27763), (34, 27766), (43, 27844), (48, 27862), (52, 27898), (68, 27997), (69, 28003),

Gene: Alkhayr_58 Start: 39815, Stop: 40216, Start Num: 14

Candidate Starts for Alkhayr_58:

(Start: 14 @39815 has 57 MA's), (Start: 22 @39851 has 9 MA's), (Start: 25 @39893 has 1 MA's), (30, 39923), (42, 40019), (53, 40079), (66, 40154),

Gene: Ariel_39 Start: 33704, Stop: 34135, Start Num: 12

Candidate Starts for Ariel_39:

(Start: 12 @33704 has 34 MA's), (Start: 21 @33746 has 1 MA's), (34, 33848), (35, 33860), (37, 33893), (44, 33929), (46, 33935), (50, 33956), (56, 34001), (61, 34034), (65, 34061), (67, 34067),

Gene: Ashwin_61 Start: 40585, Stop: 40986, Start Num: 14

Candidate Starts for Ashwin_61:

(Start: 14 @40585 has 57 MA's), (Start: 22 @40621 has 9 MA's), (Start: 25 @40663 has 1 MA's), (30, 40693), (42, 40789), (53, 40849), (66, 40924),

Gene: Avani_27 Start: 23475, Stop: 23906, Start Num: 12

Candidate Starts for Avani_27:

(Start: 12 @23475 has 34 MA's), (Start: 21 @23517 has 1 MA's), (35, 23631), (44, 23700), (46, 23706), (50, 23727), (55, 23769), (58, 23793), (65, 23832), (67, 23838),

Gene: Azrael100_45 Start: 35022, Stop: 35429, Start Num: 14

Candidate Starts for Azrael100_45:

(Start: 14 @35022 has 57 MA's), (Start: 18 @35034 has 12 MA's), (42, 35226), (47, 35244), (48, 35247), (50, 35259), (66, 35361), (70, 35391), (72, 35424),

Gene: BaconJack_36 Start: 27957, Stop: 28358, Start Num: 15

Candidate Starts for BaconJack_36:

(Start: 15 @27957 has 28 MA's), (33, 28083), (34, 28086), (43, 28164), (48, 28182), (52, 28218), (68, 28317), (69, 28323),

Gene: Beatrix_33 Start: 28872, Stop: 29273, Start Num: 15

Candidate Starts for Beatrix_33:

(Start: 15 @28872 has 28 MA's), (33, 28998), (34, 29001), (43, 29079), (48, 29097), (52, 29133), (68, 29232), (69, 29238),

Gene: Beckerton_32 Start: 31246, Stop: 31653, Start Num: 14

Candidate Starts for Beckerton_32:

(Start: 14 @31246 has 57 MA's), (24, 31306), (27, 31330), (40, 31441), (42, 31450), (43, 31453), (45, 31459), (48, 31471), (53, 31510), (66, 31585), (70, 31615),

Gene: Beelzebub_99 Start: 55639, Stop: 56067, Start Num: 11

Candidate Starts for Beelzebub_99:

(Start: 11 @55639 has 1 MA's), (Start: 14 @55660 has 57 MA's), (30, 55768), (36, 55819), (42, 55864), (53, 55924), (59, 55963), (62, 55975), (68, 56020),

Gene: Beem_41 Start: 33679, Stop: 34068, Start Num: 18

Candidate Starts for Beem_41:

(Start: 18 @33679 has 12 MA's), (36, 33826), (39, 33859), (64, 33994),

Gene: Bipolar_21 Start: 23745, Stop: 24176, Start Num: 12

Candidate Starts for Bipolar_21:

(4, 23637), (9, 23721), (Start: 12 @23745 has 34 MA's), (Start: 21 @23787 has 1 MA's), (35, 23901), (44, 23970), (46, 23976), (50, 23997), (55, 24039), (58, 24063), (65, 24102), (67, 24108),

Gene: Blackbeetle_96 Start: 55161, Stop: 55568, Start Num: 14

Candidate Starts for Blackbeetle_96:

(Start: 14 @55161 has 57 MA's), (30, 55269), (36, 55320), (42, 55365), (53, 55425), (68, 55521),

Gene: Blessica_61 Start: 40414, Stop: 40815, Start Num: 14

Candidate Starts for Blessica_61:

(Start: 14 @40414 has 57 MA's), (Start: 22 @40450 has 9 MA's), (Start: 25 @40492 has 1 MA's), (30, 40522), (42, 40618), (53, 40678), (66, 40753),

Gene: Bobby_42 Start: 34506, Stop: 34910, Start Num: 13

Candidate Starts for Bobby_42:

(Start: 13 @34506 has 3 MA's), (24, 34569), (50, 34746), (53, 34773), (66, 34848),

Gene: Bogie_22 Start: 22761, Stop: 23162, Start Num: 14

Candidate Starts for Bogie_22:

(Start: 14 @22761 has 57 MA's), (39, 22953), (47, 22983), (50, 22998), (53, 23025), (66, 23100),

Gene: Bombitas_37 Start: 32684, Stop: 33082, Start Num: 17

Candidate Starts for Bombitas_37:

(Start: 17 @32684 has 8 MA's), (23, 32720), (30, 32789), (53, 32945), (60, 32987),

Gene: Bones_33 Start: 27330, Stop: 27731, Start Num: 15

Candidate Starts for Bones_33:

(Start: 15 @27330 has 28 MA's), (33, 27456), (34, 27459), (43, 27537), (48, 27555), (52, 27591), (68, 27690), (69, 27696),

Gene: Bora_58 Start: 39771, Stop: 40172, Start Num: 14

Candidate Starts for Bora_58:

(Start: 14 @39771 has 57 MA's), (Start: 22 @39807 has 9 MA's), (30, 39879), (42, 39975), (53, 40035), (66, 40110),

Gene: Brujita_23 Start: 23116, Stop: 23517, Start Num: 14

Candidate Starts for Brujita_23:

(Start: 14 @23116 has 57 MA's), (39, 23308), (47, 23338), (50, 23353), (53, 23380), (66, 23455),

Gene: Bruns_32 Start: 27352, Stop: 27753, Start Num: 15

Candidate Starts for Bruns_32:

(Start: 15 @27352 has 28 MA's), (33, 27478), (34, 27481), (43, 27559), (48, 27577), (52, 27613), (68, 27712), (69, 27718),

Gene: CactusRose_32 Start: 27357, Stop: 27725, Start Num: 22

Candidate Starts for CactusRose_32:

(Start: 22 @27357 has 9 MA's), (31, 27438), (32, 27447), (33, 27450), (52, 27585), (53, 27588), (54, 27591),

Gene: Caprice_88 Start: 55099, Stop: 55506, Start Num: 14

Candidate Starts for Caprice_88:

(Start: 14 @55099 has 57 MA's), (30, 55207), (36, 55258), (42, 55303), (53, 55363), (68, 55459),

