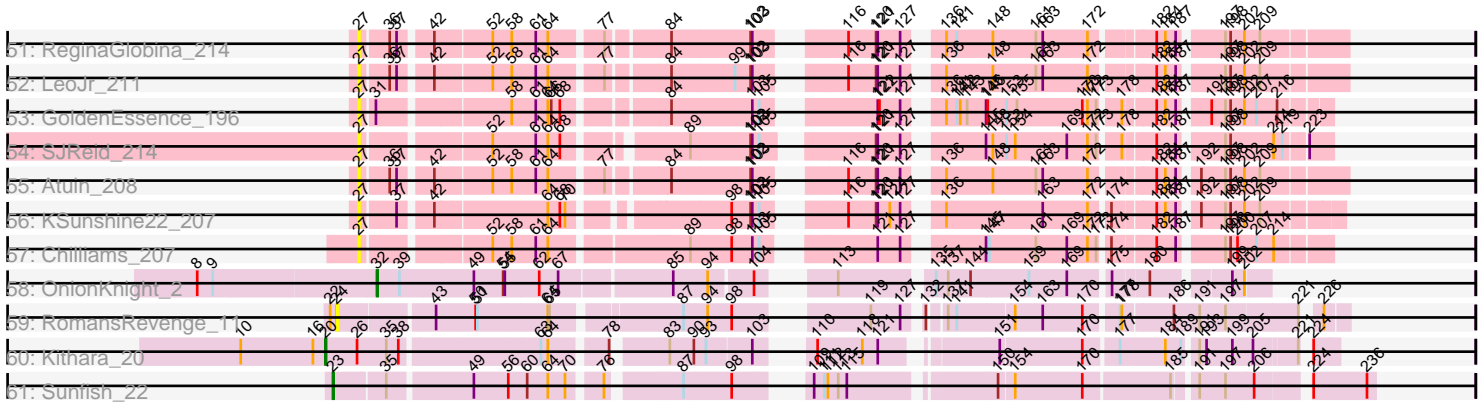


Pham 197982



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 197982 Report

This analysis was run 01/18/25 on database version 583.

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

Pham number 197982 has 98 members, 36 are drafts.

Phages represented in each track:

- Track 1 : Ranunculus_15
- Track 2 : Wilde_15
- Track 3 : Tank_15
- Track 4 : Rizwana_14
- Track 5 : Forrestell_16
- Track 6 : NyleyClemson_17, MellowYellow_17
- Track 7 : Olypop_16
- Track 8 : Beagle_21, Pointis_20, DogYard_19, Odyssey395_22, Pureglobe5_22, Kubulix_20
- Track 9 : RazzB_15
- Track 10 : BruhMoment_16
- Track 11 : AWGoat_15
- Track 12 : SilentRX_16
- Track 13 : GodonK_61
- Track 14 : Phendrix_60
- Track 15 : Sixama_62
- Track 16 : GMA2_1
- Track 17 : Forza_69, Boopy_69, Mareelih_67, BlueNGGold_67
- Track 18 : Sillytadpoles_20, Zagie_20, Llemily_20, Rudy_18, Quammi_18, Rowlf_16, Viceroy_19
- Track 19 : MorillMayhem_18
- Track 20 : Tempo_19, RobinRose_20, CandC_18, Kelcole_18, Romm_20, OneinaGillian_19, Fregley_20
- Track 21 : Phabia_20
- Track 22 : Fizzles_20
- Track 23 : BirdInFrench_19, Wilca_19
- Track 24 : Tissue_19, Zhafia_23, Namago_20
- Track 25 : Mashley_17, Lonelysoil_19
- Track 26 : StrawberryJamm_22
- Track 27 : Hyperion_18
- Track 28 : Gazebo_19, Statler_21
- Track 29 : Fransoyer_21, RubyRalph_21
- Track 30 : SadLad_22

- Track 31 : Casend_21, Jehoshaphat_22, Wheelie_19, FrankDeliGuy_18, Teehee_21, DonaldDuck_20, Wayne3_21
- Track 32 : Nike_20, Squash_22
- Track 33 : Pepe25_18
- Track 34 : Marcie_24
- Track 35 : AluminumJesus_17
- Track 36 : Altheas_21
- Track 37 : Phinky_26
- Track 38 : Kyva_22
- Track 39 : BabyDotz_19
- Track 40 : Judebell_22
- Track 41 : Grassboy_21
- Track 42 : EverythinBagel_20
- Track 43 : Blab_17
- Track 44 : SallyK_21
- Track 45 : Bloom_212, Talia1610_209, Mimi_213
- Track 46 : Rockabye_212
- Track 47 : DunneganBoMo_211, WaddleDee_209
- Track 48 : Racecar_209
- Track 49 : Ellewin_208
- Track 50 : Patbob_207
- Track 51 : ReginaGlobina_214
- Track 52 : LeoJr_211
- Track 53 : GoldenEssence_196
- Track 54 : SJReid_214
- Track 55 : Atuin_208
- Track 56 : KSunshine22_207
- Track 57 : Chilliams_207
- Track 58 : OnionKnight_2
- Track 59 : RomansRevenge_11
- Track 60 : Kithara_20
- Track 61 : Sunfish_22

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

The start number called the most often in the published annotations is 19, it was called in 38 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Altheas_21, AluminumJesus_17, BabyDotz_19, BirdInFrench_19, Blab_17, CandC_18, Casend_21, DonaldDuck_20, EverythinBagel_20, Fizzles_20, FrankDeliGuy_18, Fransoyer_21, Fregley_20, Gazebo_19, Grassboy_21, Hyperion_18, Jehoshaphat_22, Judebell_22, Kelcole_18, Llemily_20, Lonelysoil_19, Marcie_24, Mashley_17, MorillMayhem_18, Namago_20, Nike_20, OneinaGillian_19, Pepe25_18, Phabia_20, Phinky_26, Quammi_18, RobinRose_20, Romm_20, Rowlf_16, RubyRalph_21, Rudy_18, SadLad_22, SallyK_21, Sillytadpoles_20, Squash_22, Statler_21, StrawberryJamm_22, Teehee_21, Tempo_19, Tissue_19, Viceroy_19, Wayne3_21, Wheelie_19, Wilca_19, Zagie_20, Zhafia_23,

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

- Kyva_22,

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

- AWGoat_15, Atuin_208, Beagle_21, Bloom_212, BlueNGold_67, Boopy_69, BruhMoment_16, Chilliams_207, DogYard_19, DunneganBoMo_211, Ellewin_208, Forrestell_16, Forza_69, GMA2_1, GodonK_61, GoldenEssence_196, KSunshine22_207, Kithara_20, Kubulix_20, LeoJr_211, Mareelih_67, MellowYellow_17, Mimi_213, NyleyClemson_17, Odyssey395_22, Ollypop_16, OnionKnight_2, Patbob_207, Phendrix_60, Pointis_20, Pureglobe5_22, Racecar_209, Ranunculus_15, RazzB_15, ReginaGlobina_214, Rizwana_14, Rockabye_212, RomansRevenge_11, SJReid_214, SilentRX_16, Sixama_62, Sunfish_22, Talia1610_209, Tank_15, WaddleDee_209, Wilde_15,

Summary by start number:

Start 14:

- Found in 36 of 98 (36.7%) of genes in pham
- No Manual Annotations of this start.
- Called 2.8% of time when present
- Phage (with cluster) where this start called: Kyva_22 (EG),

Start 15:

- Found in 5 of 98 (5.1%) of genes in pham
- Manual Annotations of this start: 5 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlueNGold_67 (DS), Boopy_69 (DS), Forza_69 (DS), Mareelih_67 (DS), Sixama_62 (DS),

Start 17:

- Found in 1 of 98 (1.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA2_1 (DS),

Start 18:

- Found in 2 of 98 (2.0%) of genes in pham
- Manual Annotations of this start: 2 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GodonK_61 (DK), Phendrix_60 (DK),

