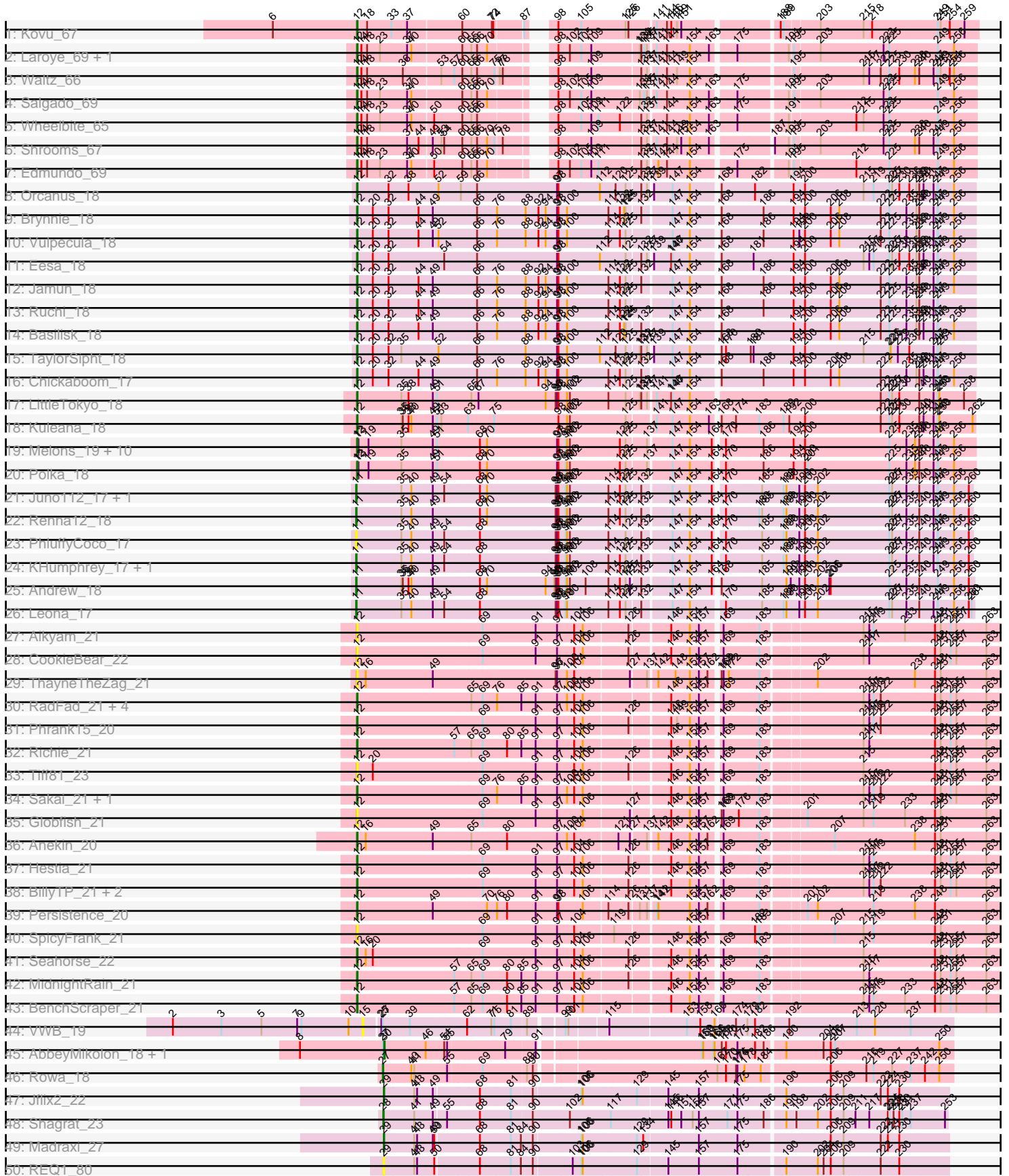
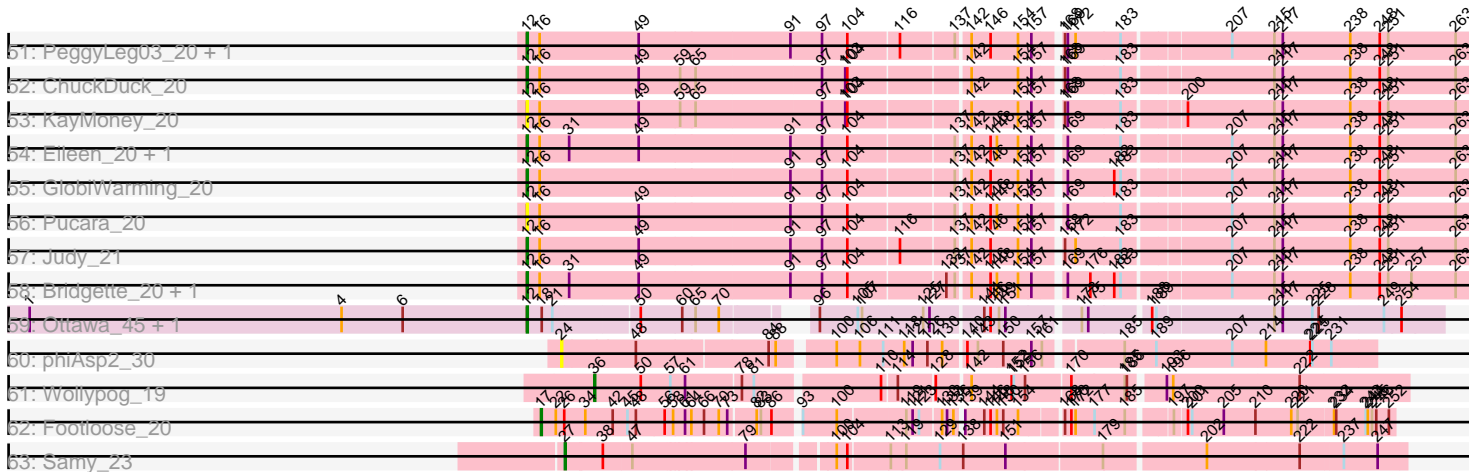


Pham 195531



Pham 195531



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 195531 Report

This analysis was run 12/09/24 on database version 580.

Pham number 195531 has 88 members, 19 are drafts.

Phages represented in each track:

- Track 1 : Kovu_67
- Track 2 : Laroye_69, LiSara_66
- Track 3 : Waltz_66
- Track 4 : Salgado_69
- Track 5 : Wheelbite_65
- Track 6 : Shrooms_67
- Track 7 : Edmundo_69
- Track 8 : Orcanus_18
- Track 9 : Brynnie_18
- Track 10 : Vulpecula_18
- Track 11 : Eesa_18
- Track 12 : Jamun_18
- Track 13 : Ruchi_18
- Track 14 : Basilisk_18
- Track 15 : TaylorSipht_18
- Track 16 : Chickaboom_17
- Track 17 : LittleTokyo_18
- Track 18 : Kuleana_18
- Track 19 : Melons_19, Bedetta_19, Amelia_19, Cote_19, Lunar_19, Daob_19, Coral_18, Colusalem_18, Kepler_18, HannahPhantana_19, Jerole_19
- Track 20 : Polka_18
- Track 21 : Juno112_17, Camara_17
- Track 22 : Renna12_18
- Track 23 : PhluffyCoco_17
- Track 24 : KHumphrey_17, RedFox_17
- Track 25 : Andrew_18
- Track 26 : Leona_17
- Track 27 : Aikyam_21
- Track 28 : CookieBear_22
- Track 29 : ThayneTheZag_21
- Track 30 : RadFad_21, Auxilium_21, Raphaella_21, YoungHarleezy_21, Hillester_21
- Track 31 : Phrank15_20
- Track 32 : Richie_21
- Track 33 : Tiff81_23
- Track 34 : Sakai_21, Gorpy_21
- Track 35 : Globfish_21

- Track 36 : Anekin_20
- Track 37 : Hestia_21
- Track 38 : BillyTP_21, Lawnathon_21, Isolde_21
- Track 39 : Persistence_20
- Track 40 : SpicyFrank_21
- Track 41 : Seahorse_22
- Track 42 : MidnightRain_21
- Track 43 : BenchScraper_21
- Track 44 : VWB_19
- Track 45 : AbbeyMikolon_18, Nesbitt_18
- Track 46 : Rowa_18
- Track 47 : Jflix2_22
- Track 48 : Shagrat_23
- Track 49 : Madraxi_27
- Track 50 : REQ1_80
- Track 51 : PeggyLeg03_20, Constance_20
- Track 52 : ChuckDuck_20
- Track 53 : KayMoney_20
- Track 54 : Eileen_20, Peas_20
- Track 55 : GlobiWarming_20
- Track 56 : Pucara_20
- Track 57 : Judy_21
- Track 58 : Bridgette_20, Karkharias_20
- Track 59 : Ottawa_45, Kharcho_45
- Track 60 : phiAsp2_30
- Track 61 : Wollypog_19
- Track 62 : Footloose_20
- Track 63 : Samy_23

