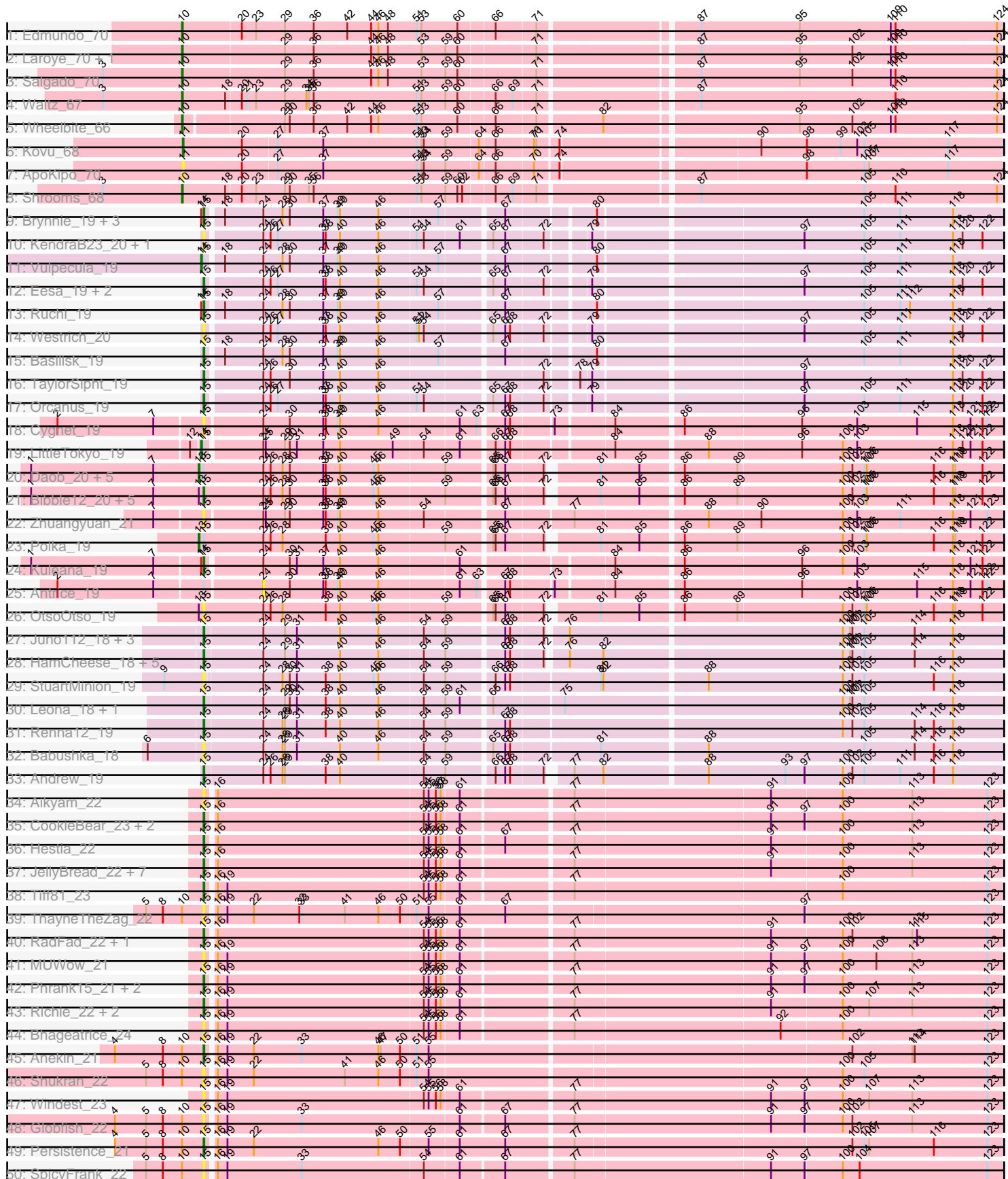
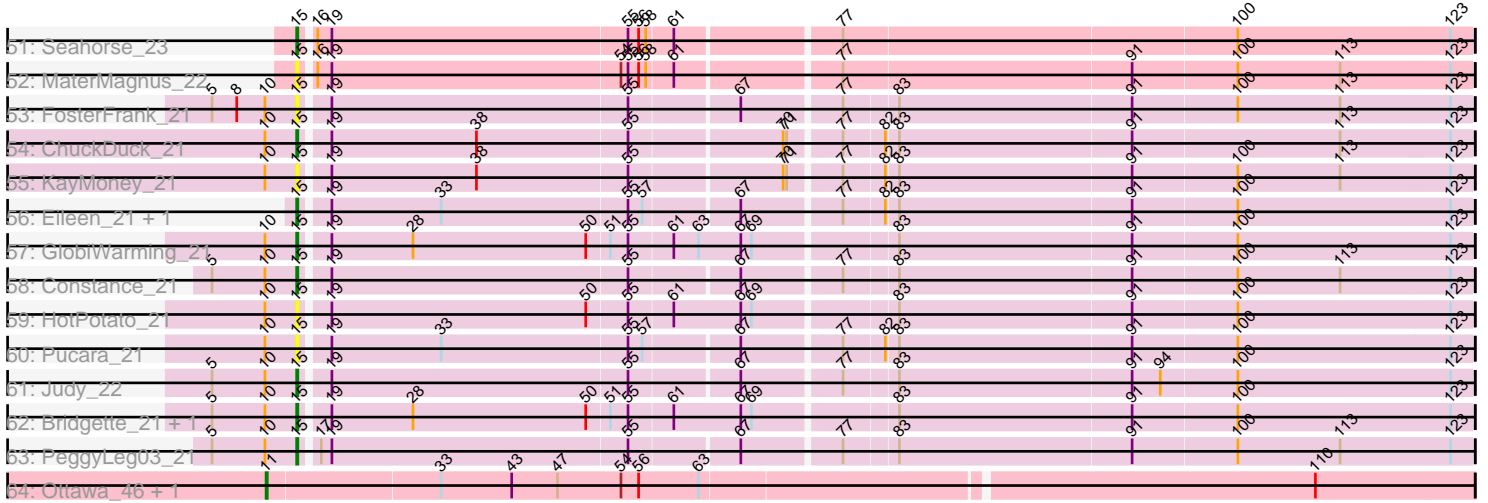


Pham 221281



Pham 221281



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 221281 Report

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

Pham number 221281 has 107 members, 45 are drafts.