Start 19:

- Found in 52 of 98 (53.1%) of genes in pham
- Manual Annotations of this start: 38 of 62
- Called 98.1% of time when present
- Phage (with cluster) where this start called: Altheas_21 (EG), AluminumJesus_17 (EG), BabyDotz_19 (EG), BirdInFrench_19 (EG), Blab_17 (EG), CandC_18 (EG), Casend_21 (EG), DonaldDuck_20 (EG), EverythinBagel_20 (EG), Fizzles_20 (EG), FrankDeliGuy_18 (EG), Fransoyer_21 (EG), Fregley_20 (EG), Gazebo_19 (EG), Grassboy_21 (EG), Hyperion_18 (EG), Jehoshaphat_22 (EG), Judebell_22 (EG), Kelcole_18 (EG), Llemily_20 (EG), Lonelysoil_19 (EG), Marcie_24 (EG), Mashley_17 (EG), MorillMayhem_18 (EG), Namago_20 (EG), Nike_20 (EG), OneinaGillian_19 (EG), Pepe25_18 (EG), Phabia_20 (EG), Phinky_26 (EG), Quammi_18 (EG), RobinRose_20 (EG), Romm_20 (EG), Rowlf_16 (EG), RubyRalph_21 (EG), Rudy_18

(EG), SadLad_22 (EG), SallyK_21 (EG), Sillytadpoles_20 (EG), Squash_22 (EG), Statler_21 (EG), StrawberryJamm_22 (EG), Teehee_21 (EG), Tempo_19 (EG), Tissue_19 (EG), Viceroy_19 (EG), Wayne3_21 (EG), Wheelie_19 (EG), Wilca_19 (EG), Zagie_20 (EG), Zhafia_23 (EG),

Start 20:

- Found in 1 of 98 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kithara_20 (singleton),

Start 23:

- Found in 19 of 98 (19.4%) of genes in pham
- Manual Annotations of this start: 12 of 62
- Called 94.7% of time when present
- Phage (with cluster) where this start called: AWGoat_15 (AP4), Beagle_21 (AP2), DogYard_19 (AP2), Forrestell_16 (AP2), Kubulix_20 (AP2), MellowYellow_17 (AP2), NyleyClemson_17 (AP2), Odyssey395_22 (AP2), Ollypop_16 (AP2), Pointis_20 (AP2), Pureglobe5_22 (AP2), Ranunculus_15 (AP), RazzB_15 (AP2), Rizwana_14 (AP1), SilentRX_16 (AP4), Sunfish_22 (singleton), Tank_15 (AP1), Wilde_15 (AP1),

Start 24:

- Found in 1 of 98 (1.0%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RomansRevenge_11 (singleton),

Start 27:

- Found in 16 of 98 (16.3%) of genes in pham
- Manual Annotations of this start: 2 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Atuin_208 (FC), Bloom_212 (FC), Chilliams_207 (FC), DunneganBoMo_211 (FC), Ellewin_208 (FC), GoldenEssence_196 (FC), KSunshine22_207 (FC), LeoJr_211 (FC), Mimi_213 (FC), Patbob_207 (FC), Racecar_209 (FC), ReginaGlobina_214 (FC), Rockabye_212 (FC), SJReid_214 (FC), Talia1610_209 (FC), WaddleDee_209 (FC),

Start 32:

- Found in 1 of 98 (1.0%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: OnionKnight_2 (singleton),

Start 57:

- Found in 47 of 98 (48.0%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 2.1% of time when present
- Phage (with cluster) where this start called: BruhMoment_16 (AP3),

Summary by clusters:

There are 10 clusters represented in this pham: singleton, DK, AP2, AP3, EG, AP1, AP4, AP, FC, DS,

Info for manual annotations of cluster AP:

- Start number 23 was manually annotated 1 time for cluster AP.

Info for manual annotations of cluster AP1:

- Start number 23 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AP2:

- Start number 23 was manually annotated 5 times for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 57 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AP4:

- Start number 23 was manually annotated 2 times for cluster AP4.

Info for manual annotations of cluster DK:

- Start number 18 was manually annotated 2 times for cluster DK.

Info for manual annotations of cluster DS:

- Start number 15 was manually annotated 5 times for cluster DS.

Info for manual annotations of cluster EG:

- Start number 19 was manually annotated 38 times for cluster EG.

Info for manual annotations of cluster FC:

- Start number 27 was manually annotated 2 times for cluster FC.

Gene Information:

Gene: AWGoat_15 Start: 6667, Stop: 8379, Start Num: 23

Candidate Starts for AWGoat_15:

(1, 6130), (2, 6289), (Start: 23 @6667 has 12 MA's), (25, 6688), (48, 6883), (Start: 57 @6949 has 1 MA's), (64, 7012), (70, 7042), (71, 7060), (73, 7069), (83, 7222), (92, 7276), (93, 7279), (97, 7309), (98, 7312), (100, 7333), (103, 7348), (112, 7408), (115, 7441), (133, 7582), (137, 7615), (169, 7807), (170, 7834), (176, 7876), (178, 7885), (179, 7906), (184, 7951), (186, 7966), (191, 7990), (193, 8002), (197, 8032), (199, 8044), (215, 8113), (218, 8122), (231, 8209), (233, 8224), (235, 8230), (241, 8281), (247, 8338), (248, 8347), (249, 8365),

Gene: Altheas_21 Start: 6863, Stop: 8374, Start Num: 19

Candidate Starts for Altheas_21:

(14, 6839), (Start: 19 @6863 has 38 MA's), (34, 6956), (51, 7106), (Start: 57 @7160 has 1 MA's), (64, 7223), (76, 7298), (87, 7409), (96, 7466), (101, 7511), (108, 7622), (110, 7634), (111, 7646), (115, 7685), (120, 7736), (151, 7895), (169, 8003), (172, 8036), (177, 8078), (191, 8189), (193, 8201), (197, 8234),

Gene: AluminumJesus_17 Start: 6227, Stop: 7738, Start Num: 19

Candidate Starts for AluminumJesus_17:

(3, 5888), (6, 5930), (13, 6161), (14, 6203), (Start: 19 @6227 has 38 MA's), (34, 6320), (51, 6470), (54, 6515), (Start: 57 @6524 has 1 MA's), (64, 6587), (65, 6590), (76, 6662), (87, 6773), (96, 6830), (101, 6875), (108, 6986), (110, 6998), (111, 7010), (115, 7049), (120, 7100), (139, 7184), (151, 7259), (154,

7277), (169, 7367), (172, 7400), (177, 7442), (184, 7508), (191, 7553), (193, 7565), (197, 7598),

Gene: Atuin_208 Start: 142914, Stop: 141436, Start Num: 27

Candidate Starts for Atuin_208:

(Start: 27 @142914 has 2 MA's), (36, 142869), (37, 142857), (42, 142809), (52, 142719), (58, 142686), (61, 142644), (64, 142623), (77, 142542), (84, 142449), (102, 142314), (103, 142311), (116, 142203), (120, 142155), (121, 142152), (127, 142113), (136, 142071), (148, 141993), (161, 141918), (163, 141906), (172, 141828), (182, 141735), (184, 141720), (187, 141702), (192, 141678), (197, 141636), (198, 141627), (202, 141603), (209, 141576),

Gene: BabyDotz_19 Start: 6678, Stop: 8189, Start Num: 19

Candidate Starts for BabyDotz_19:

(3, 6339), (12, 6585), (13, 6612), (14, 6654), (Start: 19 @6678 has 38 MA's), (34, 6771), (51, 6921), (Start: 57 @6975 has 1 MA's), (63, 7026), (64, 7038), (65, 7041), (76, 7113), (87, 7224), (96, 7281), (101, 7326), (108, 7437), (110, 7449), (111, 7461), (115, 7500), (120, 7551), (151, 7710), (154, 7728), (169, 7818), (172, 7851), (177, 7893), (184, 7959), (191, 8004), (193, 8016), (197, 8049),