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

The start number called the most often in the published annotations is 12, it was called in 54 of the 69 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Aikyam_21, Amelia_19, Anekin_20, Auxilium_21, Basilisk_18, Bedetta_19, BenchScraper_21, BillyTP_21, Bridgette_20, Brynnie_18, Chickaboom_17, ChuckDuck_20, Colusalem_18, Constance_20, CookieBear_22, Coral_18, Cote_19, Daob_19, Edmundo_69, Eesa_18, Eileen_20, Globfish_21, GlobiWarming_20, Gopy_21, HannahPhantana_19, Hestia_21, Hillester_21, Isolde_21, Jamun_18, Jerole_19, Judy_21, Karkharias_20, KayMoney_20, Kepler_18, Kharcho_45, Kovu_67, Kuleana_18, Laroye_69, Lawnathon_21, LiSara_66, LittleTokyo_18, Lunar_19, Melons_19, MidnightRain_21, Orcanus_18, Ottawa_45, Peas_20, PeggyLeg03_20, Persistence_20, Phrank15_20, Polka_18, Pucara_20, RadFad_21, Raphaella_21, Richie_21, Ruchi_18, Sakai_21, Salgado_69, Seahorse_22, Shrooms_67, SpicyFrank_21, TaylorSipht_18, ThayneTheZag_21, Tiff81_23, Vulpecula_18, Waltz_66, Wheelbite_65, YoungHarleezy_21,

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

-

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

- AbbeyMikolon_18, Andrew_18, Camara_17, Footloose_20, Jflix2_22, Juno112_17, KHumphrey_17, Leona_17, Madraxi_27, Nesbitt_18, PhluffyCoco_17, REQ1_80, RedFox_17, Renna12_18, Rowa_18, Samy_23, Shagrat_23, VWB_19, Wollypog_19, phiAsp2_30,

Summary by start number:

Start 11:

- Found in 8 of 88 (9.1%) of genes in pham
- Manual Annotations of this start: 6 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Andrew_18 (AS3), Camara_17 (AS3), Juno112_17 (AS3), KHumphrey_17 (AS3), Leona_17 (AS3), PhluffyCoco_17 (AS3), RedFox_17 (AS3), Renna12_18 (AS3),

Start 12:

- Found in 68 of 88 (77.3%) of genes in pham
- Manual Annotations of this start: 54 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aikyam_21 (AY), Amelia_19 (AS2), Anekin_20 (AY), Auxilium_21 (AY), Basilisk_18 (AS1), Bedetta_19 (AS2), BenchScraper_21 (AY), BillyTP_21 (AY), Bridgette_20 (FA), Brynnie_18 (AS1), Chickaboom_17 (AS1), ChuckDuck_20 (FA), Colusalem_18 (AS2), Constance_20 (FA), CookieBear_22 (AY), Coral_18 (AS2), Cote_19 (AS2), Daob_19 (AS2), Edmundo_69 (AL), Eesa_18 (AS1), Eileen_20 (FA), Globfish_21 (AY), GlobiWarming_20 (FA), Gorpy_21 (AY), HannahPhantana_19 (AS2), Hestia_21 (AY), Hillester_21 (AY), Isolde_21 (AY), Jamun_18 (AS1), Jerole_19 (AS2), Judy_21 (FA), Karkharias_20 (FA), KayMoney_20 (FA), Kepler_18 (AS2), Kharcho_45 (FM), Kovu_67 (AL), Kuleana_18 (AS2), Laroye_69 (AL), Lawnathon_21 (AY), LiSara_66 (AL), LittleTokyo_18 (AS2), Lunar_19 (AS2), Melons_19 (AS2), MidnightRain_21 (AY), Orcanus_18 (AS1), Ottawa_45 (FM), Peas_20 (FA), PeggyLeg03_20 (FA), Persistence_20 (AY), Phrank15_20 (AY), Polka_18 (AS2), Pucara_20 (FA), RadFad_21 (AY), Raphaella_21 (AY), Richie_21 (AY), Ruchi_18 (AS1), Sakai_21 (AY), Salgado_69 (AL), Seahorse_22 (AY), Shrooms_67 (AL), SpicyFrank_21 (AY), TaylorSipt_18 (AS1), ThayneTheZag_21 (AY), Tiff81_23 (AY), Vulpecula_18 (AS1), Waltz_66 (AL), Wheelbite_65 (AL), YoungHarleezy_21 (AY),

Start 15:

- Found in 1 of 88 (1.1%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: VWB_19 (BA),

Start 17:

- Found in 1 of 88 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Footloose_20 (singleton),

Start 24:

- Found in 1 of 88 (1.1%) of genes in pham

- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: phiAsp2_30 (singleton),

Start 27:

- Found in 5 of 88 (5.7%) of genes in pham
- Manual Annotations of this start: 2 of 69
- Called 40.0% of time when present
- Phage (with cluster) where this start called: Rowa_18 (BL), Samy_23 (singleton),

Start 28:

- Found in 1 of 88 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Shagrat_23 (CF),

Start 29:

- Found in 3 of 88 (3.4%) of genes in pham
- Manual Annotations of this start: 2 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Jflix2_22 (CF), Madraxi_27 (CF), REQ1_80 (CF),

Start 30:

- Found in 2 of 88 (2.3%) of genes in pham
- Manual Annotations of this start: 2 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AbbeyMikolon_18 (BL), Nesbitt_18 (BL),

Start 36:

- Found in 4 of 88 (4.5%) of genes in pham
- Manual Annotations of this start: 1 of 69
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Wollypog_19 (singleton),

Summary by clusters:

There are 11 clusters represented in this pham: AS3, AS2, AS1, BA, BL, CF, AL, FA, AY, singleton, FM,

Info for manual annotations of cluster AL:

- Start number 12 was manually annotated 8 times for cluster AL.

Info for manual annotations of cluster AS1:

- Start number 12 was manually annotated 9 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 12 was manually annotated 11 times for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 11 was manually annotated 6 times for cluster AS3.

Info for manual annotations of cluster AY:

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

Info for manual annotations of cluster BL:

- Start number 27 was manually annotated 1 time for cluster BL.
- Start number 30 was manually annotated 2 times for cluster BL.

Info for manual annotations of cluster CF:

- Start number 28 was manually annotated 1 time for cluster CF.
- Start number 29 was manually annotated 2 times for cluster CF.

Info for manual annotations of cluster FA:

- Start number 12 was manually annotated 9 times for cluster FA.

Info for manual annotations of cluster FM:

- Start number 12 was manually annotated 2 times for cluster FM.

Gene Information:

Gene: AbbeyMikolon_18 Start: 15163, Stop: 16281, Start Num: 30

Candidate Starts for AbbeyMikolon_18:

(8, 14986), (Start: 27 @15160 has 2 MA's), (Start: 30 @15163 has 2 MA's), (46, 15247), (54, 15286), (55, 15292), (79, 15403), (91, 15463), (159, 15775), (160, 15778), (165, 15799), (166, 15802), (168, 15814), (170, 15823), (175, 15847), (182, 15883), (186, 15901), (190, 15937), (204, 16015), (206, 16030), (207, 16039), (250, 16252),

Gene: Aikyam_21 Start: 15624, Stop: 16925, Start Num: 12

Candidate Starts for Aikyam_21:

(Start: 12 @15624 has 54 MA's), (69, 15885), (91, 15993), (97, 16035), (104, 16071), (106, 16089), (126, 16179), (146, 16254), (154, 16293), (157, 16311), (169, 16344), (183, 16416), (215, 16614), (217, 16626), (219, 16635), (233, 16701), (248, 16764), (251, 16776), (255, 16797), (257, 16809), (263, 16872),

Gene: Amelia_19 Start: 13377, Stop: 14630, Start Num: 12

Candidate Starts for Amelia_19:

(Start: 12 @13377 has 54 MA's), (13, 13380), (19, 13401), (35, 13470), (49, 13536), (51, 13545), (68, 13632), (70, 13647), (97, 13791), (98, 13794), (99, 13809), (100, 13812), (102, 13818), (122, 13923), (125, 13935), (137, 13974), (147, 14019), (154, 14055), (164, 14097), (170, 14112), (186, 14190), (194, 14253), (200, 14277), (225, 14454), (235, 14490), (238, 14508), (240, 14517), (247, 14544), (249, 14553), (256, 14586),

Gene: Andrew_18 Start: 13390, Stop: 14640, Start Num: 11

Candidate Starts for Andrew_18:

(Start: 11 @13390 has 6 MA's), (35, 13483), (Start: 36 @13486 has 1 MA's), (38, 13498), (40, 13504), (49, 13549), (68, 13645), (70, 13660), (94, 13780), (95, 13798), (96, 13801), (97, 13804), (98, 13807), (99, 13822), (100, 13825), (102, 13831), (108, 13864), (114, 13912), (122, 13936), (125, 13948), (127, 13957), (132, 13975), (147, 14032), (154, 14068), (164, 14110), (168, 14116), (185, 14200), (190, 14251), (193, 14260), (199, 14278), (200, 14290), (202, 14317), (205, 14341), (206, 14344), (225, 14467), (235, 14503), (240, 14530), (249, 14566), (256, 14599), (260, 14629),

Gene: Anekin_20 Start: 15586, Stop: 16887, Start Num: 12

Candidate Starts for Anekin_20:

(Start: 12 @15586 has 54 MA's), (16, 15604), (49, 15745), (65, 15823), (80, 15895), (97, 15997), (100, 16018), (104, 16033), (121, 16120), (127, 16144), (137, 16174), (142, 16189), (146, 16216), (154, 16255), (157, 16273), (162, 16288), (169, 16306), (183, 16378), (207, 16516), (238, 16684), (248, 16726), (251, 16738), (263, 16834),

Gene: Auxilium_21 Start: 15623, Stop: 16924, Start Num: 12

Candidate Starts for Auxilium_21:

(Start: 12 @15623 has 54 MA's), (65, 15860), (69, 15884), (76, 15911), (85, 15962), (91, 15992), (97, 16034), (100, 16055), (104, 16070), (106, 16088), (146, 16253), (154, 16292), (157, 16310), (169, 16343), (183, 16415), (215, 16613), (217, 16625), (219, 16634), (222, 16649), (248, 16763), (251, 16775), (255, 16796), (257, 16808), (263, 16871),

Gene: Basilisk_18 Start: 14668, Stop: 15918, Start Num: 12

Candidate Starts for Basilisk_18:

(Start: 12 @14668 has 54 MA's), (20, 14701), (32, 14734), (44, 14797), (49, 14827), (66, 14917), (76, 14956), (88, 15016), (92, 15040), (94, 15055), (97, 15079), (98, 15082), (100, 15100), (114, 15187), (122, 15211), (124, 15220), (125, 15223), (132, 15250), (147, 15307), (154, 15343), (168, 15391), (194, 15541), (200, 15565), (206, 15619), (208, 15637), (222, 15724), (225, 15742), (235, 15778), (239, 15799), (240, 15805), (241, 15811), (247, 15832), (249, 15841), (256, 15874),

Gene: Bedetta_19 Start: 13377, Stop: 14630, Start Num: 12

Candidate Starts for Bedetta_19:

(Start: 12 @13377 has 54 MA's), (13, 13380), (19, 13401), (35, 13470), (49, 13536), (51, 13545), (68, 13632), (70, 13647), (97, 13791), (98, 13794), (99, 13809), (100, 13812), (102, 13818), (122, 13923), (125, 13935), (137, 13974), (147, 14019), (154, 14055), (164, 14097), (170, 14112), (186, 14190), (194, 14253), (200, 14277), (225, 14454), (235, 14490), (238, 14508), (240, 14517), (247, 14544), (249, 14553), (256, 14586),

Gene: BenchScraper_21 Start: 15638, Stop: 16939, Start Num: 12

Candidate Starts for BenchScraper_21:

(Start: 12 @15638 has 54 MA's), (57, 15842), (65, 15875), (69, 15899), (80, 15947), (85, 15977), (91, 16007), (97, 16049), (104, 16085), (106, 16103), (146, 16268), (154, 16307), (157, 16325), (169, 16358), (183, 16430), (215, 16628), (217, 16640), (219, 16649), (233, 16715), (248, 16778), (251, 16790), (255, 16811), (257, 16823), (263, 16886),

Gene: BillyTP_21 Start: 15407, Stop: 16708, Start Num: 12

Candidate Starts for BillyTP_21:

(Start: 12 @15407 has 54 MA's), (69, 15668), (91, 15776), (97, 15818), (104, 15854), (106, 15872), (126, 15962), (146, 16037), (154, 16076), (157, 16094), (169, 16127), (183, 16199), (215, 16397), (217, 16409), (219, 16418), (222, 16433), (248, 16547), (251, 16559), (255, 16580), (257, 16592), (263, 16655),

Gene: Bridgette_20 Start: 15685, Stop: 16986, Start Num: 12

Candidate Starts for Bridgette_20:

(Start: 12 @15685 has 54 MA's), (16, 15703), (31, 15745), (49, 15844), (91, 16054), (97, 16096), (104, 16132), (132, 16261), (137, 16273), (142, 16288), (146, 16315), (148, 16324), (154, 16354), (157, 16372), (169, 16405), (176, 16435), (182, 16468), (183, 16477), (207, 16615), (215, 16675), (217, 16687), (238, 16783), (248, 16825), (251, 16837), (257, 16870), (263, 16933),

Gene: Brynnie_18 Start: 14480, Stop: 15730, Start Num: 12

Candidate Starts for Brynnie_18:

(Start: 12 @14480 has 54 MA's), (20, 14513), (32, 14546), (44, 14609), (49, 14639), (66, 14729), (76, 14768), (88, 14828), (92, 14852), (94, 14867), (97, 14891), (98, 14894), (100, 14912), (114, 14999), (122, 15023), (124, 15032), (125, 15035), (132, 15062), (147, 15119), (154, 15155), (168, 15203), (186, 15290), (194, 15353), (200, 15377), (206, 15431), (208, 15449), (222, 15536), (225, 15554), (235, 15590), (239, 15611), (240, 15617), (247, 15644), (249, 15653), (256, 15686),

Gene: Camara_17 Start: 12932, Stop: 14176, Start Num: 11

Candidate Starts for Camara_17:

(Start: 11 @12932 has 6 MA's), (35, 13025), (40, 13046), (49, 13091), (54, 13115), (68, 13187), (70, 13202), (96, 13343), (97, 13346), (98, 13349), (99, 13364), (100, 13367), (102, 13373), (114, 13454), (122, 13478), (125, 13490), (132, 13517), (147, 13574), (154, 13610), (164, 13652), (170, 13667), (185, 13742), (189, 13784), (190, 13790), (199, 13817), (200, 13829), (202, 13856), (225, 14006), (227, 14012), (235, 14042), (240, 14069), (247, 14096), (249, 14105), (256, 14138), (260, 14168),

Gene: Chickaboom_17 Start: 13406, Stop: 14656, Start Num: 12

Candidate Starts for Chickaboom_17:

(Start: 12 @13406 has 54 MA's), (20, 13439), (32, 13472), (44, 13535), (49, 13565), (66, 13655), (76, 13694), (88, 13754), (92, 13778), (94, 13793), (97, 13817), (98, 13820), (100, 13838), (114, 13925), (122, 13949), (125, 13961), (132, 13988), (147, 14045), (154, 14081), (168, 14129), (186, 14216), (194, 14279), (200, 14303), (206, 14357), (208, 14375), (222, 14462), (235, 14516), (239, 14537), (240, 14543), (241, 14549), (247, 14570), (249, 14579), (256, 14612),

Gene: ChuckDuck_20 Start: 15527, Stop: 16828, Start Num: 12

Candidate Starts for ChuckDuck_20:

(Start: 12 @15527 has 54 MA's), (16, 15545), (49, 15686), (59, 15743), (65, 15764), (97, 15938), (103, 15971), (104, 15974), (142, 16130), (154, 16196), (157, 16214), (168, 16244), (169, 16247), (183, 16319), (215, 16517), (217, 16529), (238, 16625), (248, 16667), (251, 16679), (263, 16775),

Gene: Colusalem_18 Start: 13216, Stop: 14469, Start Num: 12

Candidate Starts for Colusalem_18:

(Start: 12 @13216 has 54 MA's), (13, 13219), (19, 13240), (35, 13309), (49, 13375), (51, 13384), (68, 13471), (70, 13486), (97, 13630), (98, 13633), (99, 13648), (100, 13651), (102, 13657), (122, 13762), (125, 13774), (137, 13813), (147, 13858), (154, 13894), (164, 13936), (170, 13951), (186, 14029), (194, 14092), (200, 14116), (225, 14293), (235, 14329), (238, 14347), (240, 14356), (247, 14383), (249, 14392), (256, 14425),

Gene: Constance_20 Start: 15667, Stop: 16968, Start Num: 12

Candidate Starts for Constance_20:

(Start: 12 @15667 has 54 MA's), (16, 15685), (49, 15826), (91, 16036), (97, 16078), (104, 16114), (116, 16183), (137, 16255), (142, 16270), (146, 16297), (154, 16336), (157, 16354), (168, 16384), (169, 16387), (172, 16396), (183, 16459), (207, 16597), (215, 16657), (217, 16669), (238, 16765), (248, 16807), (251, 16819), (263, 16915),