Gene: Catdawg_60 Start: 40150, Stop: 40551, Start Num: 14

Candidate Starts for Catdawg_60:

(Start: 14 @40150 has 57 MA's), (Start: 22 @40186 has 9 MA's), (Start: 25 @40228 has 1 MA's), (30, 40258), (42, 40354), (53, 40414), (66, 40489),

Gene: Cborch11_33 Start: 30711, Stop: 31118, Start Num: 14

Candidate Starts for Cborch11_33:

(Start: 14 @30711 has 57 MA's), (24, 30771), (27, 30795), (40, 30906), (42, 30915), (43, 30918), (45, 30924), (48, 30936), (53, 30975), (66, 31050), (70, 31080),

Gene: Che9d_27 Start: 23483, Stop: 23914, Start Num: 12

Candidate Starts for Che9d_27:

(Start: 12 @23483 has 34 MA's), (Start: 21 @23525 has 1 MA's), (35, 23639), (44, 23708), (50, 23735), (55, 23777), (58, 23801), (65, 23840), (67, 23846),

Gene: Clarkson_96 Start: 55340, Stop: 55747, Start Num: 14

Candidate Starts for Clarkson_96:

(Start: 11 @55319 has 1 MA's), (Start: 14 @55340 has 57 MA's), (30, 55448), (36, 55499), (42, 55544), (53, 55604), (62, 55655), (68, 55700),

Gene: Coco12_23 Start: 24119, Stop: 24556, Start Num: 12

Candidate Starts for Coco12_23:

(Start: 12 @24119 has 34 MA's), (Start: 21 @24161 has 1 MA's), (34, 24263), (38, 24320), (44, 24344), (46, 24350), (50, 24371), (56, 24416),

Gene: Constella_35 Start: 32452, Stop: 32856, Start Num: 13

Candidate Starts for Constella_35:

(Start: 13 @32452 has 3 MA's), (24, 32515), (50, 32692), (53, 32719), (66, 32794),

Gene: Corazon_90 Start: 55534, Stop: 55941, Start Num: 14

Candidate Starts for Corazon_90:

(Start: 11 @55513 has 1 MA's), (Start: 14 @55534 has 57 MA's), (30, 55642), (36, 55693), (42, 55738), (53, 55798), (62, 55849), (68, 55894),

Gene: Corndog_63 Start: 41144, Stop: 41545, Start Num: 14

Candidate Starts for Corndog_63:

(Start: 14 @41144 has 57 MA's), (Start: 22 @41180 has 9 MA's), (30, 41252), (42, 41348), (53, 41408), (66, 41483),

Gene: Cornie_23 Start: 24610, Stop: 25041, Start Num: 12

Candidate Starts for Cornie_23:

(Start: 12 @24610 has 34 MA's), (Start: 21 @24652 has 1 MA's), (44, 24835), (46, 24841), (50, 24862), (55, 24904), (58, 24928), (65, 24967), (67, 24973),

Gene: Corvo_34 Start: 28389, Stop: 28790, Start Num: 15

Candidate Starts for Corvo_34:

(Start: 15 @28389 has 28 MA's), (33, 28515), (34, 28518), (43, 28596), (48, 28614), (52, 28650), (68, 28749), (69, 28755),

Gene: Cosmo_46 Start: 35023, Stop: 35430, Start Num: 14

Candidate Starts for Cosmo_46:

(Start: 14 @35023 has 57 MA's), (Start: 18 @35035 has 12 MA's), (42, 35227), (47, 35245), (48, 35248), (50, 35260), (54, 35290), (66, 35362), (70, 35392), (72, 35425),

Gene: Courthouse_39 Start: 34108, Stop: 34539, Start Num: 12

Candidate Starts for Courthouse_39:

(Start: 12 @34108 has 34 MA's), (Start: 21 @34150 has 1 MA's), (34, 34252), (35, 34264), (37, 34297), (44, 34333), (46, 34339), (50, 34360), (56, 34405), (61, 34438), (65, 34465), (67, 34471),

Gene: Cueylyss_33 Start: 27563, Stop: 27964, Start Num: 15

Candidate Starts for Cueylyss_33:

(Start: 15 @27563 has 28 MA's), (33, 27689), (34, 27692), (43, 27770), (48, 27788), (52, 27824), (68, 27923), (69, 27929),

Gene: Dallas_42 Start: 33204, Stop: 33593, Start Num: 18

Candidate Starts for Dallas_42:

(Start: 18 @33204 has 12 MA's), (36, 33351), (39, 33384), (64, 33519),

Gene: Damien_32 Start: 30712, Stop: 31119, Start Num: 14

Candidate Starts for Damien_32:

(Start: 14 @30712 has 57 MA's), (24, 30772), (27, 30796), (40, 30907), (42, 30916), (43, 30919), (45, 30925), (48, 30937), (53, 30976), (66, 31051), (70, 31081),

Gene: Demsculpinboyz_27 Start: 23468, Stop: 23899, Start Num: 12

Candidate Starts for Demsculpinboyz_27:

(Start: 12 @23468 has 34 MA's), (19, 23492), (35, 23624), (44, 23693), (46, 23699), (50, 23720), (55, 23762), (58, 23786), (65, 23825), (67, 23831),

Gene: Dexes_34 Start: 28150, Stop: 28518, Start Num: 22

Candidate Starts for Dexes_34:

(Start: 22 @28150 has 9 MA's), (31, 28231), (33, 28243), (52, 28378), (53, 28381), (54, 28384),

Gene: DmpstrDiver_40 Start: 36756, Stop: 37187, Start Num: 12

Candidate Starts for DmpstrDiver_40:

(Start: 12 @36756 has 34 MA's), (Start: 21 @36798 has 1 MA's), (34, 36900), (35, 36912), (37, 36945), (44, 36981), (46, 36987), (50, 37008), (56, 37053), (61, 37086), (65, 37113), (67, 37119),

Gene: Dove_39 Start: 32683, Stop: 33081, Start Num: 17

Candidate Starts for Dove_39:

(Start: 17 @32683 has 8 MA's), (23, 32719), (30, 32788), (53, 32944), (60, 32986),

Gene: Dreamboat_34 Start: 27395, Stop: 27796, Start Num: 15

Candidate Starts for Dreamboat_34:

(Start: 15 @27395 has 28 MA's), (33, 27521), (34, 27524), (43, 27602), (48, 27620), (52, 27656), (68, 27755), (69, 27761),

Gene: Dussy_34 Start: 27657, Stop: 28058, Start Num: 15

Candidate Starts for Dussy_34:

(Start: 15 @27657 has 28 MA's), (33, 27783), (34, 27786), (43, 27864), (48, 27882), (52, 27918), (68, 28017), (69, 28023),

Gene: Dylan_60 Start: 40195, Stop: 40596, Start Num: 14

Candidate Starts for Dylan_60:

(Start: 14 @40195 has 57 MA's), (Start: 22 @40231 has 9 MA's), (30, 40303), (42, 40399), (53, 40459), (66, 40534),

Gene: Ejimix_41 Start: 34413, Stop: 34811, Start Num: 17

Candidate Starts for Ejimix_41:

(Start: 17 @34413 has 8 MA's), (23, 34449), (30, 34518), (53, 34674), (60, 34716),

Gene: EniyanLRS_43 Start: 34721, Stop: 35128, Start Num: 14

Candidate Starts for EniyanLRS_43:

(Start: 14 @34721 has 57 MA's), (Start: 18 @34733 has 12 MA's), (42, 34925), (47, 34943), (48, 34946), (50, 34958), (54, 34988), (66, 35060), (70, 35090), (72, 35123),

Gene: EricMillard_41 Start: 33965, Stop: 34354, Start Num: 18

Candidate Starts for EricMillard_41:

(Start: 18 @33965 has 12 MA's), (36, 34112), (39, 34145), (64, 34280),

Gene: Estave1_21 Start: 23840, Stop: 24271, Start Num: 12

Candidate Starts for Estave1_21:

(Start: 12 @23840 has 34 MA's), (Start: 21 @23882 has 1 MA's), (44, 24065), (46, 24071), (50, 24092), (55, 24134), (58, 24158), (65, 24197), (67, 24203),

Gene: Euphoria_33 Start: 27428, Stop: 27829, Start Num: 15

Candidate Starts for Euphoria_33:

(Start: 15 @27428 has 28 MA's), (33, 27554), (34, 27557), (43, 27635), (48, 27653), (52, 27689), (68, 27788), (69, 27794),

Gene: Eyeball_33 Start: 27233, Stop: 27634, Start Num: 15

Candidate Starts for Eyeball_33:

(Start: 15 @27233 has 28 MA's), (33, 27359), (34, 27362), (43, 27440), (48, 27458), (52, 27494), (68, 27593), (69, 27599),

Gene: Familton_61 Start: 40107, Stop: 40508, Start Num: 14

Candidate Starts for Familton_61:

(Start: 14 @40107 has 57 MA's), (Start: 22 @40143 has 9 MA's), (Start: 25 @40185 has 1 MA's), (30, 40215), (42, 40311), (53, 40371), (66, 40446),

Gene: Firecracker_61 Start: 40297, Stop: 40698, Start Num: 14

Candidate Starts for Firecracker_61:

(Start: 14 @40297 has 57 MA's), (Start: 22 @40333 has 9 MA's), (30, 40405), (42, 40501), (53, 40561), (66, 40636),

Gene: Forsytheast_33 Start: 27667, Stop: 28068, Start Num: 15

Candidate Starts for Forsytheast_33:

(Start: 15 @27667 has 28 MA's), (33, 27793), (34, 27796), (43, 27874), (48, 27892), (52, 27928), (68, 28027), (69, 28033),

Gene: FoulBall_57 Start: 40101, Stop: 40502, Start Num: 14

Candidate Starts for FoulBall_57:

(Start: 14 @40101 has 57 MA's), (Start: 22 @40137 has 9 MA's), (Start: 25 @40179 has 1 MA's), (30, 40209), (42, 40305), (53, 40365), (66, 40440),

Gene: Gattaca_94 Start: 55573, Stop: 55980, Start Num: 14

Candidate Starts for Gattaca_94:

(Start: 14 @55573 has 57 MA's), (30, 55681), (36, 55732), (42, 55777), (53, 55837), (68, 55933),

Gene: Graduation_35 Start: 28150, Stop: 28551, Start Num: 15

Candidate Starts for Graduation_35:

(Start: 15 @28150 has 28 MA's), (33, 28276), (34, 28279), (43, 28357), (48, 28375), (52, 28411), (68, 28510), (69, 28516),

Gene: GrecoEtereo_35 Start: 28237, Stop: 28638, Start Num: 15

Candidate Starts for GrecoEtereo_35:

(Start: 15 @28237 has 28 MA's), (33, 28363), (34, 28366), (43, 28444), (48, 28462), (52, 28498), (68, 28597), (69, 28603),

Gene: Halley_41 Start: 33678, Stop: 34067, Start Num: 18

Candidate Starts for Halley_41:

(Start: 18 @33678 has 12 MA's), (36, 33825), (39, 33858), (64, 33993),

Gene: HanShotFirst_33 Start: 27403, Stop: 27771, Start Num: 22

Candidate Starts for HanShotFirst_33:

(Start: 22 @27403 has 9 MA's), (31, 27484), (33, 27496), (52, 27631), (53, 27634), (54, 27637),

Gene: Hannaconda_36 Start: 32698, Stop: 33129, Start Num: 12

Candidate Starts for Hannaconda_36:

(Start: 12 @32698 has 34 MA's), (Start: 18 @32719 has 12 MA's), (Start: 21 @32740 has 1 MA's), (35, 32854), (44, 32923), (46, 32929), (50, 32950), (55, 32992), (56, 32995), (58, 33016), (65, 33055), (68, 33079),

Gene: HarryOW_34 Start: 27857, Stop: 28225, Start Num: 22

Candidate Starts for HarryOW_34:

(Start: 22 @27857 has 9 MA's), (31, 27938), (33, 27950), (52, 28085), (53, 28088), (54, 28091),

Gene: Hawkeye_36 Start: 29723, Stop: 30130, Start Num: 14

Candidate Starts for Hawkeye_36:

(Start: 14 @29723 has 57 MA's), (28, 29810), (29, 29816), (37, 29900), (40, 29918), (41, 29921), (43, 29930), (50, 29960), (52, 29984),

Gene: Hermia_35 Start: 28954, Stop: 29355, Start Num: 15

Candidate Starts for Hermia_35:

(Start: 15 @28954 has 28 MA's), (33, 29080), (34, 29083), (43, 29161), (48, 29179), (52, 29215), (68, 29314), (69, 29320),

Gene: HokkenD_36 Start: 33227, Stop: 33616, Start Num: 18

Candidate Starts for HokkenD_36:

(Start: 18 @33227 has 12 MA's), (36, 33374), (39, 33407), (64, 33542),

Gene: Homines_33 Start: 27796, Stop: 28203, Start Num: 25

Candidate Starts for Homines_33:

(Start: 25 @27796 has 1 MA's), (26, 27799), (27, 27802), (30, 27826), (34, 27850), (39, 27910), (43, 27928), (48, 27946), (69, 28087), (73, 28126), (74, 28138),

Gene: Hope4ever_33 Start: 27840, Stop: 28241, Start Num: 15

Candidate Starts for Hope4ever_33:

(Start: 15 @27840 has 28 MA's), (33, 27966), (34, 27969), (43, 28047), (48, 28065), (52, 28101), (68, 28200), (69, 28206),

