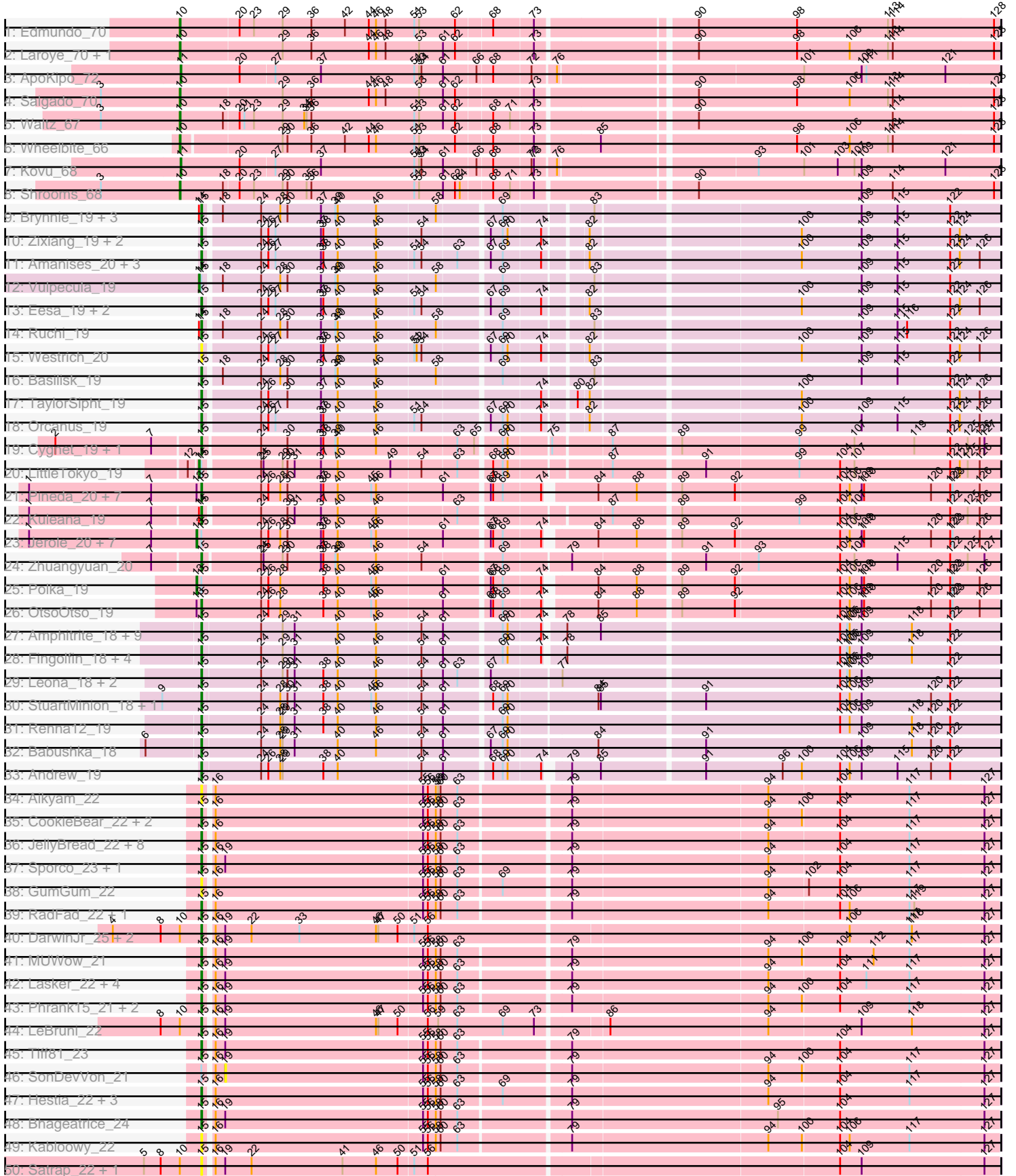


Pham 298209



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 298209 Report

This analysis was run 06/08/26 on database version 649.

Pham number 298209 has 145 members, 40 are drafts.

Phages represented in each track:

- Track 1 : Edmundo_70
- Track 2 : Laroye_70, LiSara_67
- Track 3 : ApoKipo_72
- Track 4 : Salgado_70
- Track 5 : Waltz_67
- Track 6 : Wheelbite_66
- Track 7 : Kovu_68
- Track 8 : Shrooms_68
- Track 9 : Brynnie_19, Jamun_19, WileyE_18, Chickaboom_18
- Track 10 : Zixiang_19, Niblet_19, Chicken_19
- Track 11 : Amanises_20, KendraB23_20, Toad24_20, Shen_20
- Track 12 : Vulpecula_19
- Track 13 : Eesa_19, Pelletreau_20, Gravel_20
- Track 14 : Ruchi_19
- Track 15 : Westrich_20
- Track 16 : Basilisk_19
- Track 17 : TaylorSipht_19
- Track 18 : Orcanus_19
- Track 19 : Cygnet_19, Antrice_19
- Track 20 : LittleTokyo_19
- Track 21 : Pineda_20, Bibble12_20, Amelia_20, PhirstandPhine_20, Bedetta_20, Lunar_20, Damocles_20, GramZayde_19
- Track 22 : Kuleana_19
- Track 23 : Jerole_20, HannahPhantana_20, Cote_20, Coral_19, Daob_20, Colusalem_19, Kepler_19, Melons_20
- Track 24 : Zhuangyuan_20
- Track 25 : Polka_19
- Track 26 : OtsoOtso_19
- Track 27 : Amphitrite_18, HamCheese_18, DanHam62_18, Glotell_18, PhluffyCoco_18, Laphuphu24k_18, AmiCi24_18, AdoptaAdorbs_18, RedFox_18, Oppalora_18
- Track 28 : Fingolfin_18, Juno112_18, KHumphrey_18, Atlantica_18, Camara_18
- Track 29 : Leona_18, Azaz_18, Rattail_18
- Track 30 : StuartMinion_18, AlexMinion_19
- Track 31 : Renna12_19
- Track 32 : Babushka_18
- Track 33 : Andrew_19

- Track 34 : Aikyam_22
- Track 35 : CookieBear_22, YoungHarleezy_22, MidnightRain_22
- Track 36 : JellyBread_22, Vopal_23, BillyTP_22, Auxilium_22, Sakai_22, Mapleville_21, Lawnathon_22, Raphaella_22, Gorpy_22
- Track 37 : Sporco_23, MaterMagnus_22
- Track 38 : GumGum_22
- Track 39 : RadFad_22, Hillester_22
- Track 40 : DarwinJr_25, Anekin_21, Crescenzo_22
- Track 41 : MUWow_21
- Track 42 : Lasker_22, Richie_22, BlueShadow_22, BasketStar_22, BenchScraper_22
- Track 43 : Phrank15_21, AdaS_22, Isolde_22
- Track 44 : LeBruni_22
- Track 45 : Tiff81_23
- Track 46 : SonDevVon_21
- Track 47 : Hestia_22, NewKitty_23, CosmicBrownie_22, Nyilah_21
- Track 48 : Bhageatrice_24
- Track 49 : Kabloowy_22
- Track 50 : Satrap_22, Shukran_22
- Track 51 : Globfish_22
- Track 52 : Windest_23
- Track 53 : ThayneTheZag_22
- Track 54 : JakeTheSnake_22
- Track 55 : Persistence_21
- Track 56 : SpicyFrank_22
- Track 57 : Seahorse_23
- Track 58 : MurphyJoseph_22
- Track 59 : Ding_22
- Track 60 : NidoQ_21, Constance_21
- Track 61 : FosterFrank_21
- Track 62 : NikkiHotWheels_21
- Track 63 : ChuckDuck_21
- Track 64 : KayMoney_21, LittleRon_21
- Track 65 : Eileen_21, Peas_21
- Track 66 : LilyBell_21
- Track 67 : HotPotato_21
- Track 68 : Henrique_21
- Track 69 : Pucara_21
- Track 70 : GlobiWarming_21
- Track 71 : Judy_22
- Track 72 : Bridgette_21, Karkharias_21
- Track 73 : PeggyLeg03_21
- Track 74 : Ottawa_46, Kharcho_46

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

The start number called the most often in the published annotations is 15, it was called in 83 of the 105 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AdaS_22, AdoptaAdorbs_18, Aikyam_22, AlexMinion_19, Amanises_20, Amelia_20, AmiCi24_18, Amphitrite_18, Andrew_19, Anekin_21, Antrice_19, Atlantica_18, Auxilium_22, Azaz_18, Babushka_18, Basilisk_19, BasketStar_22, Bedetta_20, BenchScraper_22, Bhageatrice_24, Bibble12_20, BillyTP_22, BlueShadow_22, Bridgette_21, Brynnie_19, Camara_18, Chickaboom_18, Chicken_19, ChuckDuck_21, Constance_21, CookieBear_22, CosmicBrownie_22, Crescenzo_22, Cygnet_19, Damocles_20, DanHam62_18, DarwinJr_25, Ding_22, Eesa_19, Eileen_21, Fingolfin_18, FosterFrank_21, Globfish_22, GlobiWarming_21, Glotell_18, Gorpy_22, GramZayde_19, Gravel_20, GumGum_22, HamCheese_18, Henrique_21, Hestia_22, Hillester_22, HotPotato_21, Isolde_22, JakeTheSnake_22, Jamun_19, JellyBread_22, Judy_22, Juno112_18, KHumphrey_18, Kabloowy_22, Karkharias_21, KayMoney_21, KendraB23_20, Kuleana_19, Laphuphu24k_18, Lasker_22, Lawnathon_22, LeBruni_22, Leona_18, LilyBell_21, LittleRon_21, Lunar_20, MUWow_21, Mapleville_21, MaterMagnus_22, MidnightRain_22, MurphyJoseph_22, NewKitty_23, Niblet_19, NidoQ_21, NikkiHotWheels_21, Nyilah_21, Oppalora_18, Orcanus_19, OtsoOtso_19, Peas_21, PeggyLeg03_21, Pelletreau_20, Persistence_21, PhirstandPhine_20, PhluffyCoco_18, Phrank15_21, Pineda_20, Pucara_21, RadFad_22, Raphaella_22, Rattail_18, RedFox_18, Renna12_19, Richie_22, Ruchi_19, Sakai_22, Satrap_22, Seahorse_23, Shen_20, Shukran_22, SpicyFrank_22, Sporco_23, StuartMinion_18, TaylorSipht_19, ThayneTheZag_22, Tiff81_23, Toad24_20, Vopal_23, Westrich_20, WileyE_18, Windest_23, YoungHarleezy_22, Zhuangyuan_20, Zixiang_19,