Phages represented in each track:

- Track 1 : Edmundo_70
- Track 2 : Laroye_70, LiSara_67
- Track 3 : Salgado_70
- Track 4 : Waltz_67
- Track 5 : Wheelbite_66
- Track 6 : Kovu_68
- Track 7 : ApoKipo_70
- Track 8 : Shrooms_68
- Track 9 : Brynnie_19, Jamun_19, WileyE_18, Chickaboom_18
- Track 10 : KendraB23_20, Toad24_20
- Track 11 : Vulpecula_19
- Track 12 : Eesa_19, Pelletreau_20, Gravel_20
- Track 13 : Ruchi_19
- Track 14 : Westrich_20
- Track 15 : Basilisk_19
- Track 16 : TaylorSipht_19
- Track 17 : Orcanus_19
- Track 18 : Cygnet_19
- Track 19 : LittleTokyo_19
- Track 20 : Daob_20, HannahPhantana_20, Melons_20, Cote_20, Coral_19, Kepler_19
- Track 21 : Bibble12_20, Jerole_20, Amelia_20, Bedetta_20, Lunar_20, Colusalem_19
- Track 22 : Zhuangyuan_21
- Track 23 : Polka_19
- Track 24 : Kuleana_19
- Track 25 : Antrice_19
- Track 26 : OtsoOtso_19
- Track 27 : Juno112_18, KHumphrey_18, Atlantica_18, Camara_18
- Track 28 : HamCheese_18, Glotell_19, PhluffyCoco_18, DanHam62_18, AmiCi24_18, RedFox_18
- Track 29 : StuartMinion_19
- Track 30 : Leona_18, Rattail_18
- Track 31 : Renna12_19
- Track 32 : Babushka_18
- Track 33 : Andrew_19
- Track 34 : Aikyam_22

- Track 35 : CookieBear_23, YoungHarleezy_22, MidnightRain_22
- Track 36 : Hestia_22
- Track 37 : JellyBread_22, Vopal_23, Auxilium_22, Raphaella_22, Sakai_22, BillyTP_22, Lawnathon_22, Gorpy_22
- Track 38 : Tiff81_23
- Track 39 : ThayneTheZag_22
- Track 40 : RadFad_22, Hillester_22
- Track 41 : MUWow_21
- Track 42 : Phrank15_21, AdaS_22, Isolde_22
- Track 43 : Richie_22, BlueShadow_23, BenchScraper_22
- Track 44 : Bhageatrice_24
- Track 45 : Anekin_21
- Track 46 : Shukran_22
- Track 47 : Windest_23
- Track 48 : Globfish_22
- Track 49 : Persistence_21
- Track 50 : SpicyFrank_22
- Track 51 : Seahorse_23
- Track 52 : MaterMagnus_22
- Track 53 : FosterFrank_21
- Track 54 : ChuckDuck_21
- Track 55 : KayMoney_21
- Track 56 : Eileen_21, Peas_21
- Track 57 : GlobiWarming_21
- Track 58 : Constance_21
- Track 59 : HotPotato_21
- Track 60 : Pucara_21
- Track 61 : Judy_22
- Track 62 : Bridgette_21, Karkharias_21
- Track 63 : PeggyLeg03_21
- Track 64 : 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 43 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AdaS_22, Aikyam_22, Amelia_20, AmiCi24_18, Andrew_19, Anekin_21, Atlantica_18, Auxilium_22, Babushka_18, Basilisk_19, Bedetta_20, BenchScraper_22, Bhageatrice_24, Bibble12_20, BillyTP_22, BlueShadow_23, Bridgette_21, Brynnie_19, Camara_18, Chickaboom_18, ChuckDuck_21, Colusalem_19, Constance_21, CookieBear_23, Cygnet_19, DanHam62_18, Eesa_19, Eileen_21, FosterFrank_21, Globfish_22, GlobiWarming_21, Glotell_19, Gorpy_22, Gravel_20, HamCheese_18, Hestia_22, Hillester_22, HotPotato_21, Isolde_22, Jamun_19, JellyBread_22, Jerole_20, Judy_22, Juno112_18, KHumphrey_18, Karkharias_21, KayMoney_21, KendraB23_20, Kuleana_19, Lawnathon_22, Leona_18, Lunar_20, MUWow_21, MaterMagnus_22, MidnightRain_22, Orcanus_19, OtsoOtso_19, Peas_21, PeggyLeg03_21, Pelletreau_20, Persistence_21, PhluffyCoco_18, Phrank15_21, Pucara_21,

RadFad_22, Raphaella_22, Rattail_18, RedFox_18, Renna12_19, Richie_22, Ruchi_19, Sakai_22, Seahorse_23, Shukran_22, SpicyFrank_22, StuartMinion_19, TaylorSipt_19, ThayneTheZag_22, Tiff81_23, Toad24_20, Vopal_23, Westrich_20, WileyE_18, Windest_23, YoungHarleezy_22, Zhuangyuan_21,

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

- Antrice_19, Coral_19, Cote_20, Daob_20, HannahPhantana_20, Kepler_19, LittleTokyo_19, Melons_20, Polka_19, Vulpecula_19,

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

- ApoKipo_70, 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 24 of 107 (22.4%) of genes in pham
- Manual Annotations of this start: 7 of 62
- Called 29.2% 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 107 (3.7%) of genes in pham
- Manual Annotations of this start: 3 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ApoKipo_70 (AL), Kharcho_46 (FM), Kovu_68 (AL), Ottawa_46 (FM),

Start 13:

- Found in 14 of 107 (13.1%) of genes in pham
- Manual Annotations of this start: 7 of 62
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Coral_19 (AS2), Cote_20 (AS2), Daob_20 (AS2), HannahPhantana_20 (AS2), Kepler_19 (AS2), Melons_20 (AS2), Polka_19 (AS2),

Start 14:

- Found in 8 of 107 (7.5%) of genes in pham
- Manual Annotations of this start: 2 of 62
- Called 25.0% of time when present
- Phage (with cluster) where this start called: LittleTokyo_19 (AS2), Vulpecula_19 (AS1),

Start 15:

- Found in 96 of 107 (89.7%) of genes in pham
- Manual Annotations of this start: 43 of 62
- Called 89.6% of time when present
- Phage (with cluster) where this start called: AdaS_22 (AY), Aikyam_22 (AY), Amelia_20 (AS2), AmiCi24_18 (AS3), Andrew_19 (AS3), Anekin_21 (AY), Atlantica_18 (AS3), Auxilium_22 (AY), Babushka_18 (AS3), Basilisk_19 (AS1), Bedetta_20 (AS2), BenchScraper_22 (AY), Bhageatrice_24 (AY), Bibble12_20 (AS2),