Gene: Hughesyang_39 Start: 33556, Stop: 33954, Start Num: 17

Candidate Starts for Hughesyang_39:

(Start: 17 @33556 has 8 MA's), (23, 33592), (30, 33661), (53, 33817), (60, 33859),

Gene: Huphlepuuff_97 Start: 55145, Stop: 55552, Start Num: 14

Candidate Starts for Huphlepuuff_97:

(Start: 11 @55124 has 1 MA's), (Start: 14 @55145 has 57 MA's), (30, 55253), (36, 55304), (42, 55349), (53, 55409), (62, 55460), (68, 55505),

Gene: ILeeKay_35 Start: 27604, Stop: 28005, Start Num: 15

Candidate Starts for ILeeKay_35:

(Start: 15 @27604 has 28 MA's), (33, 27730), (34, 27733), (43, 27811), (48, 27829), (52, 27865), (68, 27964), (69, 27970),

Gene: Idergollasper_60 Start: 40101, Stop: 40502, Start Num: 14

Candidate Starts for Idergollasper_60:

(Start: 14 @40101 has 57 MA's), (Start: 22 @40137 has 9 MA's), (Start: 25 @40179 has 1 MA's), (30, 40209), (42, 40305), (53, 40365), (66, 40440),

Gene: IgnatiusPatJac_33 Start: 27718, Stop: 28086, Start Num: 22

Candidate Starts for IgnatiusPatJac_33:

(Start: 22 @27718 has 9 MA's), (31, 27799), (33, 27811), (52, 27946), (53, 27949), (54, 27952),

Gene: Island3_23 Start: 23116, Stop: 23517, Start Num: 14

Candidate Starts for Island3_23:

(Start: 14 @23116 has 57 MA's), (39, 23308), (47, 23338), (50, 23353), (53, 23380), (66, 23455),

Gene: JC27_35 Start: 28372, Stop: 28740, Start Num: 22

Candidate Starts for JC27_35:

(Start: 22 @28372 has 9 MA's), (31, 28453), (33, 28465), (52, 28600), (53, 28603), (54, 28606),

Gene: Jabbawokkie_29 Start: 24166, Stop: 24603, Start Num: 12

Candidate Starts for Jabbawokkie_29:

(Start: 12 @24166 has 34 MA's), (Start: 21 @24208 has 1 MA's), (35, 24322), (44, 24391), (46, 24397), (50, 24418), (55, 24460), (58, 24484), (65, 24529), (68, 24553), (71, 24586), (72, 24595),

Gene: JangDynasty_60 Start: 40187, Stop: 40588, Start Num: 14

Candidate Starts for JangDynasty_60:

(Start: 14 @40187 has 57 MA's), (Start: 22 @40223 has 9 MA's), (Start: 25 @40265 has 1 MA's), (30, 40295), (42, 40391), (53, 40451), (66, 40526),

Gene: Jasper_34 Start: 27281, Stop: 27682, Start Num: 15

Candidate Starts for Jasper_34:

(Start: 15 @27281 has 28 MA's), (33, 27407), (34, 27410), (43, 27488), (48, 27506), (52, 27542), (68, 27641), (69, 27647),

Gene: JoieB_96 Start: 55748, Stop: 56155, Start Num: 14

Candidate Starts for JoieB_96:

(Start: 14 @55748 has 57 MA's), (30, 55856), (36, 55907), (42, 55952), (53, 56012), (59, 56051), (62, 56063), (68, 56108),

Gene: JuicyJay_43 Start: 35428, Stop: 35817, Start Num: 18

Candidate Starts for JuicyJay_43:

(Start: 18 @35428 has 12 MA's), (36, 35575), (39, 35608), (64, 35743),

Gene: Kalah2_41 Start: 34015, Stop: 34404, Start Num: 18

Candidate Starts for Kalah2_41:

(Start: 18 @34015 has 12 MA's), (36, 34162), (39, 34195), (64, 34330),

Gene: KashFlow_33 Start: 32319, Stop: 32750, Start Num: 12

Candidate Starts for KashFlow_33:

(Start: 12 @32319 has 34 MA's), (Start: 18 @32340 has 12 MA's), (Start: 21 @32361 has 1 MA's), (35, 32475), (44, 32544), (46, 32550), (50, 32571), (55, 32613), (56, 32616), (58, 32637), (65, 32676), (68, 32700),

Gene: Kenmech_36 Start: 28744, Stop: 29145, Start Num: 15

Candidate Starts for Kenmech_36:

(Start: 15 @28744 has 28 MA's), (33, 28870), (34, 28873), (43, 28951), (48, 28969), (52, 29005), (68, 29104), (69, 29110),

Gene: Kenuha5_21 Start: 23861, Stop: 24292, Start Num: 12

Candidate Starts for Kenuha5_21:

(Start: 12 @23861 has 34 MA's), (19, 23885), (34, 24005), (35, 24017), (44, 24086), (46, 24092), (50, 24113), (55, 24155), (58, 24179), (65, 24218), (67, 24224),

Gene: Kersh_22 Start: 23904, Stop: 24335, Start Num: 12

Candidate Starts for Kersh_22:

(Start: 12 @23904 has 34 MA's), (Start: 21 @23946 has 1 MA's), (35, 24060), (44, 24129), (46, 24135), (50, 24156), (55, 24198), (58, 24222), (65, 24261), (67, 24267),

Gene: Kingsley_22 Start: 23580, Stop: 24017, Start Num: 12

Candidate Starts for Kingsley_22:

(Start: 12 @23580 has 34 MA's), (Start: 21 @23622 has 1 MA's), (34, 23724), (38, 23781), (44, 23805), (46, 23811), (50, 23832), (56, 23877), (65, 23943),

Gene: Klein_41 Start: 33239, Stop: 33628, Start Num: 18

Candidate Starts for Klein_41:

(Start: 18 @33239 has 12 MA's), (36, 33386), (39, 33419), (64, 33554),

Gene: Konstantine_37 Start: 31913, Stop: 32320, Start Num: 14

Candidate Starts for Konstantine_37:

(Start: 14 @31913 has 57 MA's), (24, 31973), (27, 31997), (40, 32108), (42, 32117), (43, 32120), (45, 32126), (48, 32138), (53, 32177), (66, 32252), (70, 32282),

Gene: Krili_59 Start: 39611, Stop: 40012, Start Num: 14

Candidate Starts for Krili_59:

(Start: 14 @39611 has 57 MA's), (Start: 22 @39647 has 9 MA's), (Start: 25 @39689 has 1 MA's), (30, 39719), (42, 39815), (53, 39875), (66, 39950),

Gene: Kumao_33 Start: 30358, Stop: 30762, Start Num: 17

Candidate Starts for Kumao_33:

(Start: 17 @30358 has 8 MA's), (42, 30559), (47, 30577), (50, 30592), (53, 30619), (54, 30622), (59, 30658), (66, 30694), (69, 30721),