Gene: CookieBear_22 Start: 15623, Stop: 16924, Start Num: 12

Candidate Starts for CookieBear_22:

(Start: 12 @15623 has 54 MA's), (69, 15884), (91, 15992), (97, 16034), (104, 16070), (106, 16088), (126, 16178), (146, 16253), (154, 16292), (157, 16310), (169, 16343), (183, 16415), (215, 16613), (217, 16625), (248, 16763), (251, 16775), (255, 16796), (257, 16808), (263, 16871),

Gene: Coral_18 Start: 13216, Stop: 14469, Start Num: 12

Candidate Starts for Coral_18:

(Start: 12 @13216 has 54 MA's), (13, 13219), (19, 13240), (35, 13309), (49, 13375), (51, 13384), (68, 13471), (70, 13486), (97, 13630), (98, 13633), (99, 13648), (100, 13651), (102, 13657), (122, 13762),

(125, 13774), (137, 13813), (147, 13858), (154, 13894), (164, 13936), (170, 13951), (186, 14029), (194, 14092), (200, 14116), (225, 14293), (235, 14329), (238, 14347), (240, 14356), (247, 14383), (249, 14392), (256, 14425),

Gene: Cote_19 Start: 13377, Stop: 14630, Start Num: 12

Candidate Starts for Cote_19:

(Start: 12 @13377 has 54 MA's), (13, 13380), (19, 13401), (35, 13470), (49, 13536), (51, 13545), (68, 13632), (70, 13647), (97, 13791), (98, 13794), (99, 13809), (100, 13812), (102, 13818), (122, 13923), (125, 13935), (137, 13974), (147, 14019), (154, 14055), (164, 14097), (170, 14112), (186, 14190), (194, 14253), (200, 14277), (225, 14454), (235, 14490), (238, 14508), (240, 14517), (247, 14544), (249, 14553), (256, 14586),

Gene: Daob_19 Start: 13380, Stop: 14633, Start Num: 12

Candidate Starts for Daob_19:

(Start: 12 @13380 has 54 MA's), (13, 13383), (19, 13404), (35, 13473), (49, 13539), (51, 13548), (68, 13635), (70, 13650), (97, 13794), (98, 13797), (99, 13812), (100, 13815), (102, 13821), (122, 13926), (125, 13938), (137, 13977), (147, 14022), (154, 14058), (164, 14100), (170, 14115), (186, 14193), (194, 14256), (200, 14280), (225, 14457), (235, 14493), (238, 14511), (240, 14520), (247, 14547), (249, 14556), (256, 14589),

Gene: Edmundo_69 Start: 42213, Stop: 43382, Start Num: 12

Candidate Starts for Edmundo_69:

(Start: 12 @42213 has 54 MA's), (14, 42222), (18, 42234), (23, 42261), (37, 42318), (40, 42324), (50, 42366), (60, 42423), (65, 42441), (66, 42453), (70, 42474), (98, 42567), (102, 42591), (105, 42615), (109, 42636), (111, 42651), (132, 42732), (137, 42744), (142, 42759), (144, 42777), (154, 42825), (175, 42909), (191, 43002), (195, 43008), (212, 43134), (225, 43203), (249, 43302), (256, 43335),

Gene: Eesa_18 Start: 14631, Stop: 15881, Start Num: 12

Candidate Starts for Eesa_18:

(Start: 12 @14631 has 54 MA's), (20, 14664), (32, 14697), (54, 14814), (66, 14880), (97, 15042), (98, 15045), (112, 15132), (125, 15186), (132, 15213), (137, 15225), (139, 15231), (146, 15267), (147, 15270), (154, 15306), (168, 15354), (181, 15420), (194, 15504), (200, 15528), (215, 15651), (217, 15663), (219, 15672), (225, 15705), (227, 15711), (230, 15726), (236, 15747), (239, 15762), (240, 15768), (241, 15774), (247, 15795), (249, 15804), (256, 15837),

Gene: Eileen_20 Start: 15628, Stop: 16929, Start Num: 12

Candidate Starts for Eileen_20:

(Start: 12 @15628 has 54 MA's), (16, 15646), (31, 15688), (49, 15787), (91, 15997), (97, 16039), (104, 16075), (137, 16216), (142, 16231), (146, 16258), (148, 16267), (154, 16297), (157, 16315), (169, 16348), (183, 16420), (207, 16558), (215, 16618), (217, 16630), (238, 16726), (248, 16768), (251, 16780), (263, 16876),

Gene: Footloose_20 Start: 13870, Stop: 14982, Start Num: 17

Candidate Starts for Footloose_20:

(Start: 17 @13870 has 1 MA's), (22, 13891), (26, 13903), (34, 13933), (42, 13972), (45, 13993), (48, 14005), (56, 14044), (58, 14056), (61, 14071), (64, 14080), (66, 14098), (70, 14119), (73, 14131), (82, 14164), (83, 14170), (86, 14185), (93, 14215), (100, 14263), (119, 14353), (121, 14362), (123, 14371), (130, 14398), (133, 14404), (136, 14413), (139, 14419), (144, 14446), (146, 14455), (148, 14464), (150, 14473), (154, 14494), (168, 14545), (170, 14554), (172, 14560), (177, 14587), (185, 14629), (197, 14680), (200, 14695), (201, 14701), (205, 14746), (210, 14791), (220, 14842), (221, 14851), (232, 14899), (234, 14902), (243, 14941), (244, 14944), (245, 14950), (246, 14956), (252, 14974),

Gene: Globfish_21 Start: 15696, Stop: 16997, Start Num: 12

Candidate Starts for Globfish_21:

(Start: 12 @15696 has 54 MA's), (69, 15957), (91, 16065), (97, 16107), (106, 16161), (127, 16254), (146, 16326), (154, 16365), (157, 16383), (168, 16413), (169, 16416), (176, 16446), (183, 16488), (201, 16569), (215, 16686), (219, 16707), (233, 16773), (248, 16836), (251, 16848), (263, 16944),

Gene: GlobiWarming_20 Start: 15621, Stop: 16922, Start Num: 12

Candidate Starts for GlobiWarming_20:

(Start: 12 @15621 has 54 MA's), (16, 15639), (91, 15990), (97, 16032), (104, 16068), (137, 16209), (142, 16224), (146, 16251), (154, 16290), (157, 16308), (169, 16341), (182, 16404), (183, 16413), (207, 16551), (215, 16611), (217, 16623), (238, 16719), (248, 16761), (251, 16773), (263, 16869),

Gene: Gorpy_21 Start: 15632, Stop: 16933, Start Num: 12

Candidate Starts for Gorpy_21:

(Start: 12 @15632 has 54 MA's), (69, 15893), (76, 15920), (85, 15971), (91, 16001), (97, 16043), (100, 16064), (104, 16079), (106, 16097), (146, 16262), (154, 16301), (157, 16319), (169, 16352), (183, 16424), (215, 16622), (217, 16634), (219, 16643), (222, 16658), (248, 16772), (251, 16784), (255, 16805), (257, 16817), (263, 16880),

Gene: HannahPhantana_19 Start: 13380, Stop: 14633, Start Num: 12

Candidate Starts for HannahPhantana_19:

(Start: 12 @13380 has 54 MA's), (13, 13383), (19, 13404), (35, 13473), (49, 13539), (51, 13548), (68, 13635), (70, 13650), (97, 13794), (98, 13797), (99, 13812), (100, 13815), (102, 13821), (122, 13926), (125, 13938), (137, 13977), (147, 14022), (154, 14058), (164, 14100), (170, 14115), (186, 14193), (194, 14256), (200, 14280), (225, 14457), (235, 14493), (238, 14511), (240, 14520), (247, 14547), (249, 14556), (256, 14589),

Gene: Hestia_21 Start: 15801, Stop: 17102, Start Num: 12

Candidate Starts for Hestia_21:

(Start: 12 @15801 has 54 MA's), (69, 16062), (91, 16170), (97, 16212), (104, 16248), (106, 16266), (126, 16356), (146, 16431), (154, 16470), (157, 16488), (169, 16521), (183, 16593), (215, 16791), (217, 16803), (219, 16812), (248, 16941), (251, 16953), (255, 16974), (257, 16986), (263, 17049),

Gene: Hillester_21 Start: 15623, Stop: 16924, Start Num: 12

Candidate Starts for Hillester_21:

(Start: 12 @15623 has 54 MA's), (65, 15860), (69, 15884), (76, 15911), (85, 15962), (91, 15992), (97, 16034), (100, 16055), (104, 16070), (106, 16088), (146, 16253), (154, 16292), (157, 16310), (169, 16343), (183, 16415), (215, 16613), (217, 16625), (219, 16634), (222, 16649), (248, 16763), (251, 16775), (255, 16796), (257, 16808), (263, 16871),

Gene: Isolde_21 Start: 15458, Stop: 16759, Start Num: 12

Candidate Starts for Isolde_21:

(Start: 12 @15458 has 54 MA's), (69, 15719), (91, 15827), (97, 15869), (104, 15905), (106, 15923), (126, 16013), (146, 16088), (154, 16127), (157, 16145), (169, 16178), (183, 16250), (215, 16448), (217, 16460), (219, 16469), (222, 16484), (248, 16598), (251, 16610), (255, 16631), (257, 16643), (263, 16706),

Gene: Jamun_18 Start: 14074, Stop: 15324, Start Num: 12

Candidate Starts for Jamun_18:

(Start: 12 @14074 has 54 MA's), (20, 14107), (32, 14140), (44, 14203), (49, 14233), (66, 14323), (76, 14362), (88, 14422), (92, 14446), (94, 14461), (97, 14485), (98, 14488), (100, 14506), (114, 14593), (122, 14617), (125, 14629), (132, 14656), (147, 14713), (154, 14749), (168, 14797), (186, 14884), (194, 14947), (200, 14971), (206, 15025), (208, 15043), (222, 15130), (225, 15148), (235, 15184), (239, 15205), (240, 15211), (247, 15238), (249, 15247), (256, 15280),

Gene: Jerole_19 Start: 13377, Stop: 14630, Start Num: 12

Candidate Starts for Jerole_19:

(Start: 12 @13377 has 54 MA's), (13, 13380), (19, 13401), (35, 13470), (49, 13536), (51, 13545), (68, 13632), (70, 13647), (97, 13791), (98, 13794), (99, 13809), (100, 13812), (102, 13818), (122, 13923), (125, 13935), (137, 13974), (147, 14019), (154, 14055), (164, 14097), (170, 14112), (186, 14190), (194, 14253), (200, 14277), (225, 14454), (235, 14490), (238, 14508), (240, 14517), (247, 14544), (249, 14553), (256, 14586),

Gene: Jflix2_22 Start: 23249, Stop: 24382, Start Num: 29

Candidate Starts for Jflix2_22:

(Start: 29 @23249 has 2 MA's), (41, 23312), (43, 23318), (49, 23351), (68, 23441), (81, 23504), (90, 23546), (105, 23642), (106, 23645), (129, 23756), (145, 23816), (157, 23879), (175, 23957), (190, 24047), (206, 24140), (209, 24167), (222, 24242), (224, 24257), (230, 24281),

Gene: Judy_21 Start: 15938, Stop: 17239, Start Num: 12

Candidate Starts for Judy_21:

(Start: 12 @15938 has 54 MA's), (16, 15956), (49, 16097), (91, 16307), (97, 16349), (104, 16385), (116, 16454), (137, 16526), (142, 16541), (146, 16568), (154, 16607), (157, 16625), (168, 16655), (172, 16667), (183, 16730), (207, 16868), (215, 16928), (217, 16940), (238, 17036), (248, 17078), (251, 17090), (263, 17186),

Gene: Juno112_17 Start: 12932, Stop: 14176, Start Num: 11

Candidate Starts for Juno112_17:

(Start: 11 @12932 has 6 MA's), (35, 13025), (40, 13046), (49, 13091), (54, 13115), (68, 13187), (70, 13202), (96, 13343), (97, 13346), (98, 13349), (99, 13364), (100, 13367), (102, 13373), (114, 13454), (122, 13478), (125, 13490), (132, 13517), (147, 13574), (154, 13610), (164, 13652), (170, 13667), (185, 13742), (189, 13784), (190, 13790), (199, 13817), (200, 13829), (202, 13856), (225, 14006), (227, 14012), (235, 14042), (240, 14069), (247, 14096), (249, 14105), (256, 14138), (260, 14168),

Gene: KHumphrey_17 Start: 12929, Stop: 14173, Start Num: 11

Candidate Starts for KHumphrey_17:

(Start: 11 @12929 has 6 MA's), (35, 13022), (40, 13043), (49, 13088), (54, 13112), (68, 13184), (96, 13340), (97, 13343), (98, 13346), (99, 13361), (100, 13364), (102, 13370), (114, 13451), (122, 13475), (125, 13487), (132, 13514), (147, 13571), (154, 13607), (164, 13649), (170, 13664), (185, 13739), (189, 13781), (190, 13787), (199, 13814), (200, 13826), (202, 13853), (225, 14003), (227, 14009), (235, 14039), (240, 14066), (247, 14093), (249, 14102), (256, 14135), (260, 14165),

Gene: Karkharias_20 Start: 15625, Stop: 16926, Start Num: 12

Candidate Starts for Karkharias_20:

(Start: 12 @15625 has 54 MA's), (16, 15643), (31, 15685), (49, 15784), (91, 15994), (97, 16036), (104, 16072), (132, 16201), (137, 16213), (142, 16228), (146, 16255), (148, 16264), (154, 16294), (157, 16312), (169, 16345), (176, 16375), (182, 16408), (183, 16417), (207, 16555), (215, 16615), (217, 16627), (238, 16723), (248, 16765), (251, 16777), (257, 16810), (263, 16873),

Gene: KayMoney_20 Start: 15529, Stop: 16830, Start Num: 12

Candidate Starts for KayMoney_20:

(Start: 12 @15529 has 54 MA's), (16, 15547), (49, 15688), (59, 15745), (65, 15766), (97, 15940), (103, 15973), (104, 15976), (142, 16132), (154, 16198), (157, 16216), (168, 16246), (169, 16249), (183, 16321), (200, 16396), (215, 16519), (217, 16531), (238, 16627), (248, 16669), (251, 16681), (263, 16777),

Gene: Kepler_18 Start: 13215, Stop: 14468, Start Num: 12

Candidate Starts for Kepler_18:

(Start: 12 @13215 has 54 MA's), (13, 13218), (19, 13239), (35, 13308), (49, 13374), (51, 13383), (68, 13470), (70, 13485), (97, 13629), (98, 13632), (99, 13647), (100, 13650), (102, 13656), (122, 13761), (125, 13773), (137, 13812), (147, 13857), (154, 13893), (164, 13935), (170, 13950), (186, 14028), (194, 14091), (200, 14115), (225, 14292), (235, 14328), (238, 14346), (240, 14355), (247, 14382), (249, 14391), (256, 14424),

Gene: Kharcho_45 Start: 24006, Stop: 25181, Start Num: 12

Candidate Starts for Kharcho_45:

(1, 23298), (4, 23742), (6, 23829), (Start: 12 @24006 has 54 MA's), (18, 24027), (21, 24042), (50, 24156), (60, 24213), (65, 24231), (70, 24264), (96, 24351), (105, 24405), (107, 24411), (125, 24495), (127, 24504), (144, 24573), (146, 24582), (149, 24594), (151, 24603), (173, 24696), (175, 24705), (188, 24783), (189, 24789), (215, 24945), (217, 24957), (225, 24999), (228, 25008), (249, 25098), (254, 25122),

Gene: Kovu_67 Start: 42081, Stop: 43256, Start Num: 12

Candidate Starts for Kovu_67:

(6, 41904), (Start: 12 @42081 has 54 MA's), (18, 42102), (33, 42150), (37, 42183), (60, 42288), (72, 42348), (74, 42351), (87, 42405), (98, 42432), (105, 42480), (125, 42570), (126, 42576), (141, 42627), (144, 42648), (146, 42657), (149, 42669), (151, 42678), (188, 42858), (189, 42864), (203, 42930), (215, 43020), (218, 43038), (249, 43173), (251, 43179), (254, 43197), (259, 43227),

Gene: Kuleana_18 Start: 13395, Stop: 14642, Start Num: 12

Candidate Starts for Kuleana_18:

(Start: 12 @13395 has 54 MA's), (35, 13488), (Start: 36 @13491 has 1 MA's), (38, 13503), (40, 13509), (49, 13554), (51, 13563), (53, 13572), (63, 13626), (75, 13680), (98, 13812), (100, 13830), (102, 13836), (125, 13953), (141, 14001), (147, 14034), (154, 14070), (163, 14106), (168, 14118), (174, 14148), (183, 14196), (189, 14247), (192, 14259), (200, 14292), (222, 14451), (225, 14469), (227, 14475), (230, 14490), (240, 14532), (241, 14538), (247, 14559), (249, 14568), (250, 14571), (262, 14637),

Gene: Laroye_69 Start: 41604, Stop: 42773, Start Num: 12

Candidate Starts for Laroye_69:

(Start: 12 @41604 has 54 MA's), (14, 41613), (18, 41625), (23, 41652), (37, 41709), (40, 41715), (60, 41814), (65, 41832), (66, 41844), (70, 41865), (98, 41958), (102, 41982), (105, 42006), (109, 42027), (131, 42120), (132, 42123), (135, 42129), (137, 42135), (141, 42147), (144, 42168), (154, 42216), (163, 42255), (175, 42300), (191, 42393), (195, 42399), (203, 42450), (223, 42582), (225, 42594), (249, 42693), (256, 42726),