BillyTP_22 (AY), BlueShadow_23 (AY), Bridgette_21 (FA), Brynnie_19 (AS1), Camara_18 (AS3), Chickaboom_18 (AS1), ChuckDuck_21 (FA), Colusalem_19 (AS2), Constance_21 (FA), CookieBear_23 (AY), Cygnet_19 (AS2), DanHam62_18 (AS3), Eesa_19 (AS1), Eileen_21 (FA), FosterFrank_21 (FA), Globfish_22 (AY), GlobiWarming_21 (FA), Glotell_19 (AS3), Gorpy_22 (AY), Gravel_20 (AS1), HamCheese_18 (AS3), Hestia_22 (AY), Hillester_22 (AY), HotPotato_21 (FA), Isolde_22 (AY), Jamun_19 (AS1), JellyBread_22 (AY), Jerole_20 (AS2), Judy_22 (FA), Juno112_18 (AS3), KHumphrey_18 (AS3), Karkharias_21 (FA), KayMoney_21 (FA), KendraB23_20 (AS1), Kuleana_19 (AS2), Lawnathon_22 (AY), Leona_18 (AS3), Lunar_20 (AS2), MUWow_21 (AY), MaterMagnus_22 (AY), MidnightRain_22 (AY), Orcanus_19 (AS1), OtsoOtso_19 (AS2), Peas_21 (FA), PeggyLeg03_21 (FA), Pelletreau_20 (AS1), Persistence_21 (AY), PhluffyCoco_18 (AS3), Phrank15_21 (AY), 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), Seahorse_23 (AY), Shukran_22 (AY), SpicyFrank_22 (AY), StuartMinion_19 (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_21 (AS2),

Start 24:

- Found in 50 of 107 (46.7%) of genes in pham
- No Manual Annotations of this start.
- Called 2.0% of time when present
- Phage (with cluster) where this start called: Antrice_19 (AS2),

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 1 time 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 8 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 13 was manually annotated 7 times for cluster AS2.
- Start number 14 was manually annotated 1 time for cluster AS2.
- Start number 15 was manually annotated 3 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 15 was manually annotated 7 times for cluster AS3.

Info for manual annotations of cluster AY:

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

Info for manual annotations of cluster FA:

- Start number 15 was manually annotated 9 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 43 MA's), (16, 16942), (19, 16954), (54, 17197), (55, 17203), (56, 17212), (58, 17218), (61, 17239), (77, 17368), (91, 17608), (97, 17650), (100, 17695), (113, 17782), (123, 17875),

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

Candidate Starts for Aikyam_22:

(Start: 15 @16934 has 43 MA's), (16, 16943), (54, 17198), (55, 17204), (56, 17213), (57, 17216), (58, 17219), (61, 17240), (77, 17369), (91, 17609), (100, 17696), (113, 17783), (123, 17876),

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

Candidate Starts for Amelia_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 7 MA's), (Start: 15 @14633 has 43 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (59, 14933), (65, 14984), (66, 14987), (67, 14999), (72, 15044), (81, 15098), (85, 15146), (86, 15194), (89, 15260), (100, 15389), (102, 15401), (105, 15416), (106, 15419), (116, 15503), (118, 15527), (119, 15530), (122, 15563),

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

Candidate Starts for AmiCi24_18:

(Start: 15 @14178 has 43 MA's), (24, 14250), (29, 14277), (31, 14292), (40, 14346), (46, 14394), (54, 14448), (59, 14475), (67, 14541), (68, 14547), (72, 14586), (76, 14607), (82, 14649), (100, 14940), (101, 14949), (102, 14952), (105, 14967), (114, 15030), (118, 15078),

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

Candidate Starts for Andrew_19:

(Start: 15 @14644 has 43 MA's), (24, 14716), (26, 14725), (28, 14740), (29, 14743), (38, 14794), (40, 14812), (54, 14914), (59, 14941), (66, 14995), (67, 15007), (68, 15013), (72, 15052), (77, 15073), (82, 15109), (88, 15232), (93, 15328), (97, 15352), (100, 15400), (102, 15412), (105, 15427), (111, 15472), (116, 15514), (118, 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 43 MA's), (16, 16905), (19, 16917), (22, 16950), (33, 17010), (46, 17106), (47, 17109), (50, 17133), (51, 17151), (55, 17166), (102, 17673), (113, 17748), (114, 17751), (123, 17841),

Gene: Antrice_19 Start: 15250, Stop: 16131, Start Num: 24

Candidate Starts for Antrice_19:

(2, 15004), (7, 15124), (Start: 15 @15181 has 43 MA's), (24, 15250), (30, 15283), (37, 15325), (38, 15328), (39, 15343), (40, 15346), (46, 15394), (61, 15490), (63, 15511), (67, 15538), (68, 15544), (73, 15592), (84, 15658), (86, 15736), (96, 15880), (103, 15949), (115, 16024), (118, 16069), (121, 16090), (122, 16105), (123, 16111),

Gene: ApoKipo_70 Start: 43581, Stop: 44564, Start Num: 11

Candidate Starts for ApoKipo_70:

(Start: 11 @43581 has 3 MA's), (20, 43653), (27, 43695), (37, 43752), (51, 43869), (53, 43875), (54, 43878), (59, 43905), (64, 43944), (66, 43962), (70, 44007), (74, 44034), (98, 44322), (105, 44394),

(107, 44400), (117, 44499),

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

Candidate Starts for Atlantica_18:

(Start: 15 @14180 has 43 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (59, 14477), (67, 14543), (68, 14549), (72, 14588), (76, 14609), (100, 14942), (101, 14951), (102, 14954), (105, 14969), (114, 15032), (118, 15080),

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

Candidate Starts for Auxilium_22:

(Start: 15 @16933 has 43 MA's), (16, 16942), (54, 17197), (55, 17203), (56, 17212), (58, 17218), (61, 17239), (77, 17368), (91, 17608), (100, 17695), (113, 17782), (123, 17875),

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

Candidate Starts for Babushka_18:

(6, 14167), (Start: 15 @14233 has 43 MA's), (24, 14305), (28, 14329), (29, 14332), (31, 14347), (40, 14401), (46, 14449), (54, 14503), (59, 14530), (65, 14581), (67, 14596), (68, 14602), (81, 14707), (88, 14833), (105, 15028), (114, 15091), (116, 15115), (118, 15139),