Gene: Licorice_35 Start: 28435, Stop: 28836, Start Num: 15

Candidate Starts for Licorice_35:

(Start: 15 @28435 has 28 MA's), (33, 28561), (34, 28564), (43, 28642), (48, 28660), (52, 28696), (68, 28795), (69, 28801),

Gene: LilBib_35 Start: 28680, Stop: 29048, Start Num: 22
Candidate Starts for LilBib_35:
(Start: 22 @28680 has 9 MA's), (31, 28761), (33, 28773), (52, 28908), (53, 28911), (54, 28914),

Gene: Lilbit_93 Start: 55705, Stop: 56112, Start Num: 14
Candidate Starts for Lilbit_93:
(Start: 11 @55684 has 1 MA's), (Start: 14 @55705 has 57 MA's), (30, 55813), (36, 55864), (42, 55909), (53, 55969), (62, 56020), (68, 56065),

Gene: LittleLaf_93 Start: 55434, Stop: 55841, Start Num: 14
Candidate Starts for LittleLaf_93:
(Start: 11 @55413 has 1 MA's), (Start: 14 @55434 has 57 MA's), (30, 55542), (36, 55593), (42, 55638), (53, 55698), (62, 55749), (68, 55794),

Gene: Lucky2013_39 Start: 34235, Stop: 34666, Start Num: 12
Candidate Starts for Lucky2013_39:
(Start: 12 @34235 has 34 MA's), (Start: 21 @34277 has 1 MA's), (34, 34379), (35, 34391), (37, 34424), (44, 34460), (46, 34466), (50, 34487), (56, 34532), (61, 34565), (65, 34592), (67, 34598),

Gene: LunaStella_22 Start: 24249, Stop: 24680, Start Num: 12
Candidate Starts for LunaStella_22:
(Start: 10 @24237 has 1 MA's), (Start: 12 @24249 has 34 MA's), (Start: 21 @24291 has 1 MA's), (34, 24393), (35, 24405), (44, 24474), (46, 24480), (50, 24501), (55, 24543), (58, 24567), (65, 24606), (67, 24612),

Gene: MadKillah_61 Start: 39880, Stop: 40281, Start Num: 14
Candidate Starts for MadKillah_61:
(Start: 14 @39880 has 57 MA's), (Start: 22 @39916 has 9 MA's), (Start: 25 @39958 has 1 MA's), (30, 39988), (42, 40084), (53, 40144), (66, 40219),

Gene: MadMen_22 Start: 23958, Stop: 24389, Start Num: 12
Candidate Starts for MadMen_22:
(Start: 12 @23958 has 34 MA's), (Start: 21 @24000 has 1 MA's), (35, 24114), (44, 24183), (46, 24189), (50, 24210), (55, 24252), (58, 24276), (65, 24315), (67, 24321),

Gene: Madiba_22 Start: 23608, Stop: 24039, Start Num: 12
Candidate Starts for Madiba_22:
(Start: 12 @23608 has 34 MA's), (19, 23632), (35, 23764), (44, 23833), (46, 23839), (50, 23860), (55, 23902), (58, 23926), (65, 23965), (67, 23971),

Gene: Marvin_89 Start: 55227, Stop: 55634, Start Num: 14
Candidate Starts for Marvin_89:
(Start: 14 @55227 has 57 MA's), (30, 55335), (36, 55386), (42, 55431), (53, 55491), (59, 55530), (62, 55542), (68, 55587),

Gene: MaryBeth_33 Start: 27595, Stop: 27996, Start Num: 15
Candidate Starts for MaryBeth_33:
(Start: 15 @27595 has 28 MA's), (33, 27721), (34, 27724), (43, 27802), (48, 27820), (52, 27856), (68, 27955), (69, 27961),

Gene: MaryV_46 Start: 35008, Stop: 35415, Start Num: 14
Candidate Starts for MaryV_46:

(Start: 14 @35008 has 57 MA's), (Start: 18 @35020 has 12 MA's), (42, 35212), (47, 35230), (48, 35233), (50, 35245), (54, 35275), (66, 35347), (70, 35377), (72, 35410),

Gene: Megatron06_35 Start: 31245, Stop: 31652, Start Num: 14

Candidate Starts for Megatron06_35:

(Start: 14 @31245 has 57 MA's), (24, 31305), (27, 31329), (40, 31440), (42, 31449), (43, 31452), (45, 31458), (48, 31470), (53, 31509), (66, 31584), (70, 31614),

Gene: MetalQZJ_33 Start: 27595, Stop: 27996, Start Num: 15

Candidate Starts for MetalQZJ_33:

(Start: 15 @27595 has 28 MA's), (33, 27721), (34, 27724), (43, 27802), (48, 27820), (52, 27856), (68, 27955), (69, 27961),

Gene: MiaZeal_39 Start: 33919, Stop: 34350, Start Num: 12

Candidate Starts for MiaZeal_39:

(Start: 12 @33919 has 34 MA's), (Start: 21 @33961 has 1 MA's), (34, 34063), (35, 34075), (37, 34108), (44, 34144), (46, 34150), (50, 34171), (56, 34216), (61, 34249), (65, 34276), (67, 34282),

Gene: MooMoo_21 Start: 23416, Stop: 23847, Start Num: 12

Candidate Starts for MooMoo_21:

(5, 23311), (6, 23377), (Start: 12 @23416 has 34 MA's), (34, 23560), (46, 23647), (50, 23668), (55, 23710), (58, 23734), (61, 23746), (65, 23773), (67, 23779), (72, 23839),

Gene: Moose_33 Start: 27667, Stop: 28068, Start Num: 15

Candidate Starts for Moose_33:

(Start: 15 @27667 has 28 MA's), (33, 27793), (34, 27796), (43, 27874), (48, 27892), (52, 27928), (68, 28027), (69, 28033),

Gene: Mori_60 Start: 40142, Stop: 40543, Start Num: 14

Candidate Starts for Mori_60:

(Start: 14 @40142 has 57 MA's), (Start: 22 @40178 has 9 MA's), (Start: 25 @40220 has 1 MA's), (30, 40250), (42, 40346), (53, 40406), (66, 40481),

Gene: MosMoris_91 Start: 55579, Stop: 55986, Start Num: 14

Candidate Starts for MosMoris_91:

(Start: 14 @55579 has 57 MA's), (30, 55687), (36, 55738), (42, 55783), (53, 55843), (68, 55939),

Gene: Murai_61 Start: 40323, Stop: 40724, Start Num: 14

Candidate Starts for Murai_61:

(Start: 14 @40323 has 57 MA's), (Start: 22 @40359 has 9 MA's), (Start: 25 @40401 has 1 MA's), (30, 40431), (42, 40527), (53, 40587), (66, 40662),

Gene: Nala_29 Start: 28568, Stop: 28996, Start Num: 12

Candidate Starts for Nala_29:

(3, 28397), (Start: 12 @28568 has 34 MA's), (44, 28793), (50, 28820), (55, 28862), (57, 28874), (58, 28886),

Gene: NiebruSaylor_59 Start: 39530, Stop: 39931, Start Num: 14

Candidate Starts for NiebruSaylor_59:

(Start: 14 @39530 has 57 MA's), (Start: 22 @39566 has 9 MA's), (Start: 25 @39608 has 1 MA's), (30, 39638), (42, 39734), (53, 39794), (66, 39869),

Gene: NihilNomen_40 Start: 33704, Stop: 34102, Start Num: 17

Candidate Starts for NihilNomen_40:

(Start: 17 @33704 has 8 MA's), (23, 33740), (30, 33809), (53, 33965), (60, 34007),

Gene: Oaker_32 Start: 30969, Stop: 31376, Start Num: 14

Candidate Starts for Oaker_32:

(Start: 14 @30969 has 57 MA's), (24, 31029), (27, 31053), (40, 31164), (42, 31173), (43, 31176), (45, 31182), (48, 31194), (53, 31233), (66, 31308), (70, 31338),

Gene: Odette_40 Start: 32937, Stop: 33335, Start Num: 17

Candidate Starts for Odette_40:

(Start: 17 @32937 has 8 MA's), (23, 32973), (30, 33042), (53, 33198), (60, 33240),

Gene: Ogopogo_24 Start: 24068, Stop: 24499, Start Num: 12

Candidate Starts for Ogopogo_24:

(Start: 12 @24068 has 34 MA's), (Start: 21 @24110 has 1 MA's), (35, 24224), (44, 24293), (46, 24299), (50, 24320), (55, 24362), (58, 24386), (65, 24425), (67, 24431),

Gene: Papez_35 Start: 29148, Stop: 29549, Start Num: 15

Candidate Starts for Papez_35:

(Start: 15 @29148 has 28 MA's), (33, 29274), (34, 29277), (43, 29355), (48, 29373), (52, 29409), (68, 29508), (69, 29514),

Gene: Pelly_34 Start: 28171, Stop: 28539, Start Num: 22

Candidate Starts for Pelly_34:

(Start: 22 @28171 has 9 MA's), (31, 28252), (33, 28264), (52, 28399), (53, 28402), (54, 28405),

Gene: Peterson_36 Start: 29362, Stop: 29763, Start Num: 16

Candidate Starts for Peterson_36:

(Start: 16 @29362 has 1 MA's), (Start: 20 @29389 has 1 MA's), (33, 29488), (37, 29536), (43, 29569), (52, 29623), (69, 29728),

Gene: Phanphagia_21 Start: 23774, Stop: 24211, Start Num: 12

Candidate Starts for Phanphagia_21:

(Start: 12 @23774 has 34 MA's), (Start: 21 @23816 has 1 MA's), (34, 23918), (38, 23975), (44, 23999), (46, 24005), (50, 24026), (56, 24071), (65, 24137),

Gene: PherrisBueller_34 Start: 27304, Stop: 27705, Start Num: 15

Candidate Starts for PherrisBueller_34:

(Start: 15 @27304 has 28 MA's), (33, 27430), (34, 27433), (43, 27511), (48, 27529), (52, 27565), (68, 27664), (69, 27670),

Gene: Phoebus_40 Start: 33965, Stop: 34354, Start Num: 18

Candidate Starts for Phoebus_40:

(Start: 18 @33965 has 12 MA's), (36, 34112), (39, 34145), (64, 34280),

Gene: Phrappuccino_176 Start: 115819, Stop: 116232, Start Num: 14

Candidate Starts for Phrappuccino_176:

(Start: 14 @115819 has 57 MA's), (26, 115900), (30, 115927), (42, 116023), (51, 116059), (62, 116137), (63, 116146),

Gene: Phreeze_32 Start: 30712, Stop: 31119, Start Num: 14

Candidate Starts for Phreeze_32:

(Start: 14 @30712 has 57 MA's), (24, 30772), (27, 30796), (40, 30907), (42, 30916), (43, 30919), (45, 30925), (48, 30937), (53, 30976), (66, 31051), (70, 31081),

Gene: Poise_96 Start: 55161, Stop: 55568, Start Num: 14

Candidate Starts for Poise_96:

(Start: 14 @55161 has 57 MA's), (30, 55269), (36, 55320), (42, 55365), (53, 55425), (68, 55521),

Gene: Pollywog_24 Start: 24938, Stop: 25369, Start Num: 12

Candidate Starts for Pollywog_24:

(Start: 12 @24938 has 34 MA's), (Start: 21 @24980 has 1 MA's), (34, 25082), (35, 25094), (44, 25163), (46, 25169), (50, 25190), (55, 25232), (58, 25256), (65, 25295), (67, 25301),

Gene: Porcelain_38 Start: 33919, Stop: 34350, Start Num: 12

Candidate Starts for Porcelain_38:

(Start: 12 @33919 has 34 MA's), (Start: 21 @33961 has 1 MA's), (34, 34063), (35, 34075), (37, 34108), (44, 34144), (46, 34150), (50, 34171), (56, 34216), (61, 34249), (65, 34276), (67, 34282),

Gene: Pound_42 Start: 34935, Stop: 35333, Start Num: 17

Candidate Starts for Pound_42:

(Start: 17 @34935 has 8 MA's), (23, 34971), (30, 35040), (53, 35196), (60, 35238),

Gene: Pringar_91 Start: 54946, Stop: 55353, Start Num: 14

Candidate Starts for Pringar_91:

(Start: 11 @54925 has 1 MA's), (Start: 14 @54946 has 57 MA's), (30, 55054), (36, 55105), (42, 55150), (53, 55210), (59, 55249), (62, 55261), (68, 55306),

Gene: Puissant_31 Start: 31180, Stop: 31587, Start Num: 14

Candidate Starts for Puissant_31:

(Start: 14 @31180 has 57 MA's), (26, 31261), (29, 31273), (36, 31339), (43, 31387), (53, 31444),

Gene: Pygmy_22 Start: 22761, Stop: 23162, Start Num: 14

Candidate Starts for Pygmy_22:

(Start: 14 @22761 has 57 MA's), (39, 22953), (47, 22983), (50, 22998), (53, 23025), (66, 23100),

Gene: Raela_97 Start: 55712, Stop: 56119, Start Num: 14

Candidate Starts for Raela_97:

(Start: 14 @55712 has 57 MA's), (28, 55799), (30, 55820), (36, 55871), (42, 55916), (53, 55976), (62, 56027), (68, 56072),

Gene: RedRaider77_95 Start: 55106, Stop: 55513, Start Num: 14

Candidate Starts for RedRaider77_95:

(Start: 14 @55106 has 57 MA's), (30, 55214), (36, 55265), (42, 55310), (53, 55370), (62, 55421), (68, 55466),