Gene: Beagle_21 Start: 7242, Stop: 8873, Start Num: 23

Candidate Starts for Beagle_21:

(Start: 23 @7242 has 12 MA's), (41, 7389), (64, 7590), (70, 7620), (79, 7713), (92, 7845), (103, 7917), (127, 8100), (132, 8130), (137, 8151), (147, 8220), (148, 8223), (149, 8226), (168, 8340), (169, 8343), (170, 8370), (171, 8373), (176, 8412), (178, 8421), (179, 8442), (184, 8487), (191, 8526), (195, 8547), (197, 8568), (212, 8631), (217, 8649), (238, 8769), (243, 8829), (247, 8859),

Gene: BirdInFrench_19 Start: 5601, Stop: 7064, Start Num: 19

Candidate Starts for BirdInFrench_19:

(Start: 19 @5601 has 38 MA's), (30, 5685), (46, 5814), (51, 5844), (59, 5919), (64, 5961), (87, 6147), (110, 6300), (111, 6312), (123, 6417), (148, 6549), (162, 6627), (169, 6672), (177, 6762), (183, 6822), (193, 6885), (199, 6930), (203, 6954), (210, 6978),

Gene: Blab_17 Start: 6003, Stop: 7514, Start Num: 19

Candidate Starts for Blab_17:

(3, 5664), (5, 5691), (7, 5715), (13, 5937), (14, 5979), (Start: 19 @6003 has 38 MA's), (34, 6096), (51, 6246), (Start: 57 @6300 has 1 MA's), (64, 6363), (65, 6366), (76, 6438), (87, 6549), (96, 6606), (101, 6651), (108, 6762), (110, 6774), (111, 6786), (115, 6825), (120, 6876), (151, 7035), (169, 7143), (172, 7176), (177, 7218), (184, 7284), (191, 7329), (193, 7341), (197, 7374),

Gene: Bloom_212 Start: 144896, Stop: 143451, Start Num: 27

Candidate Starts for Bloom_212:

(Start: 27 @144896 has 2 MA's), (31, 144875), (58, 144668), (61, 144626), (64, 144605), (66, 144599), (68, 144584), (84, 144431), (103, 144293), (105, 144281), (121, 144134), (127, 144095), (136, 144053), (141, 144038), (142, 144032), (143, 144020), (145, 143987), (146, 143984), (153, 143951), (155, 143933), (170, 143819), (172, 143810), (173, 143795), (178, 143765), (182, 143717), (184, 143702), (187, 143684), (194, 143642), (197, 143618), (198, 143609), (202, 143585), (216, 143528),

Gene: BlueNGold_67 Start: 25140, Stop: 26858, Start Num: 15

Candidate Starts for BlueNGold_67:

(Start: 15 @25140 has 5 MA's), (29, 25239), (40, 25302), (51, 25389), (58, 25449), (66, 25518), (69, 25536), (75, 25590), (80, 25617), (81, 25647), (82, 25656), (91, 25722), (102, 25812), (106, 25833), (158, 26202), (166, 26241), (168, 26265), (170, 26295), (172, 26304), (184, 26412), (196, 26478), (197, 26496), (198, 26505), (201, 26526), (202, 26529), (222, 26625), (230, 26688), (237, 26733), (240, 26766), (242, 26799),

Gene: Boopy_69 Start: 25152, Stop: 26870, Start Num: 15

Candidate Starts for Boopy_69:

(Start: 15 @25152 has 5 MA's), (29, 25251), (40, 25314), (51, 25401), (58, 25461), (66, 25530), (69, 25548), (75, 25602), (80, 25629), (81, 25659), (82, 25668), (91, 25734), (102, 25824), (106, 25845), (158, 26214), (166, 26253), (168, 26277), (170, 26307), (172, 26316), (184, 26424), (196, 26490), (197, 26508), (198, 26517), (201, 26538), (202, 26541), (222, 26637), (230, 26700), (237, 26745), (240, 26778), (242, 26811),

Gene: BruhMoment_16 Start: 6782, Stop: 8248, Start Num: 57

Candidate Starts for BruhMoment_16:

(Start: 23 @6500 has 12 MA's), (Start: 57 @6782 has 1 MA's), (63, 6833), (64, 6845), (92, 7103), (93, 7106), (95, 7121), (98, 7139), (103, 7175), (112, 7235), (115, 7268), (121, 7322), (130, 7391), (137, 7445), (142, 7466), (148, 7517), (149, 7520), (167, 7631), (168, 7634), (169, 7637), (170, 7664), (179, 7736), (191, 7820), (197, 7862), (199, 7874), (200, 7883), (212, 7925), (225, 7991), (235, 8063), (247, 8186), (250, 8240),

Gene: CandC_18 Start: 5287, Stop: 6750, Start Num: 19

Candidate Starts for CandC_18:

(13, 5227), (Start: 19 @5287 has 38 MA's), (30, 5371), (46, 5500), (51, 5530), (59, 5605), (64, 5647), (87, 5833), (110, 5986), (111, 5998), (156, 6280), (162, 6313), (166, 6328), (169, 6358), (177, 6448), (183, 6508), (193, 6571), (199, 6616),

Gene: Casend_21 Start: 7002, Stop: 8513, Start Num: 19

Candidate Starts for Casend_21:

(3, 6663), (7, 6714), (13, 6936), (14, 6978), (Start: 19 @7002 has 38 MA's), (34, 7095), (51, 7245), (Start: 57 @7299 has 1 MA's), (64, 7362), (65, 7365), (76, 7437), (87, 7548), (96, 7605), (101, 7650), (108, 7761), (110, 7773), (111, 7785), (115, 7824), (120, 7875), (151, 8034), (154, 8052), (169, 8142), (172, 8175), (177, 8217), (184, 8283), (191, 8328), (193, 8340), (197, 8373),

Gene: Chilliams_207 Start: 140757, Stop: 139294, Start Num: 27

Candidate Starts for Chilliams_207:

(Start: 27 @140757 has 2 MA's), (52, 140562), (58, 140529), (61, 140487), (64, 140466), (89, 140247), (98, 140178), (103, 140142), (105, 140130), (121, 139983), (127, 139944), (145, 139836), (147, 139830), (161, 139749), (169, 139695), (172, 139659), (173, 139644), (174, 139632), (182, 139566), (187, 139533), (197, 139467), (198, 139458), (200, 139446), (207, 139413), (214, 139383),

Gene: DogYard_19 Start: 7312, Stop: 8943, Start Num: 23

Candidate Starts for DogYard_19:

(Start: 23 @7312 has 12 MA's), (41, 7459), (64, 7660), (70, 7690), (79, 7783), (92, 7915), (103, 7987), (127, 8170), (132, 8200), (137, 8221), (147, 8290), (148, 8293), (149, 8296), (168, 8410), (169, 8413), (170, 8440), (171, 8443), (176, 8482), (178, 8491), (179, 8512), (184, 8557), (191, 8596), (195, 8617), (197, 8638), (212, 8701), (217, 8719), (238, 8839), (243, 8899), (247, 8929),

Gene: DonaldDuck_20 Start: 6348, Stop: 7859, Start Num: 19

Candidate Starts for DonaldDuck_20:

(3, 6009), (7, 6060), (13, 6282), (14, 6324), (Start: 19 @6348 has 38 MA's), (34, 6441), (51, 6591), (Start: 57 @6645 has 1 MA's), (64, 6708), (65, 6711), (76, 6783), (87, 6894), (96, 6951), (101, 6996), (108, 7107), (110, 7119), (111, 7131), (115, 7170), (120, 7221), (151, 7380), (154, 7398), (169, 7488), (172, 7521), (177, 7563), (184, 7629), (191, 7674), (193, 7686), (197, 7719),

Gene: DunneganBoMo_211 Start: 148697, Stop: 147243, Start Num: 27

Candidate Starts for DunneganBoMo_211:

(Start: 27 @148697 has 2 MA's), (37, 148640), (42, 148592), (58, 148469), (64, 148406), (68, 148385), (70, 148376), (84, 148244), (98, 148142), (102, 148109), (103, 148106), (105, 148094), (116, 147998), (120, 147950), (121, 147947), (124, 147926), (127, 147908), (136, 147866), (138, 147860), (145, 147800), (163, 147701), (171, 147629), (172, 147623), (174, 147596), (182, 147530), (184, 147515), (187, 147497), (192, 147473), (197, 147431), (198, 147422), (202, 147398), (209, 147371),

Gene: Ellewin_208 Start: 147964, Stop: 146510, Start Num: 27

Candidate Starts for Ellewin_208:

(Start: 27 @147964 has 2 MA's), (37, 147907), (42, 147859), (64, 147673), (68, 147652), (70, 147643), (84, 147511), (98, 147409), (102, 147376), (103, 147373), (105, 147361), (116, 147265), (118, 147241), (120, 147217), (121, 147214), (124, 147193), (127, 147175), (136, 147133), (147, 147061), (163, 146968), (169, 146926), (172, 146890), (174, 146863), (182, 146797), (184, 146782), (187, 146764), (192, 146740), (197, 146698), (198, 146689), (202, 146665), (209, 146638),

Gene: EverythinBagel_20 Start: 6749, Stop: 8260, Start Num: 19

Candidate Starts for EverythinBagel_20:

(3, 6410), (5, 6437), (7, 6461), (13, 6683), (14, 6725), (Start: 19 @6749 has 38 MA's), (34, 6842), (51, 6992), (54, 7037), (Start: 57 @7046 has 1 MA's), (64, 7109), (65, 7112), (76, 7184), (87, 7295), (96, 7352), (101, 7397), (108, 7508), (110, 7520), (111, 7532), (115, 7571), (120, 7622), (151, 7781), (154, 7799), (169, 7889), (172, 7922), (177, 7964), (184, 8030), (191, 8075), (193, 8087), (197, 8120),

Gene: Fizzles_20 Start: 6291, Stop: 7814, Start Num: 19

Candidate Starts for Fizzles_20:

(Start: 19 @6291 has 38 MA's), (21, 6303), (43, 6480), (47, 6525), (51, 6549), (Start: 57 @6603 has 1 MA's), (64, 6666), (65, 6669), (76, 6741), (87, 6852), (96, 6909), (101, 6954), (110, 7077), (111, 7089), (115, 7128), (120, 7179), (125, 7206), (135, 7239), (137, 7254), (160, 7386), (169, 7443), (191, 7629), (193, 7641),

Gene: Forrestell_16 Start: 5956, Stop: 7587, Start Num: 23

Candidate Starts for Forrestell_16:

(Start: 23 @5956 has 12 MA's), (41, 6103), (64, 6304), (70, 6334), (79, 6427), (92, 6559), (103, 6631), (127, 6814), (132, 6844), (137, 6865), (147, 6934), (149, 6940), (168, 7054), (169, 7057), (170, 7084), (171, 7087), (176, 7126), (178, 7135), (179, 7156), (184, 7201), (191, 7240), (195, 7261), (212, 7345), (217, 7363), (238, 7483), (243, 7543), (247, 7573),

Gene: Forza_69 Start: 25068, Stop: 26786, Start Num: 15

Candidate Starts for Forza_69:

(Start: 15 @25068 has 5 MA's), (29, 25167), (40, 25230), (51, 25317), (58, 25377), (66, 25446), (69, 25464), (75, 25518), (80, 25545), (81, 25575), (82, 25584), (91, 25650), (102, 25740), (106, 25761), (158, 26130), (166, 26169), (168, 26193), (170, 26223), (172, 26232), (184, 26340), (196, 26406), (197, 26424), (198, 26433), (201, 26454), (202, 26457), (222, 26553), (230, 26616), (237, 26661), (240, 26694), (242, 26727),

Gene: FrankDeliGuy_18 Start: 6207, Stop: 7718, Start Num: 19

Candidate Starts for FrankDeliGuy_18:

(3, 5868), (7, 5919), (13, 6141), (14, 6183), (Start: 19 @6207 has 38 MA's), (34, 6300), (51, 6450), (Start: 57 @6504 has 1 MA's), (64, 6567), (65, 6570), (76, 6642), (87, 6753), (96, 6810), (101, 6855), (108, 6966), (110, 6978), (111, 6990), (115, 7029), (120, 7080), (151, 7239), (154, 7257), (169, 7347), (172, 7380), (177, 7422), (184, 7488), (191, 7533), (193, 7545), (197, 7578),

Gene: Fransoyer_21 Start: 6468, Stop: 8003, Start Num: 19

Candidate Starts for Fransoyer_21:

(Start: 19 @6468 has 38 MA's), (30, 6552), (44, 6645), (48, 6699), (51, 6711), (56, 6762), (Start: 57 @6765 has 1 MA's), (64, 6828), (76, 6903), (87, 7014), (96, 7071), (108, 7227), (110, 7239), (111, 7251), (115, 7290), (120, 7341), (137, 7416), (140, 7428), (142, 7437), (165, 7572), (169, 7608), (172, 7641), (177, 7698), (191, 7809), (193, 7821), (199, 7866), (208, 7908),

Gene: Fregley_20 Start: 5825, Stop: 7288, Start Num: 19

Candidate Starts for Fregley_20:

(13, 5765), (Start: 19 @5825 has 38 MA's), (30, 5909), (46, 6038), (51, 6068), (59, 6143), (64, 6185), (87, 6371), (110, 6524), (111, 6536), (156, 6818), (162, 6851), (166, 6866), (169, 6896), (177, 6986), (183, 7046), (193, 7109), (199, 7154),

Gene: GMA2_1 Start: 138, Stop: 1817, Start Num: 17

Candidate Starts for GMA2_1:

(17, 138), (33, 237), (40, 288), (48, 363), (51, 375), (54, 420), (58, 435), (59, 456), (68, 519), (74, 567), (80, 603), (88, 687), (91, 708), (102, 798), (106, 819), (107, 843), (121, 960), (145, 1116), (147, 1122), (152, 1146), (166, 1227), (168, 1251), (170, 1281), (172, 1290), (177, 1332), (191, 1437), (196, 1464), (197, 1482), (198, 1491), (200, 1503), (202, 1515), (211, 1548), (242, 1776), (244, 1791),

Gene: Gazebo_19 Start: 6569, Stop: 8080, Start Num: 19

Candidate Starts for Gazebo_19:

(3, 6230), (5, 6257), (7, 6281), (13, 6503), (14, 6545), (Start: 19 @6569 has 38 MA's), (34, 6662), (51, 6812), (Start: 57 @6866 has 1 MA's), (64, 6929), (65, 6932), (76, 7004), (87, 7115), (96, 7172), (101, 7217), (108, 7328), (110, 7340), (111, 7352), (115, 7391), (120, 7442), (151, 7601), (154, 7619), (169, 7709), (172, 7742), (177, 7784), (184, 7850), (191, 7895), (193, 7907), (197, 7940),

Gene: GodonK_61 Start: 20550, Stop: 22244, Start Num: 18

Candidate Starts for GodonK_61:

(Start: 18 @20550 has 2 MA's), (28, 20613), (40, 20682), (48, 20757), (50, 20766), (53, 20802), (54, 20814), (58, 20829), (68, 20913), (69, 20916), (74, 20961), (80, 20997), (81, 21027), (91, 21102), (102, 21192), (105, 21207), (106, 21213), (117, 21309), (126, 21381), (131, 21411), (143, 21477), (152, 21540), (157, 21579), (161, 21597), (166, 21621), (170, 21675), (171, 21678), (172, 21684), (174, 21711), (185, 21801), (188, 21816), (196, 21858), (199, 21888), (204, 21915), (211, 21942),

Gene: GoldenEssence_196 Start: 138872, Stop: 137427, Start Num: 27

Candidate Starts for GoldenEssence_196:

(Start: 27 @138872 has 2 MA's), (31, 138851), (58, 138644), (61, 138602), (64, 138581), (66, 138575), (68, 138560), (84, 138407), (103, 138269), (105, 138257), (121, 138110), (122, 138107), (127, 138071), (136, 138029), (141, 138014), (142, 138008), (143, 137996), (145, 137963), (146, 137960), (153, 137927), (155, 137909), (170, 137795), (172, 137786), (173, 137771), (178, 137741), (182, 137693), (184, 137678), (187, 137660), (194, 137618), (197, 137594), (198, 137585), (202, 137561), (207, 137540), (216, 137504),

Gene: Grassboy_21 Start: 7024, Stop: 8535, Start Num: 19

Candidate Starts for Grassboy_21:

(3, 6685), (7, 6736), (12, 6931), (13, 6958), (14, 7000), (Start: 19 @7024 has 38 MA's), (51, 7267), (Start: 57 @7321 has 1 MA's), (64, 7384), (76, 7459), (87, 7570), (96, 7627), (101, 7672), (108, 7783), (110, 7795), (111, 7807), (115, 7846), (120, 7897), (151, 8056), (154, 8074), (169, 8164), (172, 8197), (177, 8239), (184, 8305), (191, 8350), (193, 8362), (197, 8395),

Gene: Hyperion_18 Start: 6272, Stop: 7783, Start Num: 19

Candidate Starts for Hyperion_18:

(3, 5933), (6, 5975), (13, 6206), (14, 6248), (Start: 19 @6272 has 38 MA's), (51, 6515), (Start: 57 @6569 has 1 MA's), (64, 6632), (76, 6707), (87, 6818), (96, 6875), (101, 6920), (108, 7031), (110,

7043), (111, 7055), (115, 7094), (120, 7145), (151, 7304), (154, 7322), (169, 7412), (172, 7445), (177, 7487), (184, 7553), (191, 7598), (193, 7610), (197, 7643),

Gene: Jehoshaphat_22 Start: 7267, Stop: 8778, Start Num: 19

Candidate Starts for Jehoshaphat_22:

(3, 6928), (7, 6979), (13, 7201), (14, 7243), (Start: 19 @7267 has 38 MA's), (34, 7360), (51, 7510), (Start: 57 @7564 has 1 MA's), (64, 7627), (65, 7630), (76, 7702), (87, 7813), (96, 7870), (101, 7915), (108, 8026), (110, 8038), (111, 8050), (115, 8089), (120, 8140), (151, 8299), (154, 8317), (169, 8407), (172, 8440), (177, 8482), (184, 8548), (191, 8593), (193, 8605), (197, 8638),

Gene: Judebell_22 Start: 6808, Stop: 8319, Start Num: 19

Candidate Starts for Judebell_22:

(3, 6469), (5, 6496), (12, 6715), (13, 6742), (14, 6784), (Start: 19 @6808 has 38 MA's), (51, 7051), (Start: 57 @7105 has 1 MA's), (64, 7168), (65, 7171), (76, 7243), (87, 7354), (96, 7411), (101, 7456), (108, 7567), (110, 7579), (111, 7591), (115, 7630), (120, 7681), (151, 7840), (154, 7858), (169, 7948), (172, 7981), (177, 8023), (184, 8089), (191, 8134), (193, 8146), (197, 8179),

Gene: KSunshine22_207 Start: 147375, Stop: 145921, Start Num: 27

Candidate Starts for KSunshine22_207:

(Start: 27 @147375 has 2 MA's), (37, 147318), (42, 147270), (64, 147084), (68, 147063), (70, 147054), (98, 146820), (102, 146787), (103, 146784), (105, 146772), (116, 146676), (120, 146628), (121, 146625), (124, 146604), (127, 146586), (136, 146544), (163, 146379), (172, 146301), (174, 146274), (182, 146208), (184, 146193), (187, 146175), (192, 146151), (197, 146109), (198, 146100), (202, 146076), (209, 146049),

Gene: Kelcole_18 Start: 5678, Stop: 7141, Start Num: 19

Candidate Starts for Kelcole_18:

(13, 5618), (Start: 19 @5678 has 38 MA's), (30, 5762), (46, 5891), (51, 5921), (59, 5996), (64, 6038), (87, 6224), (110, 6377), (111, 6389), (156, 6671), (162, 6704), (166, 6719), (169, 6749), (177, 6839), (183, 6899), (193, 6962), (199, 7007),

Gene: Kithara_20 Start: 7908, Stop: 9383, Start Num: 20

Candidate Starts for Kithara_20:

(10, 7761), (16, 7887), (Start: 20 @7908 has 1 MA's), (26, 7962), (35, 8013), (38, 8034), (63, 8259), (64, 8271), (78, 8355), (83, 8433), (90, 8475), (93, 8490), (103, 8565), (110, 8607), (118, 8685), (121, 8712), (151, 8868), (170, 9003), (177, 9057), (184, 9132), (189, 9159), (191, 9177), (193, 9189), (199, 9231), (205, 9267), (221, 9336), (224, 9339),

Gene: Kubulix_20 Start: 7441, Stop: 9072, Start Num: 23

Candidate Starts for Kubulix_20:

(Start: 23 @7441 has 12 MA's), (41, 7588), (64, 7789), (70, 7819), (79, 7912), (92, 8044), (103, 8116), (127, 8299), (132, 8329), (137, 8350), (147, 8419), (148, 8422), (149, 8425), (168, 8539), (169, 8542), (170, 8569), (171, 8572), (176, 8611), (178, 8620), (179, 8641), (184, 8686), (191, 8725), (195, 8746), (197, 8767), (212, 8830), (217, 8848), (238, 8968), (243, 9028), (247, 9058),

Gene: Kyva_22 Start: 7035, Stop: 8570, Start Num: 14

Candidate Starts for Kyva_22:

(3, 6720), (7, 6771), (12, 6966), (13, 6993), (14, 7035), (Start: 19 @7059 has 38 MA's), (51, 7302), (Start: 57 @7356 has 1 MA's), (64, 7419), (76, 7494), (87, 7605), (96, 7662), (101, 7707), (108, 7818), (110, 7830), (111, 7842), (115, 7881), (120, 7932), (151, 8091), (154, 8109), (169, 8199), (172, 8232), (177, 8274), (184, 8340), (191, 8385), (193, 8397), (197, 8430),

Gene: LeoJr_211 Start: 143085, Stop: 141607, Start Num: 27

Candidate Starts for LeoJr_211:

(Start: 27 @143085 has 2 MA's), (36, 143040), (37, 143028), (42, 142980), (52, 142890), (58, 142857), (61, 142815), (64, 142794), (77, 142713), (84, 142620), (99, 142512), (102, 142485), (103, 142482), (116, 142374), (120, 142326), (121, 142323), (127, 142284), (136, 142242), (148, 142164), (161, 142089), (163, 142077), (172, 141999), (182, 141906), (184, 141891), (187, 141873), (197, 141807), (198, 141798), (202, 141774), (209, 141747),

Gene: Llemily_20 Start: 6043, Stop: 7554, Start Num: 19

Candidate Starts for Llemily_20:

(3, 5704), (5, 5731), (7, 5755), (13, 5977), (14, 6019), (Start: 19 @6043 has 38 MA's), (51, 6286), (Start: 57 @6340 has 1 MA's), (64, 6403), (65, 6406), (76, 6478), (87, 6589), (96, 6646), (101, 6691), (108, 6802), (110, 6814), (111, 6826), (115, 6865), (120, 6916), (151, 7075), (154, 7093), (169, 7183), (172, 7216), (177, 7258), (184, 7324), (191, 7369), (193, 7381), (197, 7414),

Gene: Lonelysoil_19 Start: 6288, Stop: 7799, Start Num: 19

Candidate Starts for Lonelysoil_19:

(3, 5949), (13, 6222), (14, 6264), (Start: 19 @6288 has 38 MA's), (51, 6531), (Start: 57 @6585 has 1 MA's), (64, 6648), (76, 6723), (87, 6834), (96, 6891), (101, 6936), (108, 7047), (110, 7059), (111, 7071), (115, 7110), (120, 7161), (151, 7320), (154, 7338), (169, 7428), (172, 7461), (177, 7503), (184, 7569), (191, 7614), (193, 7626), (197, 7659),

Gene: Marcie_24 Start: 6383, Stop: 7846, Start Num: 19

Candidate Starts for Marcie_24:

(13, 6323), (Start: 19 @6383 has 38 MA's), (30, 6467), (46, 6596), (51, 6626), (59, 6701), (64, 6743), (87, 6929), (90, 6947), (110, 7082), (111, 7094), (162, 7409), (166, 7424), (169, 7454), (177, 7544), (183, 7604), (193, 7667), (199, 7712), (210, 7760),

Gene: Mareelih_67 Start: 24570, Stop: 26288, Start Num: 15

Candidate Starts for Mareelih_67:

(Start: 15 @24570 has 5 MA's), (29, 24669), (40, 24732), (51, 24819), (58, 24879), (66, 24948), (69, 24966), (75, 25020), (80, 25047), (81, 25077), (82, 25086), (91, 25152), (102, 25242), (106, 25263), (158, 25632), (166, 25671), (168, 25695), (170, 25725), (172, 25734), (184, 25842), (196, 25908), (197, 25926), (198, 25935), (201, 25956), (202, 25959), (222, 26055), (230, 26118), (237, 26163), (240, 26196), (242, 26229),

Gene: Mashley_17 Start: 6083, Stop: 7594, Start Num: 19

Candidate Starts for Mashley_17:

(3, 5744), (13, 6017), (14, 6059), (Start: 19 @6083 has 38 MA's), (51, 6326), (Start: 57 @6380 has 1 MA's), (64, 6443), (76, 6518), (87, 6629), (96, 6686), (101, 6731), (108, 6842), (110, 6854), (111, 6866), (115, 6905), (120, 6956), (151, 7115), (154, 7133), (169, 7223), (172, 7256), (177, 7298), (184, 7364), (191, 7409), (193, 7421), (197, 7454),

Gene: MellowYellow_17 Start: 5986, Stop: 7617, Start Num: 23

Candidate Starts for MellowYellow_17:

(Start: 23 @5986 has 12 MA's), (41, 6133), (64, 6334), (70, 6364), (79, 6457), (92, 6589), (103, 6661), (127, 6844), (132, 6874), (137, 6895), (147, 6964), (149, 6970), (168, 7084), (169, 7087), (170, 7114), (171, 7117), (176, 7156), (178, 7165), (179, 7186), (184, 7231), (191, 7270), (195, 7291), (197, 7312), (212, 7375), (217, 7393), (238, 7513), (243, 7573), (247, 7603),

Gene: Mimi_213 Start: 144271, Stop: 142826, Start Num: 27

Candidate Starts for Mimi_213:

(Start: 27 @144271 has 2 MA's), (31, 144250), (58, 144043), (61, 144001), (64, 143980), (66, 143974), (68, 143959), (84, 143806), (103, 143668), (105, 143656), (121, 143509), (127, 143470), (136,

143428), (141, 143413), (142, 143407), (143, 143395), (145, 143362), (146, 143359), (153, 143326), (155, 143308), (170, 143194), (172, 143185), (173, 143170), (178, 143140), (182, 143092), (184, 143077), (187, 143059), (194, 143017), (197, 142993), (198, 142984), (202, 142960), (216, 142903),

Gene: MorillMayhem_18 Start: 6091, Stop: 7602, Start Num: 19

Candidate Starts for MorillMayhem_18:

(3, 5752), (13, 6025), (14, 6067), (Start: 19 @6091 has 38 MA's), (34, 6184), (51, 6334), (54, 6379), (Start: 57 @6388 has 1 MA's), (64, 6451), (65, 6454), (76, 6526), (87, 6637), (96, 6694), (101, 6739), (108, 6850), (110, 6862), (111, 6874), (115, 6913), (120, 6964), (151, 7123), (154, 7141), (169, 7231), (172, 7264), (177, 7306), (184, 7372), (191, 7417), (193, 7429), (197, 7462),

Gene: Namago_20 Start: 6103, Stop: 7614, Start Num: 19

Candidate Starts for Namago_20:

(3, 5764), (5, 5791), (13, 6037), (14, 6079), (Start: 19 @6103 has 38 MA's), (51, 6346), (Start: 57 @6400 has 1 MA's), (63, 6451), (64, 6463), (76, 6538), (87, 6649), (96, 6706), (101, 6751), (108, 6862), (110, 6874), (111, 6886), (115, 6925), (120, 6976), (151, 7135), (154, 7153), (169, 7243), (172, 7276), (177, 7318), (184, 7384), (191, 7429), (193, 7441), (197, 7474),

Gene: Nike_20 Start: 7009, Stop: 8520, Start Num: 19

Candidate Starts for Nike_20:

(3, 6670), (5, 6697), (11, 6913), (12, 6916), (13, 6943), (14, 6985), (Start: 19 @7009 has 38 MA's), (34, 7102), (51, 7252), (Start: 57 @7306 has 1 MA's), (64, 7369), (76, 7444), (87, 7555), (96, 7612), (101, 7657), (108, 7768), (110, 7780), (111, 7792), (115, 7831), (120, 7882), (151, 8041), (154, 8059), (169, 8149), (172, 8182), (177, 8224), (184, 8290), (191, 8335), (193, 8347), (197, 8380),

Gene: NyleyClemson_17 Start: 5928, Stop: 7559, Start Num: 23

Candidate Starts for NyleyClemson_17:

(Start: 23 @5928 has 12 MA's), (41, 6075), (64, 6276), (70, 6306), (79, 6399), (92, 6531), (103, 6603), (127, 6786), (132, 6816), (137, 6837), (147, 6906), (149, 6912), (168, 7026), (169, 7029), (170, 7056), (171, 7059), (176, 7098), (178, 7107), (179, 7128), (184, 7173), (191, 7212), (195, 7233), (197, 7254), (212, 7317), (217, 7335), (238, 7455), (243, 7515), (247, 7545),

Gene: Odyssey395_22 Start: 7443, Stop: 9074, Start Num: 23

Candidate Starts for Odyssey395_22:

(Start: 23 @7443 has 12 MA's), (41, 7590), (64, 7791), (70, 7821), (79, 7914), (92, 8046), (103, 8118), (127, 8301), (132, 8331), (137, 8352), (147, 8421), (148, 8424), (149, 8427), (168, 8541), (169, 8544), (170, 8571), (171, 8574), (176, 8613), (178, 8622), (179, 8643), (184, 8688), (191, 8727), (195, 8748), (197, 8769), (212, 8832), (217, 8850), (238, 8970), (243, 9030), (247, 9060),

Gene: Ollypop_16 Start: 6406, Stop: 8055, Start Num: 23

Candidate Starts for Ollypop_16:

(Start: 23 @6406 has 12 MA's), (41, 6553), (54, 6682), (64, 6754), (70, 6784), (92, 7009), (103, 7081), (110, 7123), (127, 7264), (132, 7294), (137, 7315), (147, 7384), (148, 7387), (149, 7390), (154, 7417), (168, 7504), (170, 7534), (171, 7537), (176, 7576), (178, 7585), (179, 7606), (181, 7627), (184, 7651), (191, 7690), (195, 7711), (197, 7732), (199, 7744), (213, 7810), (217, 7819), (238, 7951), (243, 8011), (245, 8014), (247, 8041),

Gene: OneinaGillian_19 Start: 5360, Stop: 6823, Start Num: 19

Candidate Starts for OneinaGillian_19:

(13, 5300), (Start: 19 @5360 has 38 MA's), (30, 5444), (46, 5573), (51, 5603), (59, 5678), (64, 5720), (87, 5906), (110, 6059), (111, 6071), (156, 6353), (162, 6386), (166, 6401), (169, 6431), (177, 6521), (183, 6581), (193, 6644), (199, 6689),

Gene: OnionKnight_2 Start: 417, Stop: 1766, Start Num: 32

Candidate Starts for OnionKnight_2:

(8, 111), (9, 138), (Start: 32 @417 has 1 MA's), (39, 456), (49, 585), (54, 636), (55, 639), (62, 693), (67, 726), (85, 909), (94, 963), (104, 1032), (113, 1107), (135, 1248), (137, 1269), (144, 1308), (159, 1407), (169, 1473), (175, 1536), (180, 1590), (199, 1707), (202, 1728),

Gene: Patbob_207 Start: 144669, Stop: 143224, Start Num: 27

Candidate Starts for Patbob_207:

(Start: 27 @144669 has 2 MA's), (31, 144648), (58, 144441), (61, 144399), (64, 144378), (66, 144372), (68, 144357), (89, 144171), (103, 144066), (105, 144054), (121, 143907), (127, 143868), (136, 143826), (141, 143811), (142, 143805), (143, 143793), (145, 143760), (146, 143757), (153, 143724), (155, 143706), (170, 143592), (172, 143583), (173, 143568), (178, 143538), (182, 143490), (184, 143475), (187, 143457), (194, 143415), (197, 143391), (198, 143382), (202, 143358), (216, 143301),

Gene: Pepe25_18 Start: 5618, Stop: 7081, Start Num: 19

Candidate Starts for Pepe25_18:

(Start: 19 @5618 has 38 MA's), (30, 5702), (46, 5831), (51, 5861), (59, 5936), (64, 5978), (87, 6164), (110, 6317), (111, 6329), (123, 6434), (148, 6566), (162, 6644), (169, 6689), (177, 6779), (183, 6839), (193, 6902), (199, 6947), (210, 6995),

Gene: Phabia_20 Start: 6461, Stop: 7972, Start Num: 19

Candidate Starts for Phabia_20:

(3, 6122), (5, 6149), (7, 6173), (12, 6368), (13, 6395), (14, 6437), (Start: 19 @6461 has 38 MA's), (51, 6704), (Start: 57 @6758 has 1 MA's), (63, 6809), (64, 6821), (76, 6896), (87, 7007), (96, 7064), (101, 7109), (108, 7220), (110, 7232), (111, 7244), (115, 7283), (120, 7334), (151, 7493), (154, 7511), (169, 7601), (172, 7634), (177, 7676), (184, 7742), (191, 7787), (193, 7799), (197, 7832),

Gene: Phendrix_60 Start: 20398, Stop: 22092, Start Num: 18

Candidate Starts for Phendrix_60:

(Start: 18 @20398 has 2 MA's), (28, 20461), (40, 20530), (48, 20605), (50, 20614), (54, 20662), (58, 20677), (68, 20761), (69, 20764), (74, 20809), (80, 20845), (81, 20875), (88, 20929), (91, 20950), (102, 21040), (105, 21055), (106, 21061), (126, 21229), (131, 21259), (143, 21325), (152, 21388), (157, 21427), (161, 21445), (166, 21469), (170, 21523), (171, 21526), (172, 21532), (174, 21559), (185, 21649), (188, 21664), (196, 21706), (199, 21736), (204, 21763), (211, 21790),

Gene: Phinky_26 Start: 7321, Stop: 8835, Start Num: 19

Candidate Starts for Phinky_26:

(Start: 19 @7321 has 38 MA's), (44, 7498), (51, 7564), (56, 7615), (Start: 57 @7618 has 1 MA's), (64, 7681), (76, 7756), (87, 7867), (96, 7924), (101, 7969), (108, 8080), (109, 8086), (110, 8092), (111, 8104), (115, 8143), (120, 8194), (137, 8269), (158, 8392), (169, 8461), (177, 8536), (191, 8647), (193, 8659),

Gene: Pointis_20 Start: 7441, Stop: 9072, Start Num: 23

Candidate Starts for Pointis_20:

(Start: 23 @7441 has 12 MA's), (41, 7588), (64, 7789), (70, 7819), (79, 7912), (92, 8044), (103, 8116), (127, 8299), (132, 8329), (137, 8350), (147, 8419), (148, 8422), (149, 8425), (168, 8539), (169, 8542), (170, 8569), (171, 8572), (176, 8611), (178, 8620), (179, 8641), (184, 8686), (191, 8725), (195, 8746), (197, 8767), (212, 8830), (217, 8848), (238, 8968), (243, 9028), (247, 9058),

Gene: Pureglobe5_22 Start: 7457, Stop: 9088, Start Num: 23

Candidate Starts for Pureglobe5_22:

(Start: 23 @7457 has 12 MA's), (41, 7604), (64, 7805), (70, 7835), (79, 7928), (92, 8060), (103, 8132), (127, 8315), (132, 8345), (137, 8366), (147, 8435), (148, 8438), (149, 8441), (168, 8555), (169, 8558),

(170, 8585), (171, 8588), (176, 8627), (178, 8636), (179, 8657), (184, 8702), (191, 8741), (195, 8762), (197, 8783), (212, 8846), (217, 8864), (238, 8984), (243, 9044), (247, 9074),

Gene: Quammi_18 Start: 6032, Stop: 7543, Start Num: 19

Candidate Starts for Quammi_18:

(3, 5693), (5, 5720), (7, 5744), (13, 5966), (14, 6008), (Start: 19 @6032 has 38 MA's), (51, 6275), (Start: 57 @6329 has 1 MA's), (64, 6392), (65, 6395), (76, 6467), (87, 6578), (96, 6635), (101, 6680), (108, 6791), (110, 6803), (111, 6815), (115, 6854), (120, 6905), (151, 7064), (154, 7082), (169, 7172), (172, 7205), (177, 7247), (184, 7313), (191, 7358), (193, 7370), (197, 7403),

Gene: Racecar_209 Start: 144651, Stop: 143206, Start Num: 27

Candidate Starts for Racecar_209:

(Start: 27 @144651 has 2 MA's), (31, 144630), (58, 144423), (61, 144381), (64, 144360), (66, 144354), (68, 144339), (69, 144336), (84, 144186), (103, 144048), (105, 144036), (121, 143889), (127, 143850), (136, 143808), (141, 143793), (142, 143787), (143, 143775), (145, 143742), (146, 143739), (153, 143706), (155, 143688), (170, 143574), (172, 143565), (173, 143550), (178, 143520), (182, 143472), (184, 143457), (187, 143439), (194, 143397), (197, 143373), (198, 143364), (202, 143340), (216, 143283),

Gene: Ranunculus_15 Start: 6341, Stop: 8053, Start Num: 23

Candidate Starts for Ranunculus_15:

(Start: 23 @6341 has 12 MA's), (41, 6485), (48, 6557), (64, 6686), (70, 6716), (71, 6734), (92, 6941), (103, 7013), (114, 7094), (127, 7196), (148, 7331), (169, 7451), (170, 7478), (171, 7481), (173, 7502), (176, 7520), (178, 7529), (181, 7571), (184, 7595), (190, 7622), (191, 7634), (193, 7646), (195, 7655), (197, 7676), (199, 7688), (227, 7826), (232, 7868), (234, 7877), (238, 7901), (239, 7922), (243, 7970), (247, 8000),

Gene: RazzB_15 Start: 5756, Stop: 7387, Start Num: 23

Candidate Starts for RazzB_15:

(Start: 23 @5756 has 12 MA's), (41, 5903), (64, 6104), (70, 6134), (79, 6227), (92, 6359), (103, 6431), (127, 6614), (132, 6644), (137, 6665), (147, 6734), (148, 6737), (149, 6740), (168, 6854), (169, 6857), (170, 6884), (171, 6887), (176, 6926), (178, 6935), (179, 6956), (184, 7001), (191, 7040), (195, 7061), (197, 7082), (212, 7145), (217, 7163), (238, 7283), (243, 7343), (247, 7373),