Gene: Lawnathon_21 Start: 15552, Stop: 16853, Start Num: 12

Candidate Starts for Lawnathon_21:

(Start: 12 @15552 has 54 MA's), (69, 15813), (91, 15921), (97, 15963), (104, 15999), (106, 16017), (126, 16107), (146, 16182), (154, 16221), (157, 16239), (169, 16272), (183, 16344), (215, 16542), (217, 16554), (219, 16563), (222, 16578), (248, 16692), (251, 16704), (255, 16725), (257, 16737), (263, 16800),

Gene: Leona_17 Start: 12982, Stop: 14229, Start Num: 11

Candidate Starts for Leona_17:

(Start: 11 @12982 has 6 MA's), (35, 13075), (40, 13096), (49, 13141), (54, 13165), (68, 13237), (96, 13393), (97, 13396), (98, 13399), (99, 13414), (100, 13417), (114, 13504), (122, 13528), (125, 13540), (132, 13567), (147, 13624), (154, 13660), (170, 13717), (185, 13792), (189, 13834), (190, 13840), (199, 13867), (200, 13879), (202, 13906), (225, 14056), (227, 14062), (235, 14092), (240, 14119), (247, 14146), (249, 14155), (256, 14188), (260, 14218), (261, 14224),

Gene: LiSara_66 Start: 41766, Stop: 42935, Start Num: 12

Candidate Starts for LiSara_66:

(Start: 12 @41766 has 54 MA's), (14, 41775), (18, 41787), (23, 41814), (37, 41871), (40, 41877), (60, 41976), (65, 41994), (66, 42006), (70, 42027), (98, 42120), (102, 42144), (105, 42168), (109, 42189), (131, 42282), (132, 42285), (135, 42291), (137, 42297), (141, 42309), (144, 42330), (154, 42378), (163, 42417), (175, 42462), (191, 42555), (195, 42561), (203, 42612), (223, 42744), (225, 42756), (249, 42855), (256, 42888),

Gene: LittleTokyo_18 Start: 13345, Stop: 14595, Start Num: 12

Candidate Starts for LittleTokyo_18:

(Start: 12 @13345 has 54 MA's), (35, 13438), (38, 13453), (49, 13504), (51, 13513), (65, 13582), (67, 13597), (94, 13735), (96, 13756), (97, 13759), (98, 13762), (100, 13780), (102, 13786), (114, 13867), (125, 13903), (131, 13924), (132, 13927), (137, 13939), (141, 13951), (146, 13981), (147, 13984), (154, 14020), (222, 14401), (225, 14419), (227, 14425), (230, 14440), (240, 14482), (247, 14509), (249, 14518), (250, 14521), (258, 14572),

Gene: Lunar_19 Start: 13377, Stop: 14630, Start Num: 12

Candidate Starts for Lunar_19:

(Start: 12 @13377 has 54 MA's), (13, 13380), (19, 13401), (35, 13470), (49, 13536), (51, 13545), (68, 13632), (70, 13647), (97, 13791), (98, 13794), (99, 13809), (100, 13812), (102, 13818), (122, 13923), (125, 13935), (137, 13974), (147, 14019), (154, 14055), (164, 14097), (170, 14112), (186, 14190), (194, 14253), (200, 14277), (225, 14454), (235, 14490), (238, 14508), (240, 14517), (247, 14544), (249, 14553), (256, 14586),

Gene: Madraxi_27 Start: 25619, Stop: 26752, Start Num: 29

Candidate Starts for Madraxi_27:

(Start: 29 @25619 has 2 MA's), (41, 25682), (43, 25688), (49, 25721), (50, 25724), (68, 25811), (81, 25874), (84, 25895), (90, 25916), (105, 26012), (106, 26015), (129, 26126), (134, 26138), (157, 26249), (175, 26327), (206, 26510), (209, 26537), (222, 26612), (224, 26627), (230, 26651),

Gene: Melons_19 Start: 13377, Stop: 14630, Start Num: 12

Candidate Starts for Melons_19:

(Start: 12 @13377 has 54 MA's), (13, 13380), (19, 13401), (35, 13470), (49, 13536), (51, 13545), (68, 13632), (70, 13647), (97, 13791), (98, 13794), (99, 13809), (100, 13812), (102, 13818), (122, 13923), (125, 13935), (137, 13974), (147, 14019), (154, 14055), (164, 14097), (170, 14112), (186, 14190), (194, 14253), (200, 14277), (225, 14454), (235, 14490), (238, 14508), (240, 14517), (247, 14544), (249, 14553), (256, 14586),

Gene: MidnightRain_21 Start: 15622, Stop: 16923, Start Num: 12

Candidate Starts for MidnightRain_21:

(Start: 12 @15622 has 54 MA's), (57, 15826), (65, 15859), (69, 15883), (80, 15931), (85, 15961), (91, 15991), (97, 16033), (104, 16069), (106, 16087), (126, 16177), (146, 16252), (154, 16291), (157, 16309), (169, 16342), (183, 16414), (215, 16612), (217, 16624), (248, 16762), (251, 16774), (255, 16795), (257, 16807), (263, 16870),

Gene: Nesbitt_18 Start: 15235, Stop: 16353, Start Num: 30

Candidate Starts for Nesbitt_18:

(8, 15058), (Start: 27 @15232 has 2 MA's), (Start: 30 @15235 has 2 MA's), (46, 15319), (54, 15358), (55, 15364), (79, 15475), (91, 15535), (159, 15847), (160, 15850), (165, 15871), (166, 15874), (168, 15886), (170, 15895), (175, 15919), (182, 15955), (186, 15973), (190, 16009), (204, 16087), (206, 16102), (207, 16111), (250, 16324),

Gene: Orcanus_18 Start: 14331, Stop: 15581, Start Num: 12

Candidate Starts for Orcanus_18:

(Start: 12 @14331 has 54 MA's), (32, 14397), (38, 14439), (52, 14502), (59, 14547), (66, 14580), (97, 14742), (98, 14745), (112, 14832), (120, 14865), (125, 14886), (132, 14913), (137, 14925), (139, 14931), (147, 14970), (154, 15006), (168, 15054), (182, 15123), (194, 15204), (200, 15228), (215, 15351), (219, 15372), (225, 15405), (227, 15411), (230, 15426), (236, 15447), (239, 15462), (240, 15468), (241, 15474), (247, 15495), (249, 15504), (256, 15537),

Gene: Ottawa_45 Start: 24004, Stop: 25179, Start Num: 12

Candidate Starts for Ottawa_45:

(1, 23296), (4, 23740), (6, 23827), (Start: 12 @24004 has 54 MA's), (18, 24025), (21, 24040), (50, 24154), (60, 24211), (65, 24229), (70, 24262), (96, 24349), (105, 24403), (107, 24409), (125, 24493), (127, 24502), (144, 24571), (146, 24580), (149, 24592), (151, 24601), (173, 24694), (175, 24703), (188, 24781), (189, 24787), (215, 24943), (217, 24955), (225, 24997), (228, 25006), (249, 25096), (254, 25120),

Gene: Peas_20 Start: 15628, Stop: 16929, Start Num: 12

Candidate Starts for Peas_20:

(Start: 12 @15628 has 54 MA's), (16, 15646), (31, 15688), (49, 15787), (91, 15997), (97, 16039), (104, 16075), (137, 16216), (142, 16231), (146, 16258), (148, 16267), (154, 16297), (157, 16315), (169, 16348), (183, 16420), (207, 16558), (215, 16618), (217, 16630), (238, 16726), (248, 16768), (251, 16780), (263, 16876),

Gene: PeggyLeg03_20 Start: 15667, Stop: 16968, Start Num: 12

Candidate Starts for PeggyLeg03_20:

(Start: 12 @15667 has 54 MA's), (16, 15685), (49, 15826), (91, 16036), (97, 16078), (104, 16114), (116, 16183), (137, 16255), (142, 16270), (146, 16297), (154, 16336), (157, 16354), (168, 16384), (169, 16387), (172, 16396), (183, 16459), (207, 16597), (215, 16657), (217, 16669), (238, 16765), (248, 16807), (251, 16819), (263, 16915),

Gene: Persistence_20 Start: 15544, Stop: 16845, Start Num: 12

Candidate Starts for Persistence_20:

(Start: 12 @15544 has 54 MA's), (49, 15703), (70, 15814), (76, 15832), (80, 15853), (91, 15913), (97, 15955), (98, 15958), (106, 16009), (114, 16057), (126, 16099), (131, 16117), (137, 16132), (141, 16144), (142, 16147), (154, 16213), (157, 16231), (162, 16246), (169, 16264), (183, 16336), (201, 16417), (202, 16438), (219, 16555), (238, 16642), (248, 16684), (263, 16792),