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

- Colusalem_19, Coral_19, Cote_20, Daob_20, HannahPhantana_20, Jerole_20, Kepler_19, LittleTokyo_19, Melons_20, Polka_19, SonDevVon_21, Vulpecula_19,

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

- ApoKipo_72, Edmundo_70, Kharcho_46, Kovu_68, Laroye_70, LiSara_67, Ottawa_46, Salgado_70, Shrooms_68, Waltz_67, Wheelbite_66,

Summary by start number:

Start 10:

- Found in 36 of 145 (24.8%) of genes in pham
- Manual Annotations of this start: 7 of 105
- Called 19.4% of time when present
- Phage (with cluster) where this start called: Edmundo_70 (AL), Laroye_70 (AL), LiSara_67 (AL), Salgado_70 (AL), Shrooms_68 (AL), Waltz_67 (AL), Wheelbite_66 (AL),

Start 11:

- Found in 4 of 145 (2.8%) of genes in pham
- Manual Annotations of this start: 4 of 105
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ApoKipo_72 (AL), Kharcho_46 (FM), Kovu_68 (AL), Ottawa_46 (FM),

Start 13:

- Found in 18 of 145 (12.4%) of genes in pham
- Manual Annotations of this start: 9 of 105
- Called 50.0% of time when present

- Phage (with cluster) where this start called: Colusalem_19 (AS2), Coral_19 (AS2), Cote_20 (AS2), Daob_20 (AS2), HannahPhantana_20 (AS2), Jerole_20 (AS2), Kepler_19 (AS2), Melons_20 (AS2), Polka_19 (AS2),

Start 14:

- Found in 8 of 145 (5.5%) of genes in pham
- Manual Annotations of this start: 2 of 105
- Called 25.0% of time when present
- Phage (with cluster) where this start called: LittleTokyo_19 (AS2), Vulpecula_19 (AS1),

Start 15:

- Found in 134 of 145 (92.4%) of genes in pham
- Manual Annotations of this start: 83 of 105
- Called 91.0% of time when present
- Phage (with cluster) where this start called: AdaS_22 (AY), AdoptaAdorbs_18 (AS3), Aikyam_22 (AY), AlexMinion_19 (AS3), Amanises_20 (AS1), Amelia_20 (AS2), AmiCi24_18 (AS3), Amphitrite_18 (AS3), Andrew_19 (AS3), Anekin_21 (AY), Antrice_19 (AS2), Atlantica_18 (AS3), Auxilium_22 (AY), Azaz_18 (AS3), Babushka_18 (AS3), Basilisk_19 (AS1), BasketStar_22 (AY), Bedetta_20 (AS2), BenchScraper_22 (AY), Bhageatrice_24 (AY), Bible12_20 (AS2), BillyTP_22 (AY), BlueShadow_22 (AY), Bridgette_21 (FA), Brynnie_19 (AS1), Camara_18 (AS3), Chickaboom_18 (AS1), Chicken_19 (AS1), ChuckDuck_21 (FA), Constance_21 (FA), CookieBear_22 (AY), CosmicBrownie_22 (AY), Crescenzo_22 (AY), Cygnet_19 (AS2), Damocles_20 (AS2), DanHam62_18 (AS3), DarwinJr_25 (AY), Ding_22 (AY), Eesa_19 (AS1), Eileen_21 (FA), Fingolfin_18 (AS3), FosterFrank_21 (FA), Globfish_22 (AY), GlobiWarming_21 (FA), Glotell_18 (AS3), Gorpy_22 (AY), GramZayde_19 (AS2), Gravel_20 (AS1), GumGum_22 (AY), HamCheese_18 (AS3), Henrique_21 (FA), Hestia_22 (AY), Hillester_22 (AY), HotPotato_21 (FA), Isolde_22 (AY), JakeTheSnake_22 (AY), Jamun_19 (AS1), JellyBread_22 (AY), Judy_22 (FA), Juno112_18 (AS3), KHumphrey_18 (AS3), Kabloowy_22 (AY), Karkharias_21 (FA), KayMoney_21 (FA), KendraB23_20 (AS1), Kuleana_19 (AS2), Laphuphu24k_18 (AS3), Lasker_22 (AY), Lawnathon_22 (AY), LeBruni_22 (AY), Leona_18 (AS3), LilyBell_21 (FA), LittleRon_21 (FA), Lunar_20 (AS2), MUWow_21 (AY), Mapleville_21 (AY), MaterMagnus_22 (AY), MidnightRain_22 (AY), MurphyJoseph_22 (AY), NewKitty_23 (AY), Niblet_19 (AS1), NidoQ_21 (FA), NikkiHotWheels_21 (FA), Nyilah_21 (AY), Oppalora_18 (AS3), Orcanus_19 (AS1), OtsoOtso_19 (AS2), Peas_21 (FA), PeggyLeg03_21 (FA), Pelletreau_20 (AS1), Persistence_21 (AY), PhirstandPhine_20 (AS2), PhluffyCoco_18 (AS3), Phrank15_21 (AY), Pineda_20 (AS2), Pucara_21 (FA), RadFad_22 (AY), Raphaella_22 (AY), Rattail_18 (AS3), RedFox_18 (AS3), Renna12_19 (AS3), Richie_22 (AY), Ruchi_19 (AS1), Sakai_22 (AY), Satrap_22 (AY), Seahorse_23 (AY), Shen_20 (AS1), Shukran_22 (AY), SpicyFrank_22 (AY), Sporco_23 (AY), StuartMinion_18 (AS3), TaylorSipht_19 (AS1), ThayneTheZag_22 (AY), Tiff81_23 (AY), Toad24_20 (AS1), Vopal_23 (AY), Westrich_20 (AS1), WileyE_18 (AS1), Windest_23 (AY), YoungHarleezy_22 (AY), Zhuangyuan_20 (AS2), Zixiang_19 (AS1),

Start 19:

- Found in 47 of 145 (32.4%) of genes in pham
- No Manual Annotations of this start.
- Called 2.1% of time when present
- Phage (with cluster) where this start called: SonDevVon_21 (AY),

Summary by clusters:

There are 7 clusters represented in this pham: AS3, AS2, AS1, AL, FA, AY, FM,

Info for manual annotations of cluster AL:

- Start number 10 was manually annotated 7 times for cluster AL.
- Start number 11 was manually annotated 2 times for cluster AL.

Info for manual annotations of cluster AS1:

- Start number 14 was manually annotated 1 time for cluster AS1.
- Start number 15 was manually annotated 14 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 13 was manually annotated 9 times for cluster AS2.
- Start number 14 was manually annotated 1 time for cluster AS2.
- Start number 15 was manually annotated 7 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 15 was manually annotated 16 times for cluster AS3.

Info for manual annotations of cluster AY:

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

Info for manual annotations of cluster FA:

- Start number 15 was manually annotated 12 times for cluster FA.

Info for manual annotations of cluster FM:

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

Gene Information:

Gene: AdaS_22 Start: 16933, Stop: 17892, Start Num: 15

Candidate Starts for AdaS_22:

(Start: 15 @16933 has 83 MA's), (16, 16942), (19, 16954), (55, 17197), (56, 17203), (58, 17212), (60, 17218), (63, 17239), (79, 17368), (94, 17608), (100, 17650), (104, 17695), (117, 17782), (127, 17875),

Gene: AdoptaAdorbs_18 Start: 14180, Stop: 15139, Start Num: 15

Candidate Starts for AdoptaAdorbs_18:

(Start: 15 @14180 has 83 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (61, 14477), (69, 14543), (70, 14549), (74, 14588), (78, 14609), (85, 14651), (104, 14942), (105, 14951), (106, 14954), (109, 14969), (118, 15032), (122, 15080),

Gene: Aikyam_22 Start: 16934, Stop: 17893, Start Num: 15

Candidate Starts for Aikyam_22:

(Start: 15 @16934 has 83 MA's), (16, 16943), (55, 17198), (56, 17204), (58, 17213), (59, 17216), (60, 17219), (63, 17240), (79, 17369), (94, 17609), (104, 17696), (117, 17783), (127, 17876),

Gene: AlexMinion_19 Start: 14221, Stop: 15183, Start Num: 15

Candidate Starts for AlexMinion_19:

(9, 14173), (Start: 15 @14221 has 83 MA's), (24, 14290), (28, 14314), (30, 14323), (31, 14332), (38, 14368), (40, 14386), (45, 14428), (46, 14434), (54, 14488), (61, 14515), (68, 14569), (69, 14581), (70,

14587), (84, 14692), (85, 14695), (91, 14818), (104, 14986), (106, 14998), (109, 15013), (120, 15100), (122, 15124),

Gene: Amanises_20 Start: 15793, Stop: 16731, Start Num: 15

Candidate Starts for Amanises_20:

(Start: 15 @15793 has 83 MA's), (24, 15859), (26, 15868), (27, 15877), (37, 15934), (38, 15937), (40, 15955), (46, 16003), (51, 16048), (54, 16057), (63, 16099), (67, 16132), (69, 16147), (74, 16192), (82, 16237), (100, 16486), (109, 16561), (115, 16606), (122, 16672), (124, 16684), (126, 16708),

Gene: Amelia_20 Start: 14633, Stop: 15586, Start Num: 15

Candidate Starts for Amelia_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 9 MA's), (Start: 15 @14633 has 83 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (61, 14933), (67, 14984), (68, 14987), (69, 14999), (74, 15044), (84, 15098), (88, 15146), (89, 15194), (92, 15260), (104, 15389), (106, 15401), (109, 15416), (110, 15419), (120, 15503), (122, 15527), (123, 15530), (126, 15563),

Gene: AmiCi24_18 Start: 14178, Stop: 15137, Start Num: 15

Candidate Starts for AmiCi24_18:

(Start: 15 @14178 has 83 MA's), (24, 14250), (29, 14277), (31, 14292), (40, 14346), (46, 14394), (54, 14448), (61, 14475), (69, 14541), (70, 14547), (74, 14586), (78, 14607), (85, 14649), (104, 14940), (105, 14949), (106, 14952), (109, 14967), (118, 15030), (122, 15078),

Gene: Amphitrite_18 Start: 14178, Stop: 15137, Start Num: 15

Candidate Starts for Amphitrite_18:

(Start: 15 @14178 has 83 MA's), (24, 14250), (29, 14277), (31, 14292), (40, 14346), (46, 14394), (54, 14448), (61, 14475), (69, 14541), (70, 14547), (74, 14586), (78, 14607), (85, 14649), (104, 14940), (105, 14949), (106, 14952), (109, 14967), (118, 15030), (122, 15078),

Gene: Andrew_19 Start: 14644, Stop: 15597, Start Num: 15

Candidate Starts for Andrew_19:

(Start: 15 @14644 has 83 MA's), (24, 14716), (26, 14725), (28, 14740), (29, 14743), (38, 14794), (40, 14812), (54, 14914), (61, 14941), (68, 14995), (69, 15007), (70, 15013), (74, 15052), (79, 15073), (85, 15109), (91, 15232), (96, 15328), (100, 15352), (104, 15400), (106, 15412), (109, 15427), (115, 15472), (120, 15514), (122, 15538),

Gene: Anekin_21 Start: 16896, Stop: 17858, Start Num: 15

Candidate Starts for Anekin_21:

(4, 16785), (8, 16845), (Start: 10 @16869 has 7 MA's), (Start: 15 @16896 has 83 MA's), (16, 16905), (19, 16917), (22, 16950), (33, 17010), (46, 17106), (47, 17109), (50, 17133), (51, 17151), (56, 17166), (106, 17673), (117, 17748), (118, 17751), (127, 17841),

Gene: Antrice_19 Start: 15181, Stop: 16131, Start Num: 15

Candidate Starts for Antrice_19:

(2, 15004), (7, 15124), (Start: 15 @15181 has 83 MA's), (24, 15250), (30, 15283), (37, 15325), (38, 15328), (39, 15343), (40, 15346), (46, 15394), (63, 15490), (65, 15511), (69, 15538), (70, 15544), (75, 15592), (87, 15658), (89, 15736), (99, 15880), (107, 15949), (119, 16024), (122, 16069), (125, 16090), (126, 16105), (127, 16111),

Gene: ApoKipo_72 Start: 43581, Stop: 44564, Start Num: 11

Candidate Starts for ApoKipo_72:

(Start: 11 @43581 has 4 MA's), (20, 43653), (27, 43695), (37, 43752), (51, 43869), (53, 43875), (54, 43878), (61, 43905), (66, 43944), (68, 43962), (72, 44007), (76, 44034), (101, 44322), (109, 44394),

(111, 44400), (121, 44499),

Gene: Atlantica_18 Start: 14180, Stop: 15139, Start Num: 15

Candidate Starts for Atlantica_18:

(Start: 15 @14180 has 83 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (61, 14477), (69, 14543), (70, 14549), (74, 14588), (78, 14609), (104, 14942), (105, 14951), (106, 14954), (109, 14969), (118, 15032), (122, 15080),

Gene: Auxilium_22 Start: 16933, Stop: 17892, Start Num: 15

Candidate Starts for Auxilium_22:

(Start: 15 @16933 has 83 MA's), (16, 16942), (55, 17197), (56, 17203), (58, 17212), (60, 17218), (63, 17239), (79, 17368), (94, 17608), (104, 17695), (117, 17782), (127, 17875),

Gene: Azaz_18 Start: 14234, Stop: 15199, Start Num: 15

Candidate Starts for Azaz_18:

(Start: 15 @14234 has 83 MA's), (24, 14306), (29, 14333), (30, 14339), (31, 14348), (38, 14384), (40, 14402), (46, 14450), (54, 14504), (61, 14531), (63, 14549), (67, 14582), (77, 14663), (104, 15002), (105, 15011), (106, 15014), (109, 15029), (122, 15140),

Gene: Babushka_18 Start: 14233, Stop: 15198, Start Num: 15

Candidate Starts for Babushka_18:

(6, 14167), (Start: 15 @14233 has 83 MA's), (24, 14305), (28, 14329), (29, 14332), (31, 14347), (40, 14401), (46, 14449), (54, 14503), (61, 14530), (67, 14581), (69, 14596), (70, 14602), (84, 14707), (91, 14833), (109, 15028), (118, 15091), (120, 15115), (122, 15139),

Gene: Basilisk_19 Start: 15922, Stop: 16863, Start Num: 15

Candidate Starts for Basilisk_19:

(Start: 15 @15922 has 83 MA's), (18, 15940), (24, 15988), (28, 16012), (30, 16021), (37, 16063), (39, 16081), (40, 16084), (46, 16132), (58, 16204), (69, 16276), (83, 16375), (109, 16693), (115, 16738), (122, 16804),

Gene: BasketStar_22 Start: 16987, Stop: 17946, Start Num: 15

Candidate Starts for BasketStar_22:

(Start: 15 @16987 has 83 MA's), (16, 16996), (19, 17008), (55, 17251), (56, 17257), (58, 17266), (60, 17272), (63, 17293), (79, 17422), (94, 17662), (104, 17749), (111, 17782), (117, 17836), (127, 17929),

Gene: Bedetta_20 Start: 14633, Stop: 15586, Start Num: 15

Candidate Starts for Bedetta_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 9 MA's), (Start: 15 @14633 has 83 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (61, 14933), (67, 14984), (68, 14987), (69, 14999), (74, 15044), (84, 15098), (88, 15146), (89, 15194), (92, 15260), (104, 15389), (106, 15401), (109, 15416), (110, 15419), (120, 15503), (122, 15527), (123, 15530), (126, 15563),

Gene: BenchScraper_22 Start: 16948, Stop: 17907, Start Num: 15

Candidate Starts for BenchScraper_22:

(Start: 15 @16948 has 83 MA's), (16, 16957), (19, 16969), (55, 17212), (56, 17218), (58, 17227), (60, 17233), (63, 17254), (79, 17383), (94, 17623), (104, 17710), (111, 17743), (117, 17797), (127, 17890),

Gene: Bhageatrice_24 Start: 18223, Stop: 19182, Start Num: 15

Candidate Starts for Bhageatrice_24:

(Start: 15 @18223 has 83 MA's), (16, 18232), (19, 18244), (55, 18487), (56, 18493), (58, 18502), (60, 18508), (63, 18529), (79, 18658), (95, 18910), (104, 18985), (127, 19165),

Gene: Bible12_20 Start: 14636, Stop: 15589, Start Num: 15

Candidate Starts for Bible12_20:

(1, 14420), (7, 14573), (Start: 13 @14630 has 9 MA's), (Start: 15 @14636 has 83 MA's), (24, 14711), (26, 14720), (28, 14735), (30, 14744), (37, 14786), (38, 14789), (40, 14807), (45, 14849), (46, 14855), (61, 14936), (67, 14987), (68, 14990), (69, 15002), (74, 15047), (84, 15101), (88, 15149), (89, 15197), (92, 15263), (104, 15392), (106, 15404), (109, 15419), (110, 15422), (120, 15506), (122, 15530), (123, 15533), (126, 15566),

Gene: BillyTP_22 Start: 16717, Stop: 17676, Start Num: 15

Candidate Starts for BillyTP_22:

(Start: 15 @16717 has 83 MA's), (16, 16726), (55, 16981), (56, 16987), (58, 16996), (60, 17002), (63, 17023), (79, 17152), (94, 17392), (104, 17479), (117, 17566), (127, 17659),

Gene: BlueShadow_22 Start: 16933, Stop: 17892, Start Num: 15

Candidate Starts for BlueShadow_22:

(Start: 15 @16933 has 83 MA's), (16, 16942), (19, 16954), (55, 17197), (56, 17203), (58, 17212), (60, 17218), (63, 17239), (79, 17368), (94, 17608), (104, 17695), (111, 17728), (117, 17782), (127, 17875),

Gene: Bridgette_21 Start: 16995, Stop: 17957, Start Num: 15

Candidate Starts for Bridgette_21:

(5, 16923), (Start: 10 @16968 has 7 MA's), (Start: 15 @16995 has 83 MA's), (19, 17016), (28, 17085), (50, 17232), (51, 17250), (56, 17265), (63, 17301), (69, 17358), (71, 17367), (86, 17478), (94, 17673), (104, 17760), (127, 17940),

Gene: Brynnie_19 Start: 15734, Stop: 16675, Start Num: 15

Candidate Starts for Brynnie_19:

(Start: 14 @15731 has 2 MA's), (Start: 15 @15734 has 83 MA's), (18, 15752), (24, 15800), (28, 15824), (30, 15833), (37, 15875), (39, 15893), (40, 15896), (46, 15944), (58, 16016), (69, 16088), (83, 16187), (109, 16505), (115, 16550), (122, 16616),

Gene: Camara_18 Start: 14181, Stop: 15140, Start Num: 15

Candidate Starts for Camara_18:

(Start: 15 @14181 has 83 MA's), (24, 14253), (29, 14280), (31, 14295), (40, 14349), (46, 14397), (54, 14451), (61, 14478), (69, 14544), (70, 14550), (74, 14589), (78, 14610), (104, 14943), (105, 14952), (106, 14955), (109, 14970), (118, 15033), (122, 15081),

Gene: Chickaboom_18 Start: 14660, Stop: 15601, Start Num: 15

Candidate Starts for Chickaboom_18:

(Start: 14 @14657 has 2 MA's), (Start: 15 @14660 has 83 MA's), (18, 14678), (24, 14726), (28, 14750), (30, 14759), (37, 14801), (39, 14819), (40, 14822), (46, 14870), (58, 14942), (69, 15014), (83, 15113), (109, 15431), (115, 15476), (122, 15542),

Gene: Chicken_19 Start: 15671, Stop: 16609, Start Num: 15

Candidate Starts for Chicken_19:

(Start: 15 @15671 has 83 MA's), (24, 15737), (26, 15746), (27, 15755), (37, 15812), (38, 15815), (40, 15833), (46, 15881), (54, 15935), (67, 16010), (69, 16025), (70, 16031), (74, 16070), (82, 16115), (100, 16364), (109, 16439), (115, 16484), (122, 16550), (124, 16562),

Gene: ChuckDuck_21 Start: 16837, Stop: 17793, Start Num: 15

Candidate Starts for ChuckDuck_21:

(Start: 10 @16810 has 7 MA's), (Start: 15 @16837 has 83 MA's), (19, 16858), (38, 16981), (56, 17107), (72, 17230), (73, 17233), (79, 17272), (85, 17305), (86, 17314), (94, 17509), (117, 17683), (127,

17776),

Gene: Colusalem_19 Start: 14466, Stop: 15425, Start Num: 13

Candidate Starts for Colusalem_19:

(1, 14256), (7, 14409), (Start: 13 @14466 has 9 MA's), (Start: 15 @14472 has 83 MA's), (24, 14547), (26, 14556), (28, 14571), (30, 14580), (37, 14622), (38, 14625), (40, 14643), (45, 14685), (46, 14691), (61, 14772), (67, 14823), (68, 14826), (69, 14838), (74, 14883), (84, 14937), (88, 14985), (89, 15033), (92, 15099), (104, 15228), (106, 15240), (109, 15255), (110, 15258), (120, 15342), (122, 15366), (123, 15369), (126, 15402),

Gene: Constance_21 Start: 16977, Stop: 17933, Start Num: 15

Candidate Starts for Constance_21:

(5, 16905), (Start: 10 @16950 has 7 MA's), (Start: 15 @16977 has 83 MA's), (19, 16998), (56, 17247), (69, 17334), (79, 17412), (86, 17454), (94, 17649), (104, 17736), (117, 17823), (127, 17916),

Gene: CookieBear_22 Start: 16933, Stop: 17892, Start Num: 15

Candidate Starts for CookieBear_22:

(Start: 15 @16933 has 83 MA's), (16, 16942), (55, 17197), (56, 17203), (58, 17212), (60, 17218), (63, 17239), (79, 17368), (94, 17608), (100, 17650), (104, 17695), (117, 17782), (127, 17875),

Gene: Coral_19 Start: 14466, Stop: 15425, Start Num: 13

Candidate Starts for Coral_19:

(1, 14256), (7, 14409), (Start: 13 @14466 has 9 MA's), (Start: 15 @14472 has 83 MA's), (24, 14547), (26, 14556), (28, 14571), (30, 14580), (37, 14622), (38, 14625), (40, 14643), (45, 14685), (46, 14691), (61, 14772), (67, 14823), (68, 14826), (69, 14838), (74, 14883), (84, 14937), (88, 14985), (89, 15033), (92, 15099), (104, 15228), (106, 15240), (109, 15255), (110, 15258), (120, 15342), (122, 15366), (123, 15369), (126, 15402),

Gene: CosmicBrownie_22 Start: 16891, Stop: 17850, Start Num: 15

Candidate Starts for CosmicBrownie_22:

(Start: 15 @16891 has 83 MA's), (16, 16900), (55, 17155), (56, 17161), (58, 17170), (60, 17176), (63, 17197), (69, 17248), (79, 17326), (94, 17566), (104, 17653), (117, 17740), (127, 17833),

Gene: Cote_20 Start: 14627, Stop: 15586, Start Num: 13

Candidate Starts for Cote_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 9 MA's), (Start: 15 @14633 has 83 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (61, 14933), (67, 14984), (68, 14987), (69, 14999), (74, 15044), (84, 15098), (88, 15146), (89, 15194), (92, 15260), (104, 15389), (106, 15401), (109, 15416), (110, 15419), (120, 15503), (122, 15527), (123, 15530), (126, 15563),

Gene: Crescenzo_22 Start: 16824, Stop: 17786, Start Num: 15

Candidate Starts for Crescenzo_22:

(4, 16713), (8, 16773), (Start: 10 @16797 has 7 MA's), (Start: 15 @16824 has 83 MA's), (16, 16833), (19, 16845), (22, 16878), (33, 16938), (46, 17034), (47, 17037), (50, 17061), (51, 17079), (56, 17094), (106, 17601), (117, 17676), (118, 17679), (127, 17769),

Gene: Cygnet_19 Start: 15291, Stop: 16241, Start Num: 15

Candidate Starts for Cygnet_19:

(2, 15114), (7, 15234), (Start: 15 @15291 has 83 MA's), (24, 15360), (30, 15393), (37, 15435), (38, 15438), (39, 15453), (40, 15456), (46, 15504), (63, 15600), (65, 15621), (69, 15648), (70, 15654), (75, 15702), (87, 15768), (89, 15846), (99, 15990), (107, 16059), (119, 16134), (122, 16179), (125, 16200), (126, 16215), (127, 16221),

Gene: Damocles_20 Start: 14633, Stop: 15586, Start Num: 15

Candidate Starts for Damocles_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 9 MA's), (Start: 15 @14633 has 83 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (61, 14933), (67, 14984), (68, 14987), (69, 14999), (74, 15044), (84, 15098), (88, 15146), (89, 15194), (92, 15260), (104, 15389), (106, 15401), (109, 15416), (110, 15419), (120, 15503), (122, 15527), (123, 15530), (126, 15563),

Gene: DanHam62_18 Start: 14180, Stop: 15139, Start Num: 15

Candidate Starts for DanHam62_18:

(Start: 15 @14180 has 83 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (61, 14477), (69, 14543), (70, 14549), (74, 14588), (78, 14609), (85, 14651), (104, 14942), (105, 14951), (106, 14954), (109, 14969), (118, 15032), (122, 15080),

Gene: Daob_20 Start: 14630, Stop: 15589, Start Num: 13

Candidate Starts for Daob_20:

(1, 14420), (7, 14573), (Start: 13 @14630 has 9 MA's), (Start: 15 @14636 has 83 MA's), (24, 14711), (26, 14720), (28, 14735), (30, 14744), (37, 14786), (38, 14789), (40, 14807), (45, 14849), (46, 14855), (61, 14936), (67, 14987), (68, 14990), (69, 15002), (74, 15047), (84, 15101), (88, 15149), (89, 15197), (92, 15263), (104, 15392), (106, 15404), (109, 15419), (110, 15422), (120, 15506), (122, 15530), (123, 15533), (126, 15566),

Gene: DarwinJr_25 Start: 18128, Stop: 19090, Start Num: 15

Candidate Starts for DarwinJr_25:

(4, 18017), (8, 18077), (Start: 10 @18101 has 7 MA's), (Start: 15 @18128 has 83 MA's), (16, 18137), (19, 18149), (22, 18182), (33, 18242), (46, 18338), (47, 18341), (50, 18365), (51, 18383), (56, 18398), (106, 18905), (117, 18980), (118, 18983), (127, 19073),

Gene: Ding_22 Start: 16996, Stop: 17958, Start Num: 15

Candidate Starts for Ding_22:

(4, 16885), (5, 16924), (8, 16945), (Start: 10 @16969 has 7 MA's), (Start: 15 @16996 has 83 MA's), (16, 17005), (19, 17017), (46, 17206), (47, 17209), (50, 17233), (51, 17251), (56, 17266), (63, 17302), (69, 17359), (106, 17773), (109, 17788), (127, 17941),

Gene: Edmundo_70 Start: 43370, Stop: 44359, Start Num: 10

Candidate Starts for Edmundo_70:

(Start: 10 @43370 has 7 MA's), (20, 43442), (23, 43460), (29, 43496), (36, 43532), (42, 43574), (44, 43604), (46, 43613), (48, 43625), (51, 43661), (53, 43667), (62, 43712), (68, 43754), (73, 43802), (90, 43985), (98, 44108), (113, 44222), (114, 44228), (128, 44354),

Gene: Eesa_19 Start: 15885, Stop: 16823, Start Num: 15

Candidate Starts for Eesa_19:

(Start: 15 @15885 has 83 MA's), (24, 15951), (26, 15960), (27, 15969), (37, 16026), (38, 16029), (40, 16047), (46, 16095), (51, 16140), (54, 16149), (67, 16224), (69, 16239), (74, 16284), (82, 16329), (100, 16578), (109, 16653), (115, 16698), (122, 16764), (124, 16776), (126, 16800),

Gene: Eileen_21 Start: 16939, Stop: 17895, Start Num: 15

Candidate Starts for Eileen_21:

(Start: 15 @16939 has 83 MA's), (19, 16960), (33, 17053), (56, 17209), (59, 17221), (69, 17296), (79, 17374), (85, 17407), (86, 17416), (94, 17611), (104, 17698), (127, 17878),

Gene: Fingolfin_18 Start: 14181, Stop: 15140, Start Num: 15

Candidate Starts for Fingolfin_18:

(Start: 15 @14181 has 83 MA's), (24, 14253), (29, 14280), (31, 14295), (40, 14349), (46, 14397), (54, 14451), (61, 14478), (69, 14544), (70, 14550), (74, 14589), (78, 14610), (104, 14943), (105, 14952), (106, 14955), (109, 14970), (118, 15033), (122, 15081),

Gene: FosterFrank_21 Start: 16935, Stop: 17891, Start Num: 15

Candidate Starts for FosterFrank_21:

(5, 16863), (8, 16884), (Start: 10 @16908 has 7 MA's), (Start: 15 @16935 has 83 MA's), (19, 16956), (56, 17205), (69, 17292), (79, 17370), (86, 17412), (94, 17607), (104, 17694), (117, 17781), (127, 17874),

Gene: Globfish_22 Start: 17006, Stop: 17965, Start Num: 15

Candidate Starts for Globfish_22:

(4, 16895), (5, 16934), (8, 16955), (Start: 10 @16979 has 7 MA's), (Start: 15 @17006 has 83 MA's), (16, 17015), (19, 17027), (33, 17120), (63, 17312), (69, 17363), (79, 17441), (94, 17681), (100, 17723), (104, 17768), (106, 17780), (117, 17855), (127, 17948),

Gene: GlobiWarming_21 Start: 16931, Stop: 17893, Start Num: 15

Candidate Starts for GlobiWarming_21:

(Start: 10 @16904 has 7 MA's), (Start: 15 @16931 has 83 MA's), (19, 16952), (28, 17021), (50, 17168), (51, 17186), (56, 17201), (63, 17237), (65, 17258), (69, 17294), (71, 17303), (86, 17414), (94, 17609), (104, 17696), (127, 17876),

Gene: Glotell_18 Start: 14178, Stop: 15137, Start Num: 15

Candidate Starts for Glotell_18:

(Start: 15 @14178 has 83 MA's), (24, 14250), (29, 14277), (31, 14292), (40, 14346), (46, 14394), (54, 14448), (61, 14475), (69, 14541), (70, 14547), (74, 14586), (78, 14607), (85, 14649), (104, 14940), (105, 14949), (106, 14952), (109, 14967), (118, 15030), (122, 15078),

Gene: Gorpy_22 Start: 16942, Stop: 17901, Start Num: 15

Candidate Starts for Gorpy_22:

(Start: 15 @16942 has 83 MA's), (16, 16951), (55, 17206), (56, 17212), (58, 17221), (60, 17227), (63, 17248), (79, 17377), (94, 17617), (104, 17704), (117, 17791), (127, 17884),

Gene: GramZayde_19 Start: 14472, Stop: 15425, Start Num: 15

Candidate Starts for GramZayde_19:

(1, 14256), (7, 14409), (Start: 13 @14466 has 9 MA's), (Start: 15 @14472 has 83 MA's), (24, 14547), (26, 14556), (28, 14571), (30, 14580), (37, 14622), (38, 14625), (40, 14643), (45, 14685), (46, 14691), (61, 14772), (67, 14823), (68, 14826), (69, 14838), (74, 14883), (84, 14937), (88, 14985), (89, 15033), (92, 15099), (104, 15228), (106, 15240), (109, 15255), (110, 15258), (120, 15342), (122, 15366), (123, 15369), (126, 15402),

Gene: Gravel_20 Start: 15791, Stop: 16729, Start Num: 15

Candidate Starts for Gravel_20:

(Start: 15 @15791 has 83 MA's), (24, 15857), (26, 15866), (27, 15875), (37, 15932), (38, 15935), (40, 15953), (46, 16001), (51, 16046), (54, 16055), (67, 16130), (69, 16145), (74, 16190), (82, 16235), (100, 16484), (109, 16559), (115, 16604), (122, 16670), (124, 16682), (126, 16706),

Gene: GumGum_22 Start: 16882, Stop: 17841, Start Num: 15

Candidate Starts for GumGum_22:

(Start: 15 @16882 has 83 MA's), (16, 16891), (55, 17146), (56, 17152), (58, 17161), (60, 17167), (63, 17188), (69, 17239), (79, 17317), (94, 17557), (102, 17605), (104, 17644), (117, 17731), (127, 17824),

Gene: HamCheese_18 Start: 14180, Stop: 15139, Start Num: 15

Candidate Starts for HamCheese_18:

(Start: 15 @14180 has 83 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (61, 14477), (69, 14543), (70, 14549), (74, 14588), (78, 14609), (85, 14651), (104, 14942), (105, 14951), (106, 14954), (109, 14969), (118, 15032), (122, 15080),

Gene: HannahPhantana_20 Start: 14630, Stop: 15589, Start Num: 13

Candidate Starts for HannahPhantana_20:

(1, 14420), (7, 14573), (Start: 13 @14630 has 9 MA's), (Start: 15 @14636 has 83 MA's), (24, 14711), (26, 14720), (28, 14735), (30, 14744), (37, 14786), (38, 14789), (40, 14807), (45, 14849), (46, 14855), (61, 14936), (67, 14987), (68, 14990), (69, 15002), (74, 15047), (84, 15101), (88, 15149), (89, 15197), (92, 15263), (104, 15392), (106, 15404), (109, 15419), (110, 15422), (120, 15506), (122, 15530), (123, 15533), (126, 15566),

Gene: Henrique_21 Start: 16956, Stop: 17918, Start Num: 15

Candidate Starts for Henrique_21:

(Start: 10 @16929 has 7 MA's), (Start: 15 @16956 has 83 MA's), (19, 16977), (28, 17046), (50, 17193), (51, 17211), (56, 17226), (63, 17262), (69, 17319), (71, 17328), (86, 17439), (94, 17634), (104, 17721), (127, 17901),

Gene: Hestia_22 Start: 17111, Stop: 18070, Start Num: 15

Candidate Starts for Hestia_22:

(Start: 15 @17111 has 83 MA's), (16, 17120), (55, 17375), (56, 17381), (58, 17390), (60, 17396), (63, 17417), (69, 17468), (79, 17546), (94, 17786), (104, 17873), (117, 17960), (127, 18053),

Gene: Hillester_22 Start: 16933, Stop: 17892, Start Num: 15

Candidate Starts for Hillester_22:

(Start: 15 @16933 has 83 MA's), (16, 16942), (55, 17197), (56, 17203), (58, 17212), (60, 17218), (63, 17239), (79, 17368), (94, 17608), (104, 17695), (106, 17707), (117, 17782), (119, 17788), (127, 17875),

Gene: HotPotato_21 Start: 16939, Stop: 17901, Start Num: 15

Candidate Starts for HotPotato_21:

(Start: 10 @16912 has 7 MA's), (Start: 15 @16939 has 83 MA's), (19, 16960), (50, 17176), (56, 17209), (63, 17245), (69, 17302), (71, 17311), (86, 17422), (94, 17617), (104, 17704), (127, 17884),

Gene: Isolde_22 Start: 16768, Stop: 17727, Start Num: 15

Candidate Starts for Isolde_22:

(Start: 15 @16768 has 83 MA's), (16, 16777), (19, 16789), (55, 17032), (56, 17038), (58, 17047), (60, 17053), (63, 17074), (79, 17203), (94, 17443), (100, 17485), (104, 17530), (117, 17617), (127, 17710),

Gene: JakeTheSnake_22 Start: 16834, Stop: 17796, Start Num: 15

Candidate Starts for JakeTheSnake_22:

(8, 16783), (Start: 10 @16807 has 7 MA's), (Start: 15 @16834 has 83 MA's), (19, 16855), (22, 16888), (41, 17002), (47, 17047), (50, 17071), (51, 17089), (56, 17104), (63, 17140), (69, 17197), (104, 17599), (117, 17686), (118, 17689), (127, 17779),

Gene: Jamun_19 Start: 15328, Stop: 16269, Start Num: 15

Candidate Starts for Jamun_19:

(Start: 14 @15325 has 2 MA's), (Start: 15 @15328 has 83 MA's), (18, 15346), (24, 15394), (28, 15418), (30, 15427), (37, 15469), (39, 15487), (40, 15490), (46, 15538), (58, 15610), (69, 15682), (83, 15781), (109, 16099), (115, 16144), (122, 16210),

Gene: JellyBread_22 Start: 16926, Stop: 17885, Start Num: 15

Candidate Starts for JellyBread_22:

(Start: 15 @16926 has 83 MA's), (16, 16935), (55, 17190), (56, 17196), (58, 17205), (60, 17211), (63, 17232), (79, 17361), (94, 17601), (104, 17688), (117, 17775), (127, 17868),

Gene: Jerole_20 Start: 14627, Stop: 15586, Start Num: 13

Candidate Starts for Jerole_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 9 MA's), (Start: 15 @14633 has 83 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (61, 14933), (67, 14984), (68, 14987), (69, 14999), (74, 15044), (84, 15098), (88, 15146), (89, 15194), (92, 15260), (104, 15389), (106, 15401), (109, 15416), (110, 15419), (120, 15503), (122, 15527), (123, 15530), (126, 15563),

Gene: Judy_22 Start: 17248, Stop: 18204, Start Num: 15

Candidate Starts for Judy_22:

(5, 17176), (Start: 10 @17221 has 7 MA's), (Start: 15 @17248 has 83 MA's), (19, 17269), (56, 17518), (69, 17605), (79, 17683), (86, 17725), (94, 17920), (97, 17944), (104, 18007), (127, 18187),

Gene: Juno112_18 Start: 14181, Stop: 15140, Start Num: 15

Candidate Starts for Juno112_18:

(Start: 15 @14181 has 83 MA's), (24, 14253), (29, 14280), (31, 14295), (40, 14349), (46, 14397), (54, 14451), (61, 14478), (69, 14544), (70, 14550), (74, 14589), (78, 14610), (104, 14943), (105, 14952), (106, 14955), (109, 14970), (118, 15033), (122, 15081),

Gene: KHumphrey_18 Start: 14178, Stop: 15137, Start Num: 15

Candidate Starts for KHumphrey_18:

(Start: 15 @14178 has 83 MA's), (24, 14250), (29, 14277), (31, 14292), (40, 14346), (46, 14394), (54, 14448), (61, 14475), (69, 14541), (70, 14547), (74, 14586), (78, 14607), (104, 14940), (105, 14949), (106, 14952), (109, 14967), (118, 15030), (122, 15078),

Gene: Kabloowy_22 Start: 17122, Stop: 18081, Start Num: 15

Candidate Starts for Kabloowy_22:

(Start: 15 @17122 has 83 MA's), (16, 17131), (55, 17386), (56, 17392), (58, 17401), (60, 17407), (63, 17428), (79, 17557), (94, 17797), (100, 17839), (104, 17884), (106, 17896), (117, 17971), (127, 18064),

Gene: Karkharias_21 Start: 16935, Stop: 17897, Start Num: 15

Candidate Starts for Karkharias_21:

(5, 16863), (Start: 10 @16908 has 7 MA's), (Start: 15 @16935 has 83 MA's), (19, 16956), (28, 17025), (50, 17172), (51, 17190), (56, 17205), (63, 17241), (69, 17298), (71, 17307), (86, 17418), (94, 17613), (104, 17700), (127, 17880),

Gene: KayMoney_21 Start: 16839, Stop: 17795, Start Num: 15

Candidate Starts for KayMoney_21:

(Start: 10 @16812 has 7 MA's), (Start: 15 @16839 has 83 MA's), (19, 16860), (38, 16983), (56, 17109), (72, 17232), (73, 17235), (79, 17274), (85, 17307), (86, 17316), (94, 17511), (104, 17598), (117, 17685), (127, 17778),

Gene: KendraB23_20 Start: 15792, Stop: 16730, Start Num: 15

Candidate Starts for KendraB23_20:

(Start: 15 @15792 has 83 MA's), (24, 15858), (26, 15867), (27, 15876), (37, 15933), (38, 15936), (40, 15954), (46, 16002), (51, 16047), (54, 16056), (63, 16098), (67, 16131), (69, 16146), (74, 16191), (82, 16236), (100, 16485), (109, 16560), (115, 16605), (122, 16671), (124, 16683), (126, 16707),

Gene: Kepler_19 Start: 14465, Stop: 15424, Start Num: 13

Candidate Starts for Kepler_19:

(1, 14255), (7, 14408), (Start: 13 @14465 has 9 MA's), (Start: 15 @14471 has 83 MA's), (24, 14546), (26, 14555), (28, 14570), (30, 14579), (37, 14621), (38, 14624), (40, 14642), (45, 14684), (46, 14690), (61, 14771), (67, 14822), (68, 14825), (69, 14837), (74, 14882), (84, 14936), (88, 14984), (89, 15032), (92, 15098), (104, 15227), (106, 15239), (109, 15254), (110, 15257), (120, 15341), (122, 15365), (123, 15368), (126, 15401),

Gene: Kharcho_46 Start: 25166, Stop: 26164, Start Num: 11

Candidate Starts for Kharcho_46:

(Start: 11 @25166 has 4 MA's), (33, 25307), (43, 25367), (47, 25406), (54, 25460), (57, 25475), (65, 25526), (114, 26030),