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

Candidate Starts for Basilisk_19:

(Start: 15 @15922 has 43 MA's), (18, 15940), (24, 15988), (28, 16012), (30, 16021), (37, 16063), (39, 16081), (40, 16084), (46, 16132), (57, 16204), (67, 16276), (80, 16375), (105, 16693), (111, 16738), (118, 16804),

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

Candidate Starts for Bedetta_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 7 MA's), (Start: 15 @14633 has 43 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (59, 14933), (65, 14984), (66, 14987), (67, 14999), (72, 15044), (81, 15098), (85, 15146), (86, 15194), (89, 15260), (100, 15389), (102, 15401), (105, 15416), (106, 15419), (116, 15503), (118, 15527), (119, 15530), (122, 15563),

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

Candidate Starts for BenchScraper_22:

(Start: 15 @16948 has 43 MA's), (16, 16957), (19, 16969), (54, 17212), (55, 17218), (56, 17227), (58, 17233), (61, 17254), (77, 17383), (91, 17623), (100, 17710), (107, 17743), (113, 17797), (123, 17890),

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

Candidate Starts for Bhageatrice_24:

(Start: 15 @18223 has 43 MA's), (16, 18232), (19, 18244), (54, 18487), (55, 18493), (56, 18502), (58, 18508), (61, 18529), (77, 18658), (92, 18910), (100, 18985), (123, 19165),

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

Candidate Starts for Bible12_20:

(1, 14420), (7, 14573), (Start: 13 @14630 has 7 MA's), (Start: 15 @14636 has 43 MA's), (24, 14711), (26, 14720), (28, 14735), (30, 14744), (37, 14786), (38, 14789), (40, 14807), (45, 14849), (46, 14855), (59, 14936), (65, 14987), (66, 14990), (67, 15002), (72, 15047), (81, 15101), (85, 15149), (86, 15197), (89, 15263), (100, 15392), (102, 15404), (105, 15419), (106, 15422), (116, 15506), (118, 15530), (119, 15533), (122, 15566),

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

Candidate Starts for BillyTP_22:

(Start: 15 @16717 has 43 MA's), (16, 16726), (54, 16981), (55, 16987), (56, 16996), (58, 17002), (61, 17023), (77, 17152), (91, 17392), (100, 17479), (113, 17566), (123, 17659),

Gene: BlueShadow_23 Start: 16933, Stop: 17892, Start Num: 15

Candidate Starts for BlueShadow_23:

(Start: 15 @16933 has 43 MA's), (16, 16942), (19, 16954), (54, 17197), (55, 17203), (56, 17212), (58, 17218), (61, 17239), (77, 17368), (91, 17608), (100, 17695), (107, 17728), (113, 17782), (123, 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 43 MA's), (19, 17016), (28, 17085), (50, 17232), (51, 17250), (55, 17265), (61, 17301), (67, 17358), (69, 17367), (83, 17478), (91, 17673), (100, 17760), (123, 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 43 MA's), (18, 15752), (24, 15800), (28, 15824), (30, 15833), (37, 15875), (39, 15893), (40, 15896), (46, 15944), (57, 16016), (67, 16088), (80, 16187), (105, 16505), (111, 16550), (118, 16616),

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

Candidate Starts for Camara_18:

(Start: 15 @14181 has 43 MA's), (24, 14253), (29, 14280), (31, 14295), (40, 14349), (46, 14397), (54, 14451), (59, 14478), (67, 14544), (68, 14550), (72, 14589), (76, 14610), (100, 14943), (101, 14952), (102, 14955), (105, 14970), (114, 15033), (118, 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 43 MA's), (18, 14678), (24, 14726), (28, 14750), (30, 14759), (37, 14801), (39, 14819), (40, 14822), (46, 14870), (57, 14942), (67, 15014), (80, 15113), (105, 15431), (111, 15476), (118, 15542),

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 43 MA's), (19, 16858), (38, 16981), (55, 17107), (70, 17230), (71, 17233), (77, 17272), (82, 17305), (83, 17314), (91, 17509), (113, 17683), (123, 17776),

Gene: Colusalem_19 Start: 14472, Stop: 15425, Start Num: 15

Candidate Starts for Colusalem_19:

(1, 14256), (7, 14409), (Start: 13 @14466 has 7 MA's), (Start: 15 @14472 has 43 MA's), (24, 14547), (26, 14556), (28, 14571), (30, 14580), (37, 14622), (38, 14625), (40, 14643), (45, 14685), (46, 14691), (59, 14772), (65, 14823), (66, 14826), (67, 14838), (72, 14883), (81, 14937), (85, 14985), (86, 15033), (89, 15099), (100, 15228), (102, 15240), (105, 15255), (106, 15258), (116, 15342), (118, 15366), (119, 15369), (122, 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 43 MA's), (19, 16998), (55, 17247), (67, 17334), (77, 17412), (83, 17454), (91, 17649), (100, 17736), (113, 17823), (123, 17916),

Gene: CookieBear_23 Start: 16933, Stop: 17892, Start Num: 15

Candidate Starts for CookieBear_23:

(Start: 15 @16933 has 43 MA's), (16, 16942), (54, 17197), (55, 17203), (56, 17212), (58, 17218), (61, 17239), (77, 17368), (91, 17608), (97, 17650), (100, 17695), (113, 17782), (123, 17875),

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

Candidate Starts for Coral_19:

(1, 14256), (7, 14409), (Start: 13 @14466 has 7 MA's), (Start: 15 @14472 has 43 MA's), (24, 14547), (26, 14556), (28, 14571), (30, 14580), (37, 14622), (38, 14625), (40, 14643), (45, 14685), (46, 14691), (59, 14772), (65, 14823), (66, 14826), (67, 14838), (72, 14883), (81, 14937), (85, 14985), (86, 15033), (89, 15099), (100, 15228), (102, 15240), (105, 15255), (106, 15258), (116, 15342), (118, 15366), (119, 15369), (122, 15402),

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

Candidate Starts for Cote_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 7 MA's), (Start: 15 @14633 has 43 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (59, 14933), (65, 14984), (66, 14987), (67, 14999), (72, 15044), (81, 15098), (85, 15146), (86, 15194), (89, 15260), (100, 15389), (102, 15401), (105, 15416), (106, 15419), (116, 15503), (118, 15527), (119, 15530), (122, 15563),

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

Candidate Starts for Cygnet_19:

(2, 15114), (7, 15234), (Start: 15 @15291 has 43 MA's), (24, 15360), (30, 15393), (37, 15435), (38, 15438), (39, 15453), (40, 15456), (46, 15504), (61, 15600), (63, 15621), (67, 15648), (68, 15654), (73, 15702), (84, 15768), (86, 15846), (96, 15990), (103, 16059), (115, 16134), (118, 16179), (121, 16200), (122, 16215), (123, 16221),

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

Candidate Starts for DanHam62_18:

(Start: 15 @14180 has 43 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (59, 14477), (67, 14543), (68, 14549), (72, 14588), (76, 14609), (82, 14651), (100, 14942), (101, 14951), (102, 14954), (105, 14969), (114, 15032), (118, 15080),

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

Candidate Starts for Daob_20:

(1, 14420), (7, 14573), (Start: 13 @14630 has 7 MA's), (Start: 15 @14636 has 43 MA's), (24, 14711), (26, 14720), (28, 14735), (30, 14744), (37, 14786), (38, 14789), (40, 14807), (45, 14849), (46, 14855), (59, 14936), (65, 14987), (66, 14990), (67, 15002), (72, 15047), (81, 15101), (85, 15149), (86, 15197), (89, 15263), (100, 15392), (102, 15404), (105, 15419), (106, 15422), (116, 15506), (118, 15530), (119, 15533), (122, 15566),

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), (60, 43712), (66, 43754), (71, 43802), (87, 43985), (95, 44108), (109, 44222), (110, 44228), (124, 44354),

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

Candidate Starts for Eesa_19:

(Start: 15 @15885 has 43 MA's), (24, 15951), (26, 15960), (27, 15969), (37, 16026), (38, 16029), (40, 16047), (46, 16095), (51, 16140), (54, 16149), (65, 16224), (67, 16239), (72, 16284), (79, 16329), (97, 16578), (105, 16653), (111, 16698), (118, 16764), (120, 16776), (122, 16800),

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

Candidate Starts for Eileen_21:

(Start: 15 @16939 has 43 MA's), (19, 16960), (33, 17053), (55, 17209), (57, 17221), (67, 17296), (77, 17374), (82, 17407), (83, 17416), (91, 17611), (100, 17698), (123, 17878),

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 43 MA's), (19, 16956), (55, 17205), (67, 17292), (77, 17370), (83, 17412), (91, 17607), (100, 17694), (113, 17781), (123, 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 43 MA's), (16, 17015), (19, 17027), (33, 17120), (61, 17312), (67, 17363), (77, 17441), (91, 17681), (97, 17723), (100, 17768), (102, 17780), (113, 17855), (123, 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 43 MA's), (19, 16952), (28, 17021), (50, 17168), (51, 17186), (55, 17201), (61, 17237), (63, 17258), (67, 17294), (69, 17303), (83, 17414), (91, 17609), (100, 17696), (123, 17876),

Gene: Glotell_19 Start: 14178, Stop: 15137, Start Num: 15

Candidate Starts for Glotell_19:

(Start: 15 @14178 has 43 MA's), (24, 14250), (29, 14277), (31, 14292), (40, 14346), (46, 14394), (54, 14448), (59, 14475), (67, 14541), (68, 14547), (72, 14586), (76, 14607), (82, 14649), (100, 14940), (101, 14949), (102, 14952), (105, 14967), (114, 15030), (118, 15078),

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

Candidate Starts for Gorpy_22:

(Start: 15 @16942 has 43 MA's), (16, 16951), (54, 17206), (55, 17212), (56, 17221), (58, 17227), (61, 17248), (77, 17377), (91, 17617), (100, 17704), (113, 17791), (123, 17884),

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

Candidate Starts for Gravel_20:

(Start: 15 @15791 has 43 MA's), (24, 15857), (26, 15866), (27, 15875), (37, 15932), (38, 15935), (40, 15953), (46, 16001), (51, 16046), (54, 16055), (65, 16130), (67, 16145), (72, 16190), (79, 16235), (97, 16484), (105, 16559), (111, 16604), (118, 16670), (120, 16682), (122, 16706),

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

Candidate Starts for HamCheese_18:

(Start: 15 @14180 has 43 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (59, 14477), (67, 14543), (68, 14549), (72, 14588), (76, 14609), (82, 14651), (100, 14942), (101, 14951), (102, 14954), (105, 14969), (114, 15032), (118, 15080),

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

Candidate Starts for HannahPhantana_20:

(1, 14420), (7, 14573), (Start: 13 @14630 has 7 MA's), (Start: 15 @14636 has 43 MA's), (24, 14711), (26, 14720), (28, 14735), (30, 14744), (37, 14786), (38, 14789), (40, 14807), (45, 14849), (46, 14855), (59, 14936), (65, 14987), (66, 14990), (67, 15002), (72, 15047), (81, 15101), (85, 15149), (86, 15197), (89, 15263), (100, 15392), (102, 15404), (105, 15419), (106, 15422), (116, 15506), (118, 15530), (119, 15533), (122, 15566),

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

Candidate Starts for Hestia_22:

(Start: 15 @17111 has 43 MA's), (16, 17120), (54, 17375), (55, 17381), (56, 17390), (58, 17396), (61, 17417), (67, 17468), (77, 17546), (91, 17786), (100, 17873), (113, 17960), (123, 18053),

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

Candidate Starts for Hillester_22:

(Start: 15 @16933 has 43 MA's), (16, 16942), (54, 17197), (55, 17203), (56, 17212), (58, 17218), (61, 17239), (77, 17368), (91, 17608), (100, 17695), (102, 17707), (113, 17782), (115, 17788), (123, 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 43 MA's), (19, 16960), (50, 17176), (55, 17209), (61, 17245), (67, 17302), (69, 17311), (83, 17422), (91, 17617), (100, 17704), (123, 17884),

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

Candidate Starts for Isolde_22:

(Start: 15 @16768 has 43 MA's), (16, 16777), (19, 16789), (54, 17032), (55, 17038), (56, 17047), (58, 17053), (61, 17074), (77, 17203), (91, 17443), (97, 17485), (100, 17530), (113, 17617), (123, 17710),

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 43 MA's), (18, 15346), (24, 15394), (28, 15418), (30, 15427), (37, 15469), (39, 15487), (40, 15490), (46, 15538), (57, 15610), (67, 15682), (80, 15781), (105, 16099), (111, 16144), (118, 16210),

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

Candidate Starts for JellyBread_22:

(Start: 15 @16926 has 43 MA's), (16, 16935), (54, 17190), (55, 17196), (56, 17205), (58, 17211), (61, 17232), (77, 17361), (91, 17601), (100, 17688), (113, 17775), (123, 17868),