Gene: PhluffyCoco_17 Start: 12931, Stop: 14175, Start Num: 11

Candidate Starts for PhluffyCoco_17:

(Start: 11 @12931 has 6 MA's), (35, 13024), (40, 13045), (49, 13090), (54, 13114), (68, 13186), (96, 13342), (97, 13345), (98, 13348), (99, 13363), (100, 13366), (102, 13372), (114, 13453), (125, 13489), (132, 13516), (147, 13573), (154, 13609), (164, 13651), (170, 13666), (185, 13741), (189, 13783), (190, 13789), (199, 13816), (200, 13828), (202, 13855), (225, 14005), (227, 14011), (235, 14041), (240, 14068), (247, 14095), (249, 14104), (256, 14137), (260, 14167),

Gene: Phrank15_20 Start: 15557, Stop: 16858, Start Num: 12

Candidate Starts for Phrank15_20:

(Start: 12 @15557 has 54 MA's), (69, 15818), (91, 15926), (97, 15968), (104, 16004), (106, 16022), (126, 16112), (146, 16187), (149, 16199), (154, 16226), (157, 16244), (169, 16277), (183, 16349), (215, 16547), (217, 16559), (219, 16568), (222, 16583), (248, 16697), (251, 16709), (255, 16730), (257, 16742), (263, 16805),

Gene: Polka_18 Start: 13219, Stop: 14472, Start Num: 12

Candidate Starts for Polka_18:

(Start: 12 @13219 has 54 MA's), (13, 13222), (19, 13243), (35, 13312), (49, 13378), (51, 13387), (68, 13474), (70, 13489), (97, 13633), (98, 13636), (99, 13651), (100, 13654), (102, 13660), (122, 13765), (125, 13777), (137, 13816), (147, 13861), (154, 13897), (164, 13939), (170, 13954), (186, 14032), (194, 14095), (200, 14119), (201, 14125), (225, 14296), (235, 14332), (238, 14350), (240, 14359), (247, 14386), (249, 14395), (256, 14428),

Gene: Pucara_20 Start: 15628, Stop: 16929, Start Num: 12

Candidate Starts for Pucara_20:

(Start: 12 @15628 has 54 MA's), (16, 15646), (49, 15787), (91, 15997), (97, 16039), (104, 16075), (137, 16216), (142, 16231), (146, 16258), (148, 16267), (154, 16297), (157, 16315), (169, 16348), (183, 16420), (207, 16558), (215, 16618), (217, 16630), (238, 16726), (248, 16768), (251, 16780), (263, 16876),

Gene: REQ1_80 Start: 46988, Stop: 48121, Start Num: 29

Candidate Starts for REQ1_80:

(Start: 29 @46988 has 2 MA's), (41, 47051), (43, 47057), (50, 47093), (68, 47180), (81, 47243), (84, 47264), (90, 47285), (103, 47363), (105, 47381), (106, 47384), (129, 47495), (145, 47555), (157, 47618), (175, 47696), (190, 47786), (202, 47852), (204, 47864), (206, 47879), (209, 47906), (222, 47981), (230, 48020),

Gene: RadFad_21 Start: 15623, Stop: 16924, Start Num: 12

Candidate Starts for RadFad_21:

(Start: 12 @15623 has 54 MA's), (65, 15860), (69, 15884), (76, 15911), (85, 15962), (91, 15992), (97, 16034), (100, 16055), (104, 16070), (106, 16088), (146, 16253), (154, 16292), (157, 16310), (169, 16343), (183, 16415), (215, 16613), (217, 16625), (219, 16634), (222, 16649), (248, 16763), (251, 16775), (255, 16796), (257, 16808), (263, 16871),

Gene: Raphaella_21 Start: 15623, Stop: 16924, Start Num: 12

Candidate Starts for Raphaella_21:

(Start: 12 @15623 has 54 MA's), (65, 15860), (69, 15884), (76, 15911), (85, 15962), (91, 15992), (97, 16034), (100, 16055), (104, 16070), (106, 16088), (146, 16253), (154, 16292), (157, 16310), (169, 16343), (183, 16415), (215, 16613), (217, 16625), (219, 16634), (222, 16649), (248, 16763), (251, 16775), (255, 16796), (257, 16808), (263, 16871),

Gene: RedFox_17 Start: 12931, Stop: 14175, Start Num: 11

Candidate Starts for RedFox_17:

(Start: 11 @12931 has 6 MA's), (35, 13024), (40, 13045), (49, 13090), (54, 13114), (68, 13186), (96, 13342), (97, 13345), (98, 13348), (99, 13363), (100, 13366), (102, 13372), (114, 13453), (122, 13477), (125, 13489), (132, 13516), (147, 13573), (154, 13609), (164, 13651), (170, 13666), (185, 13741), (189, 13783), (190, 13789), (199, 13816), (200, 13828), (202, 13855), (225, 14005), (227, 14011), (235, 14041), (240, 14068), (247, 14095), (249, 14104), (256, 14137), (260, 14167),

Gene: Renna12_18 Start: 13275, Stop: 14519, Start Num: 11

Candidate Starts for Renna12_18:

(Start: 11 @13275 has 6 MA's), (35, 13368), (40, 13389), (49, 13434), (68, 13530), (70, 13545), (96, 13686), (97, 13689), (98, 13692), (99, 13707), (100, 13710), (102, 13716), (114, 13797), (122, 13821), (125, 13833), (132, 13860), (147, 13917), (154, 13953), (164, 13995), (170, 14010), (183, 14079), (185, 14085), (189, 14127), (190, 14133), (199, 14160), (200, 14172), (202, 14199), (225, 14349), (227, 14355), (235, 14385), (240, 14412), (247, 14439), (249, 14448), (256, 14481), (260, 14511),

Gene: Richie_21 Start: 15638, Stop: 16939, Start Num: 12

Candidate Starts for Richie_21:

(Start: 12 @15638 has 54 MA's), (57, 15842), (65, 15875), (69, 15899), (80, 15947), (85, 15977), (91, 16007), (97, 16049), (104, 16085), (106, 16103), (146, 16268), (154, 16307), (157, 16325), (169, 16358), (183, 16430), (215, 16628), (217, 16640), (248, 16778), (251, 16790), (255, 16811), (257, 16823), (263, 16886),

Gene: Rowa_18 Start: 15046, Stop: 16164, Start Num: 27

Candidate Starts for Rowa_18:

(Start: 27 @15046 has 2 MA's), (40, 15103), (41, 15109), (55, 15175), (69, 15241), (89, 15328), (90, 15340), (167, 15691), (170, 15709), (174, 15730), (175, 15733), (178, 15748), (184, 15781), (206, 15916), (216, 15988), (219, 16003), (227, 16042), (237, 16081), (242, 16108), (250, 16138),

Gene: Ruchi_18 Start: 14614, Stop: 15864, Start Num: 12

Candidate Starts for Ruchi_18:

(Start: 12 @14614 has 54 MA's), (20, 14647), (32, 14680), (44, 14743), (49, 14773), (66, 14863), (76, 14902), (88, 14962), (92, 14986), (94, 15001), (97, 15025), (98, 15028), (100, 15046), (114, 15133), (122, 15157), (125, 15169), (147, 15253), (154, 15289), (168, 15337), (186, 15424), (194, 15487), (200, 15511), (206, 15565), (208, 15583), (222, 15670), (225, 15688), (235, 15724), (239, 15745), (240, 15751), (247, 15778), (249, 15787),

Gene: Sakai_21 Start: 15632, Stop: 16933, Start Num: 12

Candidate Starts for Sakai_21:

(Start: 12 @15632 has 54 MA's), (69, 15893), (76, 15920), (85, 15971), (91, 16001), (97, 16043), (100, 16064), (104, 16079), (106, 16097), (146, 16262), (154, 16301), (157, 16319), (169, 16352), (183, 16424), (215, 16622), (217, 16634), (219, 16643), (222, 16658), (248, 16772), (251, 16784), (255, 16805), (257, 16817), (263, 16880),

Gene: Salgado_69 Start: 41420, Stop: 42589, Start Num: 12

Candidate Starts for Salgado_69:

(Start: 12 @41420 has 54 MA's), (14, 41429), (18, 41441), (23, 41468), (37, 41525), (40, 41531), (60, 41630), (65, 41648), (66, 41660), (70, 41681), (98, 41774), (102, 41798), (105, 41822), (109, 41843), (131, 41936), (135, 41945), (137, 41951), (141, 41963), (144, 41984), (154, 42032), (163, 42071), (175, 42116), (191, 42209), (195, 42215), (203, 42266), (223, 42398), (225, 42410), (249, 42509), (256, 42542),

Gene: Samy_23 Start: 18462, Stop: 19574, Start Num: 27

Candidate Starts for Samy_23:

(Start: 27 @18462 has 2 MA's), (38, 18513), (47, 18552), (79, 18702), (100, 18807), (104, 18822), (113, 18876), (119, 18897), (129, 18945), (138, 18978), (151, 19038), (179, 19170), (202, 19305), (222, 19434), (237, 19491), (247, 19536),

Gene: Seahorse_22 Start: 15990, Stop: 17291, Start Num: 12

Candidate Starts for Seahorse_22:

(Start: 12 @15990 has 54 MA's), (16, 16008), (20, 16023), (69, 16251), (91, 16359), (97, 16401), (104, 16437), (106, 16455), (126, 16545), (146, 16620), (154, 16659), (157, 16677), (169, 16710), (183, 16782), (215, 16980), (248, 17130), (251, 17142), (255, 17163), (257, 17175), (263, 17238),

Gene: Shagrat_23 Start: 22765, Stop: 23892, Start Num: 28

Candidate Starts for Shagrat_23:

(Start: 28 @22765 has 1 MA's), (41, 22828), (49, 22867), (55, 22891), (68, 22957), (81, 23020), (90, 23062), (102, 23131), (117, 23215), (145, 23329), (146, 23335), (151, 23356), (155, 23380), (157, 23392), (171, 23449), (175, 23470), (186, 23524), (190, 23560), (198, 23581), (202, 23626), (206, 23653), (209, 23680), (211, 23704), (217, 23731), (224, 23770), (225, 23773), (228, 23782), (230, 23794), (231, 23800), (237, 23818), (253, 23887),

Gene: Shrooms_67 Start: 39941, Stop: 41110, Start Num: 12

Candidate Starts for Shrooms_67:

(Start: 12 @39941 has 54 MA's), (14, 39950), (18, 39962), (37, 40046), (44, 40067), (49, 40091), (53, 40109), (54, 40115), (60, 40151), (65, 40169), (66, 40181), (70, 40202), (75, 40217), (78, 40229), (98, 40295), (109, 40364), (132, 40460), (137, 40472), (141, 40484), (144, 40505), (149, 40526), (151, 40535), (154, 40553), (163, 40592), (187, 40703), (191, 40730), (195, 40736), (203, 40787), (223, 40919), (225, 40931), (238, 40985), (240, 40994), (247, 41021), (249, 41030), (256, 41063),

Gene: SpicyFrank_21 Start: 15700, Stop: 17001, Start Num: 12

Candidate Starts for SpicyFrank_21:

(Start: 12 @15700 has 54 MA's), (69, 15961), (91, 16069), (97, 16111), (104, 16147), (119, 16225), (154, 16369), (157, 16387), (182, 16483), (183, 16492), (207, 16630), (215, 16690), (219, 16711), (248, 16840), (251, 16852), (263, 16948),

Gene: TaylorSipt_18 Start: 13348, Stop: 14598, Start Num: 12

Candidate Starts for TaylorSipt_18:

(Start: 12 @13348 has 54 MA's), (20, 13381), (32, 13414), (35, 13441), (52, 13519), (66, 13597), (88, 13696), (97, 13759), (98, 13762), (100, 13780), (112, 13849), (120, 13882), (125, 13903), (131, 13927), (132, 13930), (137, 13942), (139, 13948), (147, 13987), (154, 14023), (168, 14071), (170, 14080), (180, 14131), (181, 14137), (194, 14221), (200, 14245), (215, 14368), (225, 14422), (226, 14425), (229, 14440), (236, 14464), (247, 14512), (249, 14521), (251, 14527),

Gene: ThayneTheZag_21 Start: 15791, Stop: 17092, Start Num: 12

Candidate Starts for ThayneTheZag_21:

(Start: 12 @15791 has 54 MA's), (16, 15809), (49, 15950), (96, 16199), (97, 16202), (100, 16223), (104, 16238), (127, 16349), (137, 16379), (142, 16394), (148, 16430), (154, 16460), (157, 16478), (162, 16493), (168, 16508), (169, 16511), (172, 16520), (183, 16583), (202, 16685), (238, 16889), (248, 16931), (251, 16943), (263, 17039),

Gene: Tiff81_23 Start: 15718, Stop: 17019, Start Num: 12

Candidate Starts for Tiff81_23:

(Start: 12 @15718 has 54 MA's), (20, 15751), (69, 15979), (91, 16087), (97, 16129), (104, 16165), (106, 16183), (126, 16273), (146, 16348), (154, 16387), (157, 16405), (169, 16438), (183, 16510), (215, 16708), (248, 16858), (251, 16870), (255, 16891), (257, 16903), (263, 16966),

Gene: VWB_19 Start: 16658, Stop: 17779, Start Num: 15

Candidate Starts for VWB_19:

(2, 16259), (3, 16361), (5, 16445), (7, 16520), (9, 16529), (10, 16628), (15, 16658), (25, 16688), (Start: 27 @16691 has 2 MA's), (39, 16745), (62, 16853), (71, 16901), (75, 16907), (81, 16940), (89, 16967), (99, 17027), (101, 17033), (115, 17105), (153, 17258), (158, 17285), (166, 17315), (174, 17354), (179, 17378), (182, 17393), (192, 17453), (213, 17594), (220, 17630), (237, 17696),

Gene: Vulpecula_18 Start: 14072, Stop: 15322, Start Num: 12

Candidate Starts for Vulpecula_18:

(Start: 12 @14072 has 54 MA's), (20, 14105), (32, 14138), (44, 14201), (49, 14231), (52, 14243), (66, 14321), (76, 14360), (88, 14420), (92, 14444), (94, 14459), (97, 14483), (98, 14486), (100, 14504), (114, 14591), (122, 14615), (125, 14627), (147, 14711), (154, 14747), (168, 14795), (186, 14882), (194, 14945), (199, 14957), (200, 14969), (206, 15023), (208, 15041), (222, 15128), (225, 15146), (235, 15182), (239, 15203), (240, 15209), (247, 15236), (249, 15245), (256, 15278),

Gene: Waltz_66 Start: 39954, Stop: 41123, Start Num: 12

Candidate Starts for Waltz_66:

(Start: 12 @39954 has 54 MA's), (14, 39963), (18, 39975), (Start: 36 @40050 has 1 MA's), (53, 40122), (57, 40149), (60, 40164), (65, 40182), (66, 40194), (75, 40230), (77, 40236), (78, 40242), (98, 40308), (109, 40377), (132, 40473), (137, 40485), (141, 40497), (144, 40518), (149, 40539), (154, 40566), (195, 40749), (215, 40890), (217, 40902), (222, 40926), (225, 40944), (230, 40965), (238, 40998), (240, 41007), (247, 41034), (249, 41043), (251, 41049), (254, 41067), (256, 41076),

Gene: Wheelbite_65 Start: 41577, Stop: 42746, Start Num: 12

Candidate Starts for Wheelbite_65:

(Start: 12 @41577 has 54 MA's), (14, 41586), (18, 41598), (23, 41625), (37, 41682), (40, 41688), (50, 41730), (60, 41787), (65, 41805), (66, 41817), (98, 41931), (105, 41979), (109, 42000), (111, 42015), (122, 42057), (132, 42096), (137, 42108), (144, 42141), (154, 42189), (163, 42228), (175, 42273), (191, 42366), (212, 42498), (215, 42513), (223, 42555), (225, 42567), (249, 42666), (256, 42699),

Gene: Wollypog_19 Start: 17989, Stop: 19074, Start Num: 36

Candidate Starts for Wollypog_19:

(Start: 36 @17989 has 1 MA's), (50, 18055), (57, 18097), (61, 18118), (78, 18193), (81, 18208), (110, 18373), (114, 18391), (128, 18439), (142, 18481), (152, 18538), (153, 18541), (156, 18556), (170, 18616), (185, 18691), (186, 18694), (193, 18736), (196, 18745), (222, 18922),

Gene: YoungHarleezy_21 Start: 15636, Stop: 16937, Start Num: 12

Candidate Starts for YoungHarleezy_21:

(Start: 12 @15636 has 54 MA's), (65, 15873), (69, 15897), (76, 15924), (85, 15975), (91, 16005), (97, 16047), (100, 16068), (104, 16083), (106, 16101), (146, 16266), (154, 16305), (157, 16323), (169, 16356), (183, 16428), (215, 16626), (217, 16638), (219, 16647), (222, 16662), (248, 16776), (251, 16788), (255, 16809), (257, 16821), (263, 16884),

Gene: phiAsp2_30 Start: 25990, Stop: 27063, Start Num: 24

Candidate Starts for phiAsp2_30:

(24, 25990), (48, 26092), (84, 26269), (88, 26275), (100, 26341), (106, 26374), (111, 26407), (118, 26434), (121, 26446), (126, 26467), (130, 26488), (140, 26515), (143, 26530), (150, 26563), (157, 26602), (161, 26617), (185, 26713), (189, 26758), (207, 26866), (214, 26911), (224, 26974), (225, 26977), (231, 27004),