Gene: Kovu_68 Start: 43241, Stop: 44224, Start Num: 11

Candidate Starts for Kovu_68:

(Start: 11 @43241 has 4 MA's), (20, 43313), (27, 43355), (37, 43412), (51, 43529), (53, 43535), (54, 43538), (61, 43565), (66, 43604), (68, 43622), (72, 43667), (73, 43670), (76, 43694), (93, 43925), (101, 43982), (103, 44024), (107, 44045), (109, 44054), (121, 44159),

Gene: Kuleana_19 Start: 14642, Stop: 15589, Start Num: 15

Candidate Starts for Kuleana_19:

(1, 14432), (7, 14585), (Start: 14 @14639 has 2 MA's), (Start: 15 @14642 has 83 MA's), (24, 14708), (30, 14741), (31, 14750), (37, 14783), (40, 14804), (46, 14852), (63, 14948), (87, 15116), (89, 15194), (99, 15338), (104, 15389), (107, 15407), (122, 15527), (125, 15548), (126, 15563),

Gene: Laphuphu24k_18 Start: 14180, Stop: 15139, Start Num: 15

Candidate Starts for Laphuphu24k_18:

(Start: 15 @14180 has 83 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (61, 14477), (69, 14543), (70, 14549), (74, 14588), (78, 14609), (85, 14651), (104, 14942), (105, 14951), (106, 14954), (109, 14969), (118, 15032), (122, 15080),

Gene: Laroye_70 Start: 42761, Stop: 43750, Start Num: 10

Candidate Starts for Laroye_70:

(Start: 10 @42761 has 7 MA's), (29, 42887), (36, 42923), (44, 42995), (46, 43004), (48, 43016), (53, 43058), (61, 43088), (62, 43103), (73, 43193), (90, 43376), (98, 43499), (106, 43565), (113, 43613), (114, 43619), (128, 43745),

Gene: Lasker_22 Start: 16941, Stop: 17900, Start Num: 15

Candidate Starts for Lasker_22:

(Start: 15 @16941 has 83 MA's), (16, 16950), (19, 16962), (55, 17205), (56, 17211), (58, 17220), (60, 17226), (63, 17247), (79, 17376), (94, 17616), (104, 17703), (111, 17736), (117, 17790), (127, 17883),

Gene: Lawnathon_22 Start: 16862, Stop: 17821, Start Num: 15

Candidate Starts for Lawnathon_22:

(Start: 15 @16862 has 83 MA's), (16, 16871), (55, 17126), (56, 17132), (58, 17141), (60, 17147), (63, 17168), (79, 17297), (94, 17537), (104, 17624), (117, 17711), (127, 17804),

Gene: LeBruni_22 Start: 16733, Stop: 17695, Start Num: 15

Candidate Starts for LeBruni_22:

(8, 16682), (Start: 10 @16706 has 7 MA's), (Start: 15 @16733 has 83 MA's), (16, 16742), (19, 16754), (46, 16943), (47, 16946), (50, 16970), (56, 17003), (59, 17015), (63, 17039), (69, 17096), (73, 17135), (86, 17216), (94, 17411), (109, 17525), (118, 17588), (127, 17678),

Gene: Leona_18 Start: 14234, Stop: 15199, Start Num: 15

Candidate Starts for Leona_18:

(Start: 15 @14234 has 83 MA's), (24, 14306), (29, 14333), (30, 14339), (31, 14348), (38, 14384), (40, 14402), (46, 14450), (54, 14504), (61, 14531), (63, 14549), (67, 14582), (77, 14663), (104, 15002), (105, 15011), (106, 15014), (109, 15029), (122, 15140),

Gene: LiSara_67 Start: 42923, Stop: 43912, Start Num: 10

Candidate Starts for LiSara_67:

(Start: 10 @42923 has 7 MA's), (29, 43049), (36, 43085), (44, 43157), (46, 43166), (48, 43178), (53, 43220), (61, 43250), (62, 43265), (73, 43355), (90, 43538), (98, 43661), (106, 43727), (113, 43775), (114, 43781), (128, 43907),

Gene: LilyBell_21 Start: 16951, Stop: 17913, Start Num: 15

Candidate Starts for LilyBell_21:

(5, 16879), (Start: 10 @16924 has 7 MA's), (Start: 15 @16951 has 83 MA's), (19, 16972), (28, 17041), (46, 17161), (50, 17188), (51, 17206), (56, 17221), (63, 17257), (69, 17314), (71, 17323), (81, 17410), (86, 17434), (94, 17629), (104, 17716), (127, 17896),

Gene: LittleRon_21 Start: 16809, Stop: 17765, Start Num: 15

Candidate Starts for LittleRon_21:

(Start: 10 @16782 has 7 MA's), (Start: 15 @16809 has 83 MA's), (19, 16830), (38, 16953), (56, 17079), (72, 17202), (73, 17205), (79, 17244), (85, 17277), (86, 17286), (94, 17481), (104, 17568), (117, 17655), (127, 17748),

Gene: LittleTokyo_19 Start: 14585, Stop: 15535, Start Num: 14

Candidate Starts for LittleTokyo_19:

(12, 14576), (Start: 14 @14585 has 2 MA's), (Start: 15 @14588 has 83 MA's), (24, 14654), (25, 14657), (29, 14681), (30, 14687), (31, 14696), (37, 14729), (40, 14750), (49, 14816), (54, 14852), (63, 14894), (68, 14930), (69, 14942), (70, 14948), (87, 15062), (91, 15170), (99, 15284), (104, 15335), (107, 15353), (122, 15473), (124, 15485), (125, 15494), (126, 15509),

Gene: Lunar_20 Start: 14633, Stop: 15586, Start Num: 15

Candidate Starts for Lunar_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 9 MA's), (Start: 15 @14633 has 83 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (61, 14933), (67, 14984), (68, 14987), (69, 14999), (74, 15044), (84, 15098), (88, 15146), (89, 15194), (92, 15260), (104, 15389), (106, 15401), (109, 15416), (110, 15419), (120, 15503), (122, 15527), (123, 15530), (126, 15563),

Gene: MUWow_21 Start: 17026, Stop: 17985, Start Num: 15

Candidate Starts for MUWow_21:

(Start: 15 @17026 has 83 MA's), (16, 17035), (19, 17047), (55, 17290), (56, 17296), (58, 17305), (60, 17311), (63, 17332), (79, 17461), (94, 17701), (100, 17743), (104, 17788), (112, 17830), (117, 17875), (127, 17968),

Gene: Mapleville_21 Start: 16932, Stop: 17891, Start Num: 15

Candidate Starts for Mapleville_21:

(Start: 15 @16932 has 83 MA's), (16, 16941), (55, 17196), (56, 17202), (58, 17211), (60, 17217), (63, 17238), (79, 17367), (94, 17607), (104, 17694), (117, 17781), (127, 17874),

Gene: MaterMagnus_22 Start: 16934, Stop: 17893, Start Num: 15

Candidate Starts for MaterMagnus_22:

(Start: 15 @16934 has 83 MA's), (16, 16943), (19, 16955), (55, 17198), (56, 17204), (58, 17213), (60, 17219), (63, 17240), (79, 17369), (94, 17609), (104, 17696), (117, 17783), (127, 17876),

Gene: Melons_20 Start: 14627, Stop: 15586, Start Num: 13

Candidate Starts for Melons_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 9 MA's), (Start: 15 @14633 has 83 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (61, 14933), (67, 14984), (68, 14987), (69, 14999), (74, 15044), (84, 15098), (88, 15146), (89, 15194), (92, 15260), (104, 15389), (106, 15401), (109, 15416), (110, 15419), (120, 15503), (122, 15527), (123, 15530), (126, 15563),

Gene: MidnightRain_22 Start: 16932, Stop: 17891, Start Num: 15

Candidate Starts for MidnightRain_22:

(Start: 15 @16932 has 83 MA's), (16, 16941), (55, 17196), (56, 17202), (58, 17211), (60, 17217), (63, 17238), (79, 17367), (94, 17607), (100, 17649), (104, 17694), (117, 17781), (127, 17874),

Gene: MurphyJoseph_22 Start: 17017, Stop: 17979, Start Num: 15

Candidate Starts for MurphyJoseph_22:

(4, 16906), (8, 16966), (Start: 10 @16990 has 7 MA's), (Start: 15 @17017 has 83 MA's), (16, 17026), (19, 17038), (22, 17071), (33, 17131), (41, 17185), (47, 17230), (50, 17254), (51, 17272), (63, 17323), (106, 17794), (117, 17869), (118, 17872), (127, 17962),

Gene: NewKitty_23 Start: 17163, Stop: 18122, Start Num: 15

Candidate Starts for NewKitty_23:

(Start: 15 @17163 has 83 MA's), (16, 17172), (55, 17427), (56, 17433), (58, 17442), (60, 17448), (63, 17469), (69, 17520), (79, 17598), (94, 17838), (104, 17925), (117, 18012), (127, 18105),

Gene: Niblet_19 Start: 15671, Stop: 16609, Start Num: 15

Candidate Starts for Niblet_19:

(Start: 15 @15671 has 83 MA's), (24, 15737), (26, 15746), (27, 15755), (37, 15812), (38, 15815), (40, 15833), (46, 15881), (54, 15935), (67, 16010), (69, 16025), (70, 16031), (74, 16070), (82, 16115), (100, 16364), (109, 16439), (115, 16484), (122, 16550), (124, 16562),

Gene: NidoQ_21 Start: 16991, Stop: 17947, Start Num: 15

Candidate Starts for NidoQ_21:

(5, 16919), (Start: 10 @16964 has 7 MA's), (Start: 15 @16991 has 83 MA's), (19, 17012), (56, 17261), (69, 17348), (79, 17426), (86, 17468), (94, 17663), (104, 17750), (117, 17837), (127, 17930),

Gene: NikkiHotWheels_21 Start: 16952, Stop: 17914, Start Num: 15

Candidate Starts for NikkiHotWheels_21:

(Start: 10 @16925 has 7 MA's), (Start: 15 @16952 has 83 MA's), (19, 16973), (28, 17042), (50, 17189), (51, 17207), (56, 17222), (63, 17258), (65, 17279), (69, 17315), (71, 17324), (81, 17411), (86, 17435), (94, 17630), (104, 17717), (127, 17897),

Gene: Nyilah_21 Start: 16923, Stop: 17882, Start Num: 15

Candidate Starts for Nyilah_21:

(Start: 15 @16923 has 83 MA's), (16, 16932), (55, 17187), (56, 17193), (58, 17202), (60, 17208), (63, 17229), (69, 17280), (79, 17358), (94, 17598), (104, 17685), (117, 17772), (127, 17865),

Gene: Oppalora_18 Start: 14178, Stop: 15137, Start Num: 15

Candidate Starts for Oppalora_18:

(Start: 15 @14178 has 83 MA's), (24, 14250), (29, 14277), (31, 14292), (40, 14346), (46, 14394), (54, 14448), (61, 14475), (69, 14541), (70, 14547), (74, 14586), (78, 14607), (85, 14649), (104, 14940),

(105, 14949), (106, 14952), (109, 14967), (118, 15030), (122, 15078),

Gene: Orcanus_19 Start: 15585, Stop: 16523, Start Num: 15

Candidate Starts for Orcanus_19:

(Start: 15 @15585 has 83 MA's), (24, 15651), (26, 15660), (27, 15669), (37, 15726), (38, 15729), (40, 15747), (46, 15795), (51, 15840), (54, 15849), (67, 15924), (69, 15939), (70, 15945), (74, 15984), (82, 16029), (100, 16278), (109, 16353), (115, 16398), (122, 16464), (124, 16476), (126, 16500),

Gene: OtsoOtso_19 Start: 14475, Stop: 15428, Start Num: 15

Candidate Starts for OtsoOtso_19:

(Start: 13 @14469 has 9 MA's), (Start: 15 @14475 has 83 MA's), (24, 14550), (26, 14559), (28, 14574), (38, 14628), (40, 14646), (45, 14688), (46, 14694), (61, 14775), (67, 14826), (68, 14829), (69, 14841), (74, 14886), (84, 14940), (88, 14988), (89, 15036), (92, 15102), (104, 15231), (106, 15243), (109, 15258), (110, 15261), (120, 15345), (122, 15369), (123, 15372), (126, 15405),

Gene: Ottawa_46 Start: 25164, Stop: 26162, Start Num: 11

Candidate Starts for Ottawa_46:

(Start: 11 @25164 has 4 MA's), (33, 25305), (43, 25365), (47, 25404), (54, 25458), (57, 25473), (65, 25524), (114, 26028),

Gene: Peas_21 Start: 16939, Stop: 17895, Start Num: 15

Candidate Starts for Peas_21:

(Start: 15 @16939 has 83 MA's), (19, 16960), (33, 17053), (56, 17209), (59, 17221), (69, 17296), (79, 17374), (85, 17407), (86, 17416), (94, 17611), (104, 17698), (127, 17878),

Gene: PeggyLeg03_21 Start: 16977, Stop: 17933, Start Num: 15

Candidate Starts for PeggyLeg03_21:

(5, 16905), (Start: 10 @16950 has 7 MA's), (Start: 15 @16977 has 83 MA's), (17, 16989), (19, 16998), (56, 17247), (69, 17334), (79, 17412), (86, 17454), (94, 17649), (104, 17736), (117, 17823), (127, 17916),

Gene: Pelletreau_20 Start: 15791, Stop: 16729, Start Num: 15

Candidate Starts for Pelletreau_20:

(Start: 15 @15791 has 83 MA's), (24, 15857), (26, 15866), (27, 15875), (37, 15932), (38, 15935), (40, 15953), (46, 16001), (51, 16046), (54, 16055), (67, 16130), (69, 16145), (74, 16190), (82, 16235), (100, 16484), (109, 16559), (115, 16604), (122, 16670), (124, 16682), (126, 16706),

Gene: Persistence_21 Start: 16854, Stop: 17816, Start Num: 15

Candidate Starts for Persistence_21:

(4, 16743), (5, 16782), (8, 16803), (Start: 10 @16827 has 7 MA's), (Start: 15 @16854 has 83 MA's), (16, 16863), (19, 16875), (22, 16908), (46, 17064), (50, 17091), (56, 17124), (63, 17160), (69, 17217), (79, 17295), (106, 17631), (109, 17646), (111, 17652), (120, 17733), (127, 17799),

Gene: PhirstandPhine_20 Start: 14633, Stop: 15586, Start Num: 15

Candidate Starts for PhirstandPhine_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 9 MA's), (Start: 15 @14633 has 83 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (61, 14933), (67, 14984), (68, 14987), (69, 14999), (74, 15044), (84, 15098), (88, 15146), (89, 15194), (92, 15260), (104, 15389), (106, 15401), (109, 15416), (110, 15419), (120, 15503), (122, 15527), (123, 15530), (126, 15563),

Gene: PhluffyCoco_18 Start: 14180, Stop: 15139, Start Num: 15

Candidate Starts for PhluffyCoco_18:

(Start: 15 @14180 has 83 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (61, 14477), (69, 14543), (70, 14549), (74, 14588), (78, 14609), (85, 14651), (104, 14942), (105, 14951), (106, 14954), (109, 14969), (118, 15032), (122, 15080),

Gene: Phrank15_21 Start: 16867, Stop: 17826, Start Num: 15

Candidate Starts for Phrank15_21:

(Start: 15 @16867 has 83 MA's), (16, 16876), (19, 16888), (55, 17131), (56, 17137), (58, 17146), (60, 17152), (63, 17173), (79, 17302), (94, 17542), (100, 17584), (104, 17629), (117, 17716), (127, 17809),

Gene: Pineda_20 Start: 14633, Stop: 15586, Start Num: 15

Candidate Starts for Pineda_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 9 MA's), (Start: 15 @14633 has 83 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (61, 14933), (67, 14984), (68, 14987), (69, 14999), (74, 15044), (84, 15098), (88, 15146), (89, 15194), (92, 15260), (104, 15389), (106, 15401), (109, 15416), (110, 15419), (120, 15503), (122, 15527), (123, 15530), (126, 15563),

Gene: Polka_19 Start: 14469, Stop: 15428, Start Num: 13

Candidate Starts for Polka_19:

(Start: 13 @14469 has 9 MA's), (Start: 15 @14475 has 83 MA's), (24, 14550), (26, 14559), (28, 14574), (38, 14628), (40, 14646), (45, 14688), (46, 14694), (61, 14775), (67, 14826), (68, 14829), (69, 14841), (74, 14886), (84, 14940), (88, 14988), (89, 15036), (92, 15102), (104, 15231), (106, 15243), (109, 15258), (110, 15261), (120, 15345), (122, 15369), (123, 15372), (126, 15405),

Gene: Pucara_21 Start: 16938, Stop: 17894, Start Num: 15

Candidate Starts for Pucara_21:

(Start: 10 @16911 has 7 MA's), (Start: 15 @16938 has 83 MA's), (19, 16959), (33, 17052), (56, 17208), (59, 17220), (69, 17295), (79, 17373), (85, 17406), (86, 17415), (94, 17610), (104, 17697), (127, 17877),

Gene: RadFad_22 Start: 16933, Stop: 17892, Start Num: 15

Candidate Starts for RadFad_22:

(Start: 15 @16933 has 83 MA's), (16, 16942), (55, 17197), (56, 17203), (58, 17212), (60, 17218), (63, 17239), (79, 17368), (94, 17608), (104, 17695), (106, 17707), (117, 17782), (119, 17788), (127, 17875),

Gene: Raphaella_22 Start: 16933, Stop: 17892, Start Num: 15

Candidate Starts for Raphaella_22:

(Start: 15 @16933 has 83 MA's), (16, 16942), (55, 17197), (56, 17203), (58, 17212), (60, 17218), (63, 17239), (79, 17368), (94, 17608), (104, 17695), (117, 17782), (127, 17875),

Gene: Rattail_18 Start: 14234, Stop: 15199, Start Num: 15

Candidate Starts for Rattail_18:

(Start: 15 @14234 has 83 MA's), (24, 14306), (29, 14333), (30, 14339), (31, 14348), (38, 14384), (40, 14402), (46, 14450), (54, 14504), (61, 14531), (63, 14549), (67, 14582), (77, 14663), (104, 15002), (105, 15011), (106, 15014), (109, 15029), (122, 15140),

Gene: RedFox_18 Start: 14180, Stop: 15139, Start Num: 15

Candidate Starts for RedFox_18:

(Start: 15 @14180 has 83 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (61, 14477), (69, 14543), (70, 14549), (74, 14588), (78, 14609), (85, 14651), (104, 14942), (105, 14951), (106, 14954), (109, 14969), (118, 15032), (122, 15080),

Gene: Renna12_19 Start: 14524, Stop: 15489, Start Num: 15

Candidate Starts for Renna12_19:

(Start: 15 @14524 has 83 MA's), (24, 14596), (28, 14620), (29, 14623), (31, 14638), (38, 14674), (40, 14692), (46, 14740), (54, 14794), (61, 14821), (69, 14887), (70, 14893), (104, 15292), (106, 15304), (109, 15319), (118, 15382), (120, 15406), (122, 15430),

Gene: Richie_22 Start: 16948, Stop: 17907, Start Num: 15

Candidate Starts for Richie_22:

(Start: 15 @16948 has 83 MA's), (16, 16957), (19, 16969), (55, 17212), (56, 17218), (58, 17227), (60, 17233), (63, 17254), (79, 17383), (94, 17623), (104, 17710), (111, 17743), (117, 17797), (127, 17890),

Gene: Ruchi_19 Start: 15868, Stop: 16809, Start Num: 15

Candidate Starts for Ruchi_19:

(Start: 14 @15865 has 2 MA's), (Start: 15 @15868 has 83 MA's), (18, 15886), (24, 15934), (28, 15958), (30, 15967), (37, 16009), (39, 16027), (40, 16030), (46, 16078), (58, 16150), (69, 16222), (83, 16321), (109, 16639), (115, 16684), (116, 16696), (122, 16750),

Gene: Sakai_22 Start: 16942, Stop: 17901, Start Num: 15

Candidate Starts for Sakai_22:

(Start: 15 @16942 has 83 MA's), (16, 16951), (55, 17206), (56, 17212), (58, 17221), (60, 17227), (63, 17248), (79, 17377), (94, 17617), (104, 17704), (117, 17791), (127, 17884),

Gene: Salgado_70 Start: 42577, Stop: 43566, Start Num: 10

Candidate Starts for Salgado_70:

(3, 42478), (Start: 10 @42577 has 7 MA's), (29, 42703), (36, 42739), (44, 42811), (46, 42820), (48, 42832), (53, 42874), (61, 42904), (62, 42919), (73, 43009), (90, 43192), (98, 43315), (106, 43381), (113, 43429), (114, 43435), (128, 43561),