Gene: Redno2_39 Start: 33428, Stop: 33817, Start Num: 18

Candidate Starts for Redno2_39:

(Start: 18 @33428 has 12 MA's), (36, 33575), (39, 33608), (64, 33743),

Gene: Renaud18_23 Start: 24145, Stop: 24582, Start Num: 12

Candidate Starts for Renaud18_23:

(Start: 10 @24133 has 1 MA's), (Start: 12 @24145 has 34 MA's), (Start: 21 @24187 has 1 MA's), (35, 24301), (44, 24370), (46, 24376), (50, 24397), (55, 24439), (58, 24463), (65, 24508), (68, 24532), (71, 24565), (72, 24574),

Gene: RidgeCB_33 Start: 27235, Stop: 27636, Start Num: 15

Candidate Starts for RidgeCB_33:

(Start: 15 @27235 has 28 MA's), (33, 27361), (34, 27364), (43, 27442), (48, 27460), (52, 27496), (68, 27595), (69, 27601),

Gene: Ryadel_64 Start: 40911, Stop: 41312, Start Num: 14

Candidate Starts for Ryadel_64:

(Start: 14 @40911 has 57 MA's), (Start: 22 @40947 has 9 MA's), (Start: 25 @40989 has 1 MA's), (30, 41019), (42, 41115), (53, 41175), (66, 41250),

Gene: Schatzie_38 Start: 32685, Stop: 33083, Start Num: 17

Candidate Starts for Schatzie_38:

(Start: 17 @32685 has 8 MA's), (23, 32721), (30, 32790), (53, 32946), (60, 32988),

Gene: SchoolBus_60 Start: 40095, Stop: 40496, Start Num: 14

Candidate Starts for SchoolBus_60:

(Start: 14 @40095 has 57 MA's), (Start: 22 @40131 has 9 MA's), (Start: 25 @40173 has 1 MA's), (30, 40203), (42, 40299), (53, 40359), (66, 40434),

Gene: Schuy_58 Start: 39886, Stop: 40287, Start Num: 14

Candidate Starts for Schuy_58:

(Start: 14 @39886 has 57 MA's), (Start: 22 @39922 has 9 MA's), (Start: 25 @39964 has 1 MA's), (30, 39994), (42, 40090), (53, 40150), (66, 40225),

Gene: ScoobyDoobyDoo_108 Start: 59606, Stop: 60013, Start Num: 14

Candidate Starts for ScoobyDoobyDoo_108:

(1, 59330), (2, 59351), (7, 59570), (Start: 14 @59606 has 57 MA's), (Start: 25 @59684 has 1 MA's), (26, 59687), (42, 59810), (49, 59834), (53, 59870), (66, 59948),

Gene: Settecandela_176 Start: 115819, Stop: 116232, Start Num: 14

Candidate Starts for Settecandela_176:

(Start: 14 @115819 has 57 MA's), (26, 115900), (30, 115927), (42, 116023), (51, 116059), (62, 116137), (63, 116146),

Gene: Shauna1_21 Start: 23777, Stop: 24214, Start Num: 12

Candidate Starts for Shauna1_21:

(Start: 12 @23777 has 34 MA's), (Start: 21 @23819 has 1 MA's), (34, 23921), (38, 23978), (44, 24002), (46, 24008), (50, 24029), (56, 24074), (65, 24140),

Gene: Shida_60 Start: 39793, Stop: 40194, Start Num: 14

Candidate Starts for Shida_60:

(Start: 14 @39793 has 57 MA's), (Start: 22 @39829 has 9 MA's), (Start: 25 @39871 has 1 MA's), (30, 39901), (42, 39997), (53, 40057), (66, 40132),

Gene: Shipwreck_22 Start: 22739, Stop: 23140, Start Num: 14

Candidate Starts for Shipwreck_22:

(Start: 14 @22739 has 57 MA's), (39, 22931), (47, 22961), (50, 22976), (53, 23003), (66, 23078),

Gene: ShroomBoi_21 Start: 23747, Stop: 24178, Start Num: 12

Candidate Starts for ShroomBoi_21:

(Start: 12 @23747 has 34 MA's), (Start: 18 @23768 has 12 MA's), (Start: 21 @23789 has 1 MA's), (Start: 25 @23834 has 1 MA's), (34, 23891), (44, 23972), (61, 24077), (65, 24104), (71, 24161),

Gene: Smairt_34 Start: 28184, Stop: 28552, Start Num: 22

Candidate Starts for Smairt_34:

(Start: 22 @28184 has 9 MA's), (31, 28265), (33, 28277), (52, 28412), (53, 28415), (54, 28418),

Gene: Smeagol_35 Start: 28818, Stop: 29192, Start Num: 20

Candidate Starts for Smeagol_35:

(Start: 20 @28818 has 1 MA's), (33, 28917), (43, 28998), (69, 29157),

Gene: Smooch_63 Start: 41815, Stop: 42216, Start Num: 14

Candidate Starts for Smooch_63:

(Start: 14 @41815 has 57 MA's), (Start: 22 @41851 has 9 MA's), (Start: 25 @41893 has 1 MA's), (30, 41923), (42, 42019), (53, 42079), (66, 42154),

Gene: Soul22_27 Start: 23516, Stop: 23911, Start Num: 21

Candidate Starts for Soul22_27:

(Start: 12 @23474 has 34 MA's), (Start: 21 @23516 has 1 MA's), (34, 23618), (35, 23630), (44, 23699), (46, 23705), (50, 23726), (55, 23768), (58, 23792), (65, 23837), (68, 23861), (71, 23894), (72, 23903),

Gene: Squint_38 Start: 34038, Stop: 34469, Start Num: 12

Candidate Starts for Squint_38:

(Start: 12 @34038 has 34 MA's), (Start: 21 @34080 has 1 MA's), (34, 34182), (35, 34194), (37, 34227), (44, 34263), (46, 34269), (50, 34290), (56, 34335), (61, 34368), (65, 34395), (67, 34401),

Gene: Superphikiman_39 Start: 34101, Stop: 34532, Start Num: 12

Candidate Starts for Superphikiman_39:

(Start: 12 @34101 has 34 MA's), (Start: 21 @34143 has 1 MA's), (34, 34245), (35, 34257), (37, 34290), (44, 34326), (46, 34332), (50, 34353), (56, 34398), (61, 34431), (65, 34458), (67, 34464),

Gene: SwissCheese_35 Start: 28167, Stop: 28568, Start Num: 15

Candidate Starts for SwissCheese_35:

(Start: 15 @28167 has 28 MA's), (33, 28293), (34, 28296), (43, 28374), (48, 28392), (52, 28428), (68, 28527), (69, 28533),

Gene: TChen_21 Start: 24250, Stop: 24681, Start Num: 12

Candidate Starts for TChen_21:

(Start: 12 @24250 has 34 MA's), (Start: 21 @24292 has 1 MA's), (34, 24394), (35, 24406), (44, 24475), (46, 24481), (50, 24502), (55, 24544), (58, 24568), (65, 24607), (67, 24613),

Gene: TelAviv_57 Start: 40068, Stop: 40469, Start Num: 14

Candidate Starts for TelAviv_57:

(Start: 14 @40068 has 57 MA's), (Start: 22 @40104 has 9 MA's), (Start: 25 @40146 has 1 MA's), (30, 40176), (42, 40272), (53, 40332), (66, 40407),

Gene: Tesla_91 Start: 54955, Stop: 55362, Start Num: 14

Candidate Starts for Tesla_91:

(Start: 14 @54955 has 57 MA's), (28, 55042), (30, 55063), (36, 55114), (42, 55159), (53, 55219), (68, 55315),

Gene: ThetaBob_23 Start: 24052, Stop: 24495, Start Num: 10

Candidate Starts for ThetaBob_23:

(8, 24040), (Start: 10 @24052 has 1 MA's), (Start: 12 @24064 has 34 MA's), (Start: 21 @24106 has 1 MA's), (34, 24208), (35, 24220), (44, 24289), (46, 24295), (50, 24316), (55, 24358), (58, 24382), (65, 24421), (67, 24427),

Gene: Thibault_37 Start: 33811, Stop: 34215, Start Num: 13

Candidate Starts for Thibault_37:

(Start: 13 @33811 has 3 MA's), (24, 33874), (50, 34051), (53, 34078), (66, 34153),

Gene: ThreeRngTarjay_39 Start: 33815, Stop: 34204, Start Num: 18

Candidate Starts for ThreeRngTarjay_39:

(Start: 18 @33815 has 12 MA's), (36, 33962), (39, 33995), (64, 34130),

Gene: Thumb_32 Start: 30709, Stop: 31116, Start Num: 14

Candidate Starts for Thumb_32:

(Start: 14 @30709 has 57 MA's), (24, 30769), (27, 30793), (40, 30904), (42, 30913), (43, 30916), (45, 30922), (48, 30934), (53, 30973), (59, 31012), (66, 31048), (70, 31078),

Gene: Topgun_33 Start: 27344, Stop: 27712, Start Num: 22

Candidate Starts for Topgun_33:

(Start: 22 @27344 has 9 MA's), (31, 27425), (33, 27437), (52, 27572), (53, 27575), (54, 27578),

Gene: Tripl3t_34 Start: 28311, Stop: 28712, Start Num: 15

Candidate Starts for Tripl3t_34:

(Start: 15 @28311 has 28 MA's), (33, 28437), (34, 28440), (43, 28518), (48, 28536), (52, 28572), (68, 28671), (69, 28677),

Gene: VasuNzinga_93 Start: 55038, Stop: 55445, Start Num: 14

Candidate Starts for VasuNzinga_93:

(Start: 14 @55038 has 57 MA's), (30, 55146), (36, 55197), (42, 55242), (53, 55302), (59, 55341), (62, 55353), (68, 55398),

Gene: Violet_32 Start: 27984, Stop: 28385, Start Num: 15

Candidate Starts for Violet_32:

(Start: 15 @27984 has 28 MA's), (33, 28110), (34, 28113), (43, 28191), (48, 28209), (52, 28245), (68, 28344), (69, 28350),

Gene: Vorrps_60 Start: 40143, Stop: 40544, Start Num: 14

Candidate Starts for Vorrps_60:

(Start: 14 @40143 has 57 MA's), (Start: 22 @40179 has 9 MA's), (Start: 25 @40221 has 1 MA's), (30, 40251), (42, 40347), (53, 40407), (66, 40482),

Gene: Wildcat_46 Start: 35018, Stop: 35425, Start Num: 14

Candidate Starts for Wildcat_46:

(Start: 14 @35018 has 57 MA's), (Start: 18 @35030 has 12 MA's), (42, 35222), (47, 35240), (48, 35243), (50, 35255), (54, 35285), (66, 35357), (70, 35387), (72, 35420),

Gene: Wildflower_58 Start: 39655, Stop: 40056, Start Num: 14

Candidate Starts for Wildflower_58:

(Start: 14 @39655 has 57 MA's), (Start: 22 @39691 has 9 MA's), (Start: 25 @39733 has 1 MA's), (30, 39763), (42, 39859), (53, 39919), (66, 39994),

Gene: Wilkins_33 Start: 27275, Stop: 27643, Start Num: 22

Candidate Starts for Wilkins_33:

(Start: 22 @27275 has 9 MA's), (31, 27356), (33, 27368), (52, 27503), (53, 27506), (54, 27509),

Gene: Winget_61 Start: 40361, Stop: 40762, Start Num: 14

Candidate Starts for Winget_61:

(Start: 14 @40361 has 57 MA's), (Start: 22 @40397 has 9 MA's), (30, 40469), (42, 40565), (53, 40625), (66, 40700),

Gene: Yeet_39 Start: 32930, Stop: 33328, Start Num: 17

Candidate Starts for Yeet_39:

(Start: 17 @32930 has 8 MA's), (23, 32966), (30, 33035), (53, 33191), (60, 33233),

Gene: Yoshi_27 Start: 23473, Stop: 23904, Start Num: 12

Candidate Starts for Yoshi_27:

(Start: 12 @23473 has 34 MA's), (Start: 21 @23515 has 1 MA's), (34, 23617), (35, 23629), (44, 23698), (46, 23704), (50, 23725), (55, 23767), (58, 23791), (65, 23830), (67, 23836),

Gene: YungJamal_65 Start: 41553, Stop: 41954, Start Num: 14

Candidate Starts for YungJamal_65:

(Start: 14 @41553 has 57 MA's), (Start: 22 @41589 has 9 MA's), (Start: 25 @41631 has 1 MA's), (30, 41661), (42, 41757), (53, 41817), (66, 41892),

Gene: Zakhe101_60 Start: 40199, Stop: 40600, Start Num: 14

Candidate Starts for Zakhe101_60:

(Start: 14 @40199 has 57 MA's), (Start: 22 @40235 has 9 MA's), (30, 40307), (42, 40403), (53, 40463), (66, 40538),

Gene: Zapner_28 Start: 24167, Stop: 24604, Start Num: 12

Candidate Starts for Zapner_28:

(Start: 12 @24167 has 34 MA's), (Start: 21 @24209 has 1 MA's), (35, 24323), (44, 24392), (46, 24398), (50, 24419), (55, 24461), (58, 24485), (65, 24530), (68, 24554), (71, 24587), (72, 24596),

Gene: Zelink_42 Start: 34759, Stop: 35148, Start Num: 18

Candidate Starts for Zelink_42:

(Start: 18 @34759 has 12 MA's), (36, 34906), (39, 34939), (64, 35074),