Gene: Jerole_20 Start: 14633, Stop: 15586, Start Num: 15

Candidate Starts for Jerole_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 7 MA's), (Start: 15 @14633 has 43 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (59, 14933), (65, 14984), (66, 14987), (67, 14999), (72, 15044), (81, 15098), (85, 15146), (86, 15194), (89, 15260), (100, 15389), (102, 15401), (105, 15416), (106, 15419), (116, 15503), (118, 15527), (119, 15530), (122, 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 43 MA's), (19, 17269), (55, 17518), (67, 17605), (77, 17683), (83, 17725), (91, 17920), (94, 17944), (100, 18007), (123, 18187),

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

Candidate Starts for Juno112_18:

(Start: 15 @14181 has 43 MA's), (24, 14253), (29, 14280), (31, 14295), (40, 14349), (46, 14397), (54, 14451), (59, 14478), (67, 14544), (68, 14550), (72, 14589), (76, 14610), (100, 14943), (101, 14952), (102, 14955), (105, 14970), (114, 15033), (118, 15081),

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

Candidate Starts for KHumphrey_18:

(Start: 15 @14178 has 43 MA's), (24, 14250), (29, 14277), (31, 14292), (40, 14346), (46, 14394), (54, 14448), (59, 14475), (67, 14541), (68, 14547), (72, 14586), (76, 14607), (100, 14940), (101, 14949), (102, 14952), (105, 14967), (114, 15030), (118, 15078),

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 43 MA's), (19, 16956), (28, 17025), (50, 17172), (51, 17190), (55, 17205), (61, 17241), (67, 17298), (69, 17307), (83, 17418), (91, 17613), (100, 17700), (123, 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 43 MA's), (19, 16860), (38, 16983), (55, 17109), (70, 17232), (71, 17235), (77, 17274), (82, 17307), (83, 17316), (91, 17511), (100, 17598), (113, 17685), (123, 17778),

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

Candidate Starts for KendraB23_20:

(Start: 15 @15792 has 43 MA's), (24, 15858), (26, 15867), (27, 15876), (37, 15933), (38, 15936), (40, 15954), (46, 16002), (51, 16047), (54, 16056), (61, 16098), (65, 16131), (67, 16146), (72, 16191), (79, 16236), (97, 16485), (105, 16560), (111, 16605), (118, 16671), (120, 16683), (122, 16707),

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

Candidate Starts for Kepler_19:

(1, 14255), (7, 14408), (Start: 13 @14465 has 7 MA's), (Start: 15 @14471 has 43 MA's), (24, 14546), (26, 14555), (28, 14570), (30, 14579), (37, 14621), (38, 14624), (40, 14642), (45, 14684), (46, 14690), (59, 14771), (65, 14822), (66, 14825), (67, 14837), (72, 14882), (81, 14936), (85, 14984), (86, 15032), (89, 15098), (100, 15227), (102, 15239), (105, 15254), (106, 15257), (116, 15341), (118, 15365), (119, 15368), (122, 15401),

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

Candidate Starts for Kharcho_46:

(Start: 11 @25166 has 3 MA's), (33, 25307), (43, 25367), (47, 25406), (54, 25460), (56, 25475), (63, 25526), (110, 26030),

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

Candidate Starts for Kovu_68:

(Start: 11 @43241 has 3 MA's), (20, 43313), (27, 43355), (37, 43412), (51, 43529), (53, 43535), (54, 43538), (59, 43565), (64, 43604), (66, 43622), (70, 43667), (71, 43670), (74, 43694), (90, 43925), (98, 43982), (99, 44024), (103, 44045), (105, 44054), (117, 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 43 MA's), (24, 14708), (30, 14741), (31, 14750), (37, 14783), (40, 14804), (46, 14852), (61, 14948), (84, 15116), (86, 15194), (96, 15338), (100, 15389), (103, 15407), (118, 15527), (121, 15548), (122, 15563),

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), (59, 43088), (60, 43103), (71, 43193), (87, 43376), (95, 43499), (102, 43565), (109, 43613), (110, 43619), (124, 43745),

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

Candidate Starts for Lawnathon_22:

(Start: 15 @16862 has 43 MA's), (16, 16871), (54, 17126), (55, 17132), (56, 17141), (58, 17147), (61, 17168), (77, 17297), (91, 17537), (100, 17624), (113, 17711), (123, 17804),

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

Candidate Starts for Leona_18:

(Start: 15 @14234 has 43 MA's), (24, 14306), (29, 14333), (30, 14339), (31, 14348), (38, 14384), (40, 14402), (46, 14450), (54, 14504), (59, 14531), (61, 14549), (65, 14582), (75, 14663), (100, 15002), (101, 15011), (102, 15014), (105, 15029), (118, 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), (59, 43250), (60, 43265), (71, 43355), (87, 43538), (95, 43661), (102, 43727), (109, 43775), (110, 43781), (124, 43907),

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 43 MA's), (24, 14654), (25, 14657), (29, 14681), (30, 14687), (31, 14696), (37, 14729), (40, 14750), (49, 14816), (54, 14852), (61, 14894), (66, 14930), (67, 14942), (68, 14948), (84, 15062), (88, 15170), (96, 15284), (100, 15335), (103, 15353), (118, 15473), (120, 15485), (121, 15494), (122, 15509),

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

Candidate Starts for Lunar_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 7 MA's), (Start: 15 @14633 has 43 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (59, 14933), (65, 14984), (66, 14987), (67, 14999), (72, 15044), (81, 15098), (85, 15146), (86, 15194), (89, 15260), (100, 15389), (102, 15401), (105, 15416), (106, 15419), (116, 15503), (118, 15527), (119, 15530), (122, 15563),

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

Candidate Starts for MUWow_21:

(Start: 15 @17026 has 43 MA's), (16, 17035), (19, 17047), (54, 17290), (55, 17296), (56, 17305), (58, 17311), (61, 17332), (77, 17461), (91, 17701), (97, 17743), (100, 17788), (108, 17830), (113, 17875), (123, 17968),

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

Candidate Starts for MaterMagnus_22:

(Start: 15 @16934 has 43 MA's), (16, 16943), (19, 16955), (54, 17198), (55, 17204), (56, 17213), (58, 17219), (61, 17240), (77, 17369), (91, 17609), (100, 17696), (113, 17783), (123, 17876),

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

Candidate Starts for Melons_20:

(1, 14417), (7, 14570), (Start: 13 @14627 has 7 MA's), (Start: 15 @14633 has 43 MA's), (24, 14708), (26, 14717), (28, 14732), (30, 14741), (37, 14783), (38, 14786), (40, 14804), (45, 14846), (46, 14852), (59, 14933), (65, 14984), (66, 14987), (67, 14999), (72, 15044), (81, 15098), (85, 15146), (86, 15194), (89, 15260), (100, 15389), (102, 15401), (105, 15416), (106, 15419), (116, 15503), (118, 15527), (119, 15530), (122, 15563),

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

Candidate Starts for MidnightRain_22:

(Start: 15 @16932 has 43 MA's), (16, 16941), (54, 17196), (55, 17202), (56, 17211), (58, 17217), (61, 17238), (77, 17367), (91, 17607), (97, 17649), (100, 17694), (113, 17781), (123, 17874),

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

Candidate Starts for Orcanus_19:

(Start: 15 @15585 has 43 MA's), (24, 15651), (26, 15660), (27, 15669), (37, 15726), (38, 15729), (40, 15747), (46, 15795), (51, 15840), (54, 15849), (65, 15924), (67, 15939), (68, 15945), (72, 15984), (79, 16029), (97, 16278), (105, 16353), (111, 16398), (118, 16464), (120, 16476), (122, 16500),

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

Candidate Starts for OtsoOtso_19:

(Start: 13 @14469 has 7 MA's), (Start: 15 @14475 has 43 MA's), (24, 14550), (26, 14559), (28, 14574), (38, 14628), (40, 14646), (45, 14688), (46, 14694), (59, 14775), (65, 14826), (66, 14829), (67, 14841), (72, 14886), (81, 14940), (85, 14988), (86, 15036), (89, 15102), (100, 15231), (102, 15243), (105, 15258), (106, 15261), (116, 15345), (118, 15369), (119, 15372), (122, 15405),

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

Candidate Starts for Ottawa_46:

(Start: 11 @25164 has 3 MA's), (33, 25305), (43, 25365), (47, 25404), (54, 25458), (56, 25473), (63, 25524), (110, 26028),

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

Candidate Starts for Peas_21:

(Start: 15 @16939 has 43 MA's), (19, 16960), (33, 17053), (55, 17209), (57, 17221), (67, 17296), (77, 17374), (82, 17407), (83, 17416), (91, 17611), (100, 17698), (123, 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 43 MA's), (17, 16989), (19, 16998), (55, 17247), (67, 17334), (77, 17412), (83, 17454), (91, 17649), (100, 17736), (113, 17823), (123, 17916),

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

Candidate Starts for Pelletreau_20:

(Start: 15 @15791 has 43 MA's), (24, 15857), (26, 15866), (27, 15875), (37, 15932), (38, 15935), (40, 15953), (46, 16001), (51, 16046), (54, 16055), (65, 16130), (67, 16145), (72, 16190), (79, 16235), (97, 16484), (105, 16559), (111, 16604), (118, 16670), (120, 16682), (122, 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 43 MA's), (16, 16863), (19, 16875), (22, 16908), (46, 17064), (50, 17091), (55, 17124), (61, 17160), (67, 17217), (77, 17295), (102, 17631), (105, 17646), (107, 17652), (116, 17733), (123, 17799),

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

Candidate Starts for PhluffyCoco_18:

(Start: 15 @14180 has 43 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (59, 14477), (67, 14543), (68, 14549), (72, 14588), (76, 14609), (82, 14651), (100, 14942), (101, 14951), (102, 14954), (105, 14969), (114, 15032), (118, 15080),

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

Candidate Starts for Phrank15_21:

(Start: 15 @16867 has 43 MA's), (16, 16876), (19, 16888), (54, 17131), (55, 17137), (56, 17146), (58, 17152), (61, 17173), (77, 17302), (91, 17542), (97, 17584), (100, 17629), (113, 17716), (123, 17809),

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

Candidate Starts for Polka_19:

(Start: 13 @14469 has 7 MA's), (Start: 15 @14475 has 43 MA's), (24, 14550), (26, 14559), (28, 14574), (38, 14628), (40, 14646), (45, 14688), (46, 14694), (59, 14775), (65, 14826), (66, 14829), (67, 14841), (72, 14886), (81, 14940), (85, 14988), (86, 15036), (89, 15102), (100, 15231), (102, 15243), (105, 15258), (106, 15261), (116, 15345), (118, 15369), (119, 15372), (122, 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 43 MA's), (19, 16959), (33, 17052), (55, 17208), (57, 17220), (67, 17295), (77, 17373), (82, 17406), (83, 17415), (91, 17610), (100, 17697), (123, 17877),

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

Candidate Starts for RadFad_22:

(Start: 15 @16933 has 43 MA's), (16, 16942), (54, 17197), (55, 17203), (56, 17212), (58, 17218), (61, 17239), (77, 17368), (91, 17608), (100, 17695), (102, 17707), (113, 17782), (115, 17788), (123, 17875),

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

Candidate Starts for Raphaella_22:

(Start: 15 @16933 has 43 MA's), (16, 16942), (54, 17197), (55, 17203), (56, 17212), (58, 17218), (61, 17239), (77, 17368), (91, 17608), (100, 17695), (113, 17782), (123, 17875),

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

Candidate Starts for Rattail_18:

(Start: 15 @14234 has 43 MA's), (24, 14306), (29, 14333), (30, 14339), (31, 14348), (38, 14384), (40, 14402), (46, 14450), (54, 14504), (59, 14531), (61, 14549), (65, 14582), (75, 14663), (100, 15002), (101, 15011), (102, 15014), (105, 15029), (118, 15140),

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

Candidate Starts for RedFox_18:

(Start: 15 @14180 has 43 MA's), (24, 14252), (29, 14279), (31, 14294), (40, 14348), (46, 14396), (54, 14450), (59, 14477), (67, 14543), (68, 14549), (72, 14588), (76, 14609), (82, 14651), (100, 14942), (101, 14951), (102, 14954), (105, 14969), (114, 15032), (118, 15080),

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

Candidate Starts for Renna12_19:

(Start: 15 @14524 has 43 MA's), (24, 14596), (28, 14620), (29, 14623), (31, 14638), (38, 14674), (40, 14692), (46, 14740), (54, 14794), (59, 14821), (67, 14887), (68, 14893), (100, 15292), (102, 15304), (105, 15319), (114, 15382), (116, 15406), (118, 15430),

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

Candidate Starts for Richie_22:

(Start: 15 @16948 has 43 MA's), (16, 16957), (19, 16969), (54, 17212), (55, 17218), (56, 17227), (58, 17233), (61, 17254), (77, 17383), (91, 17623), (100, 17710), (107, 17743), (113, 17797), (123, 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 43 MA's), (18, 15886), (24, 15934), (28, 15958), (30, 15967), (37, 16009), (39, 16027), (40, 16030), (46, 16078), (57, 16150), (67, 16222), (80, 16321), (105, 16639), (111, 16684), (112, 16696), (118, 16750),

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

Candidate Starts for Sakai_22:

(Start: 15 @16942 has 43 MA's), (16, 16951), (54, 17206), (55, 17212), (56, 17221), (58, 17227), (61, 17248), (77, 17377), (91, 17617), (100, 17704), (113, 17791), (123, 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), (59, 42904), (60, 42919), (71, 43009), (87, 43192), (95, 43315), (102, 43381), (109, 43429), (110, 43435), (124, 43561),

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

Candidate Starts for Seahorse_23:

(Start: 15 @17300 has 43 MA's), (16, 17309), (19, 17321), (55, 17570), (56, 17579), (58, 17585), (61, 17606), (77, 17735), (100, 18062), (123, 18242),

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), (59, 41425), (60, 41440), (62, 41446), (66, 41482), (69, 41503), (71, 41530), (87, 41713), (105, 41917), (110, 41956), (124, 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 43 MA's), (16, 16863), (19, 16875), (22, 16908), (41, 17022), (46, 17064), (50, 17091), (51, 17109), (55, 17124), (100, 17619), (105, 17646), (123, 17799),

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 43 MA's), (16, 17019), (19, 17031), (33, 17124), (54, 17274), (61, 17316), (67, 17367), (77, 17445), (91, 17685), (97, 17727), (100, 17772), (104, 17793), (123, 17952),

Gene: StuartMinion_19 Start: 14221, Stop: 15183, Start Num: 15

Candidate Starts for StuartMinion_19:

(9, 14173), (Start: 15 @14221 has 43 MA's), (24, 14290), (28, 14314), (30, 14323), (31, 14332), (38, 14368), (40, 14386), (45, 14428), (46, 14434), (54, 14488), (59, 14515), (66, 14569), (67, 14581), (68, 14587), (81, 14692), (82, 14695), (88, 14818), (100, 14986), (102, 14998), (105, 15013), (116, 15100), (118, 15124),

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

Candidate Starts for TaylorSipt_19:

(Start: 15 @14602 has 43 MA's), (24, 14668), (26, 14677), (30, 14701), (37, 14743), (40, 14764), (46, 14812), (72, 15001), (78, 15034), (79, 15046), (97, 15295), (118, 15481), (120, 15493), (122, 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 43 MA's), (16, 17110), (19, 17122), (22, 17155), (32, 17212), (33, 17215), (41, 17269), (46, 17311), (50, 17338), (51, 17356), (55, 17371), (61, 17407), (67, 17464), (97, 17821), (123, 18046),

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

Candidate Starts for Tiff81_23:

(Start: 15 @17028 has 43 MA's), (16, 17037), (19, 17049), (54, 17292), (55, 17298), (56, 17307), (58, 17313), (61, 17334), (77, 17463), (100, 17790), (123, 17970),

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

Candidate Starts for Toad24_20:

(Start: 15 @15792 has 43 MA's), (24, 15858), (26, 15867), (27, 15876), (37, 15933), (38, 15936), (40, 15954), (46, 16002), (51, 16047), (54, 16056), (61, 16098), (65, 16131), (67, 16146), (72, 16191), (79, 16236), (97, 16485), (105, 16560), (111, 16605), (118, 16671), (120, 16683), (122, 16707),

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

Candidate Starts for Vopal_23:

(Start: 15 @17005 has 43 MA's), (16, 17014), (54, 17269), (55, 17275), (56, 17284), (58, 17290), (61, 17311), (77, 17440), (91, 17680), (100, 17767), (113, 17854), (123, 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 43 MA's), (18, 15344), (24, 15392), (28, 15416), (30, 15425), (37, 15467), (39, 15485), (40, 15488), (46, 15536), (57, 15608), (67, 15680), (80, 15779), (105, 16097), (111, 16142), (118, 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), (59, 41438), (60, 41453), (66, 41495), (69, 41516), (71, 41543), (87, 41726), (110, 41969), (124, 42095),

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

Candidate Starts for Westrich_20:

(Start: 15 @15781 has 43 MA's), (24, 15847), (26, 15856), (27, 15865), (37, 15922), (38, 15925), (40, 15943), (46, 15991), (51, 16036), (52, 16039), (54, 16045), (65, 16120), (67, 16135), (68, 16141), (72, 16180), (79, 16225), (97, 16474), (105, 16549), (111, 16594), (118, 16660), (120, 16672), (122, 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), (60, 43070), (66, 43112), (71, 43160), (82, 43235), (95, 43466), (102, 43532), (109, 43580), (110, 43586), (124, 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 43 MA's), (18, 14678), (24, 14726), (28, 14750), (30, 14759), (37, 14801), (39, 14819), (40, 14822), (46, 14870), (57, 14942), (67, 15014), (80, 15113), (105, 15431), (111, 15476), (118, 15542),

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

Candidate Starts for Windest_23:

(Start: 15 @16989 has 43 MA's), (16, 16998), (19, 17010), (54, 17253), (55, 17259), (56, 17268), (58, 17274), (61, 17295), (77, 17424), (91, 17664), (97, 17706), (100, 17751), (107, 17784), (113, 17838), (123, 17931),

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

Candidate Starts for YoungHarleezy_22:

(Start: 15 @16946 has 43 MA's), (16, 16955), (54, 17210), (55, 17216), (56, 17225), (58, 17231), (61, 17252), (77, 17381), (91, 17621), (97, 17663), (100, 17708), (113, 17795), (123, 17888),

Gene: Zhuangyuan_21 Start: 15026, Stop: 15979, Start Num: 15

Candidate Starts for Zhuangyuan_21:

(7, 14969), (Start: 15 @15026 has 43 MA's), (24, 15095), (25, 15098), (29, 15122), (30, 15128), (37, 15170), (38, 15173), (39, 15188), (40, 15191), (46, 15239), (54, 15293), (67, 15383), (77, 15461), (88, 15617), (90, 15680), (100, 15782), (103, 15800), (111, 15854), (118, 15920), (121, 15941), (123, 15962),