Gene: Satrap_22 Start: 16854, Stop: 17816, Start Num: 15

Candidate Starts for Satrap_22:

(5, 16782), (8, 16803), (Start: 10 @16827 has 7 MA's), (Start: 15 @16854 has 83 MA's), (16, 16863), (19, 16875), (22, 16908), (41, 17022), (46, 17064), (50, 17091), (51, 17109), (56, 17124), (104, 17619), (109, 17646), (127, 17799),

Gene: Seahorse_23 Start: 17300, Stop: 18259, Start Num: 15

Candidate Starts for Seahorse_23:

(Start: 15 @17300 has 83 MA's), (16, 17309), (19, 17321), (56, 17570), (58, 17579), (60, 17585), (63, 17606), (79, 17735), (104, 18062), (127, 18242),

Gene: Shen_20 Start: 15792, Stop: 16730, Start Num: 15

Candidate Starts for Shen_20:

(Start: 15 @15792 has 83 MA's), (24, 15858), (26, 15867), (27, 15876), (37, 15933), (38, 15936), (40, 15954), (46, 16002), (51, 16047), (54, 16056), (63, 16098), (67, 16131), (69, 16146), (74, 16191), (82, 16236), (100, 16485), (109, 16560), (115, 16605), (122, 16671), (124, 16683), (126, 16707),

Gene: Shrooms_68 Start: 41098, Stop: 42087, Start Num: 10

Candidate Starts for Shrooms_68:

(3, 40999), (Start: 10 @41098 has 7 MA's), (18, 41152), (20, 41170), (23, 41188), (29, 41224), (30, 41230), (35, 41254), (36, 41260), (51, 41389), (53, 41395), (61, 41425), (62, 41440), (64, 41446), (68, 41482), (71, 41503), (73, 41530), (90, 41713), (109, 41917), (114, 41956), (128, 42082),

Gene: Shukran_22 Start: 16854, Stop: 17816, Start Num: 15

Candidate Starts for Shukran_22:

(5, 16782), (8, 16803), (Start: 10 @16827 has 7 MA's), (Start: 15 @16854 has 83 MA's), (16, 16863), (19, 16875), (22, 16908), (41, 17022), (46, 17064), (50, 17091), (51, 17109), (56, 17124), (104, 17619), (109, 17646), (127, 17799),

Gene: SonDevVon_21 Start: 16956, Stop: 17894, Start Num: 19

Candidate Starts for SonDevVon_21:

(Start: 15 @16935 has 83 MA's), (16, 16944), (19, 16956), (55, 17199), (56, 17205), (58, 17214), (60, 17220), (63, 17241), (79, 17370), (94, 17610), (100, 17652), (104, 17697), (117, 17784), (127, 17877),

Gene: SpicyFrank_22 Start: 17010, Stop: 17969, Start Num: 15

Candidate Starts for SpicyFrank_22:

(5, 16938), (8, 16959), (Start: 10 @16983 has 7 MA's), (Start: 15 @17010 has 83 MA's), (16, 17019), (19, 17031), (33, 17124), (55, 17274), (63, 17316), (69, 17367), (79, 17445), (94, 17685), (100, 17727), (104, 17772), (108, 17793), (127, 17952),

Gene: Sporco_23 Start: 16990, Stop: 17949, Start Num: 15

Candidate Starts for Sporco_23:

(Start: 15 @16990 has 83 MA's), (16, 16999), (19, 17011), (55, 17254), (56, 17260), (58, 17269), (60, 17275), (63, 17296), (79, 17425), (94, 17665), (104, 17752), (117, 17839), (127, 17932),

Gene: StuartMinion_18 Start: 14221, Stop: 15183, Start Num: 15

Candidate Starts for StuartMinion_18:

(9, 14173), (Start: 15 @14221 has 83 MA's), (24, 14290), (28, 14314), (30, 14323), (31, 14332), (38, 14368), (40, 14386), (45, 14428), (46, 14434), (54, 14488), (61, 14515), (68, 14569), (69, 14581), (70, 14587), (84, 14692), (85, 14695), (91, 14818), (104, 14986), (106, 14998), (109, 15013), (120, 15100), (122, 15124),

Gene: TaylorSipt_19 Start: 14602, Stop: 15540, Start Num: 15

Candidate Starts for TaylorSipt_19:

(Start: 15 @14602 has 83 MA's), (24, 14668), (26, 14677), (30, 14701), (37, 14743), (40, 14764), (46, 14812), (74, 15001), (80, 15034), (82, 15046), (100, 15295), (122, 15481), (124, 15493), (126, 15517),

Gene: ThayneTheZag_22 Start: 17101, Stop: 18063, Start Num: 15

Candidate Starts for ThayneTheZag_22:

(5, 17029), (8, 17050), (Start: 10 @17074 has 7 MA's), (Start: 15 @17101 has 83 MA's), (16, 17110), (19, 17122), (22, 17155), (32, 17212), (33, 17215), (41, 17269), (46, 17311), (50, 17338), (51, 17356), (56, 17371), (63, 17407), (69, 17464), (100, 17821), (127, 18046),

Gene: Tiff81_23 Start: 17028, Stop: 17987, Start Num: 15

Candidate Starts for Tiff81_23:

(Start: 15 @17028 has 83 MA's), (16, 17037), (19, 17049), (55, 17292), (56, 17298), (58, 17307), (60, 17313), (63, 17334), (79, 17463), (104, 17790), (127, 17970),

Gene: Toad24_20 Start: 15792, Stop: 16730, Start Num: 15

Candidate Starts for Toad24_20:

(Start: 15 @15792 has 83 MA's), (24, 15858), (26, 15867), (27, 15876), (37, 15933), (38, 15936), (40, 15954), (46, 16002), (51, 16047), (54, 16056), (63, 16098), (67, 16131), (69, 16146), (74, 16191), (82, 16236), (100, 16485), (109, 16560), (115, 16605), (122, 16671), (124, 16683), (126, 16707),

Gene: Vopal_23 Start: 17005, Stop: 17964, Start Num: 15

Candidate Starts for Vopal_23:

(Start: 15 @17005 has 83 MA's), (16, 17014), (55, 17269), (56, 17275), (58, 17284), (60, 17290), (63, 17311), (79, 17440), (94, 17680), (104, 17767), (117, 17854), (127, 17947),

Gene: Vulpecula_19 Start: 15323, Stop: 16267, Start Num: 14

Candidate Starts for Vulpecula_19:

(Start: 14 @15323 has 2 MA's), (Start: 15 @15326 has 83 MA's), (18, 15344), (24, 15392), (28, 15416), (30, 15425), (37, 15467), (39, 15485), (40, 15488), (46, 15536), (58, 15608), (69, 15680), (83, 15779), (109, 16097), (115, 16142), (122, 16208),

Gene: Waltz_67 Start: 41111, Stop: 42100, Start Num: 10

Candidate Starts for Waltz_67:

(3, 41012), (Start: 10 @41111 has 7 MA's), (18, 41165), (20, 41183), (21, 41189), (23, 41201), (29, 41237), (34, 41264), (35, 41267), (36, 41273), (51, 41402), (53, 41408), (61, 41438), (62, 41453), (68, 41495), (71, 41516), (73, 41543), (90, 41726), (114, 41969), (128, 42095),

Gene: Westrich_20 Start: 15781, Stop: 16719, Start Num: 15

Candidate Starts for Westrich_20:

(Start: 15 @15781 has 83 MA's), (24, 15847), (26, 15856), (27, 15865), (37, 15922), (38, 15925), (40, 15943), (46, 15991), (51, 16036), (52, 16039), (54, 16045), (67, 16120), (69, 16135), (70, 16141), (74, 16180), (82, 16225), (100, 16474), (109, 16549), (115, 16594), (122, 16660), (124, 16672), (126, 16696),

Gene: Wheelbite_66 Start: 42734, Stop: 43717, Start Num: 10

Candidate Starts for Wheelbite_66:

(Start: 10 @42734 has 7 MA's), (29, 42854), (30, 42860), (36, 42890), (42, 42932), (44, 42962), (46, 42971), (51, 43019), (53, 43025), (62, 43070), (68, 43112), (73, 43160), (85, 43235), (98, 43466), (106, 43532), (113, 43580), (114, 43586), (128, 43712),

Gene: WileyE_18 Start: 14660, Stop: 15601, Start Num: 15

Candidate Starts for WileyE_18:

(Start: 14 @14657 has 2 MA's), (Start: 15 @14660 has 83 MA's), (18, 14678), (24, 14726), (28, 14750), (30, 14759), (37, 14801), (39, 14819), (40, 14822), (46, 14870), (58, 14942), (69, 15014), (83, 15113), (109, 15431), (115, 15476), (122, 15542),

Gene: Windest_23 Start: 16989, Stop: 17948, Start Num: 15

Candidate Starts for Windest_23:

(Start: 15 @16989 has 83 MA's), (16, 16998), (19, 17010), (55, 17253), (56, 17259), (58, 17268), (60, 17274), (63, 17295), (79, 17424), (94, 17664), (100, 17706), (104, 17751), (111, 17784), (117, 17838), (127, 17931),

Gene: YoungHarleezy_22 Start: 16946, Stop: 17905, Start Num: 15

Candidate Starts for YoungHarleezy_22:

(Start: 15 @16946 has 83 MA's), (16, 16955), (55, 17210), (56, 17216), (58, 17225), (60, 17231), (63, 17252), (79, 17381), (94, 17621), (100, 17663), (104, 17708), (117, 17795), (127, 17888),

Gene: Zhuangyuan_20 Start: 15026, Stop: 15979, Start Num: 15

Candidate Starts for Zhuangyuan_20:

(7, 14969), (Start: 15 @15026 has 83 MA's), (24, 15095), (25, 15098), (29, 15122), (30, 15128), (37, 15170), (38, 15173), (39, 15188), (40, 15191), (46, 15239), (54, 15293), (69, 15383), (79, 15461), (91, 15617), (93, 15680), (104, 15782), (107, 15800), (115, 15854), (122, 15920), (125, 15941), (127, 15962),

Gene: Zixiang_19 Start: 15672, Stop: 16610, Start Num: 15

Candidate Starts for Zixiang_19:

(Start: 15 @15672 has 83 MA's), (24, 15738), (26, 15747), (27, 15756), (37, 15813), (38, 15816), (40, 15834), (46, 15882), (54, 15936), (67, 16011), (69, 16026), (70, 16032), (74, 16071), (82, 16116), (100, 16365), (109, 16440), (115, 16485), (122, 16551), (124, 16563),