Gene: ReginaGlobina_214 Start: 144370, Stop: 142892, Start Num: 27

Candidate Starts for ReginaGlobina_214:

(Start: 27 @144370 has 2 MA's), (36, 144325), (37, 144313), (42, 144265), (52, 144175), (58, 144142), (61, 144100), (64, 144079), (77, 143998), (84, 143905), (102, 143770), (103, 143767), (116, 143659), (120, 143611), (121, 143608), (127, 143569), (136, 143527), (141, 143512), (148, 143449), (161, 143374), (163, 143362), (172, 143284), (182, 143191), (184, 143176), (187, 143158), (197, 143092), (198, 143083), (202, 143059), (209, 143032),

Gene: Rizwana_14 Start: 6254, Stop: 8020, Start Num: 23

Candidate Starts for Rizwana_14:

(Start: 23 @6254 has 12 MA's), (49, 6476), (Start: 57 @6536 has 1 MA's), (64, 6599), (70, 6629), (83, 6803), (92, 6857), (93, 6860), (103, 6929), (109, 6965), (112, 6989), (115, 7022), (121, 7076), (127, 7115), (130, 7145), (137, 7199), (139, 7208), (140, 7211), (141, 7214), (147, 7268), (169, 7391), (170, 7418), (179, 7490), (181, 7511), (191, 7574), (193, 7586), (220, 7733), (225, 7766), (228, 7799), (229, 7802), (241, 7916), (245, 7952), (246, 7955), (249, 8006),

Gene: RobinRose_20 Start: 5513, Stop: 6976, Start Num: 19

Candidate Starts for RobinRose_20:

(13, 5453), (Start: 19 @5513 has 38 MA's), (30, 5597), (46, 5726), (51, 5756), (59, 5831), (64, 5873), (87, 6059), (110, 6212), (111, 6224), (156, 6506), (162, 6539), (166, 6554), (169, 6584), (177, 6674), (183, 6734), (193, 6797), (199, 6842),

Gene: Rockabye_212 Start: 139391, Stop: 137928, Start Num: 27

Candidate Starts for Rockabye_212:

(Start: 27 @139391 has 2 MA's), (61, 139121), (64, 139100), (89, 138881), (98, 138812), (103, 138776), (105, 138764), (121, 138617), (127, 138578), (145, 138470), (147, 138464), (148, 138458), (169, 138329), (172, 138293), (173, 138278), (174, 138266), (182, 138200), (184, 138185), (187, 138167), (197, 138101), (198, 138092), (200, 138080), (214, 138017),

Gene: RomansRevenge_11 Start: 4548, Stop: 6038, Start Num: 24

Candidate Starts for RomansRevenge_11:

(22, 4536), (24, 4548), (43, 4698), (50, 4764), (51, 4767), (64, 4884), (65, 4887), (87, 5082), (94, 5118), (98, 5157), (119, 5328), (127, 5379), (132, 5400), (137, 5421), (141, 5436), (154, 5523), (163, 5571), (170, 5640), (177, 5691), (178, 5694), (186, 5775), (191, 5820), (197, 5862), (221, 5982), (226, 6000),

Gene: Romm_20 Start: 5513, Stop: 6976, Start Num: 19

Candidate Starts for Romm_20:

(13, 5453), (Start: 19 @5513 has 38 MA's), (30, 5597), (46, 5726), (51, 5756), (59, 5831), (64, 5873), (87, 6059), (110, 6212), (111, 6224), (156, 6506), (162, 6539), (166, 6554), (169, 6584), (177, 6674), (183, 6734), (193, 6797), (199, 6842),

Gene: Rowlf_16 Start: 5798, Stop: 7309, Start Num: 19

Candidate Starts for Rowlf_16:

(3, 5459), (5, 5486), (7, 5510), (13, 5732), (14, 5774), (Start: 19 @5798 has 38 MA's), (51, 6041), (Start: 57 @6095 has 1 MA's), (64, 6158), (65, 6161), (76, 6233), (87, 6344), (96, 6401), (101, 6446), (108, 6557), (110, 6569), (111, 6581), (115, 6620), (120, 6671), (151, 6830), (154, 6848), (169, 6938), (172, 6971), (177, 7013), (184, 7079), (191, 7124), (193, 7136), (197, 7169),

Gene: RubyRalph_21 Start: 6402, Stop: 7937, Start Num: 19

Candidate Starts for RubyRalph_21:

(Start: 19 @6402 has 38 MA's), (30, 6486), (44, 6579), (48, 6633), (51, 6645), (56, 6696), (Start: 57 @6699 has 1 MA's), (64, 6762), (76, 6837), (87, 6948), (96, 7005), (108, 7161), (110, 7173), (111, 7185), (115, 7224), (120, 7275), (137, 7350), (140, 7362), (142, 7371), (165, 7506), (169, 7542), (172, 7575), (177, 7632), (191, 7743), (193, 7755), (199, 7800), (208, 7842),

Gene: Rudy_18 Start: 6032, Stop: 7543, Start Num: 19

Candidate Starts for Rudy_18:

(3, 5693), (5, 5720), (7, 5744), (13, 5966), (14, 6008), (Start: 19 @6032 has 38 MA's), (51, 6275), (Start: 57 @6329 has 1 MA's), (64, 6392), (65, 6395), (76, 6467), (87, 6578), (96, 6635), (101, 6680), (108, 6791), (110, 6803), (111, 6815), (115, 6854), (120, 6905), (151, 7064), (154, 7082), (169, 7172), (172, 7205), (177, 7247), (184, 7313), (191, 7358), (193, 7370), (197, 7403),

Gene: SJReid_214 Start: 138275, Stop: 136830, Start Num: 27

Candidate Starts for SJReid_214:

(Start: 27 @138275 has 2 MA's), (52, 138080), (61, 138005), (64, 137984), (68, 137963), (89, 137789), (102, 137687), (103, 137684), (105, 137672), (120, 137522), (121, 137519), (127, 137480), (145, 137372), (148, 137360), (153, 137336), (154, 137321), (169, 137231), (172, 137195), (173, 137180), (178, 137150), (182, 137102), (187, 137069), (197, 137003), (198, 136994), (214, 136919), (219, 136904), (223, 136871),

Gene: SadLad_22 Start: 6859, Stop: 8394, Start Num: 19

Candidate Starts for SadLad_22:

(Start: 19 @6859 has 38 MA's), (30, 6943), (44, 7036), (48, 7090), (51, 7102), (56, 7153), (Start: 57 @7156 has 1 MA's), (64, 7219), (76, 7294), (87, 7405), (96, 7462), (110, 7630), (111, 7642), (115, 7681), (120, 7732), (137, 7807), (140, 7819), (169, 7999), (177, 8089), (191, 8200), (193, 8212), (199, 8257),

Gene: SallyK_21 Start: 7193, Stop: 8704, Start Num: 19

Candidate Starts for SallyK_21:

(3, 6854), (4, 6866), (5, 6881), (7, 6905), (12, 7100), (13, 7127), (14, 7169), (Start: 19 @7193 has 38 MA's), (51, 7436), (Start: 57 @7490 has 1 MA's), (64, 7553), (76, 7628), (87, 7739), (96, 7796), (101, 7841), (108, 7952), (110, 7964), (111, 7976), (115, 8015), (120, 8066), (151, 8225), (154, 8243), (169, 8333), (172, 8366), (177, 8408), (184, 8474), (191, 8519), (193, 8531), (197, 8564),

Gene: SilentRX_16 Start: 6460, Stop: 8172, Start Num: 23

Candidate Starts for SilentRX_16:

(Start: 23 @6460 has 12 MA's), (Start: 57 @6742 has 1 MA's), (64, 6805), (70, 6835), (71, 6853), (72, 6859), (73, 6862), (92, 7069), (93, 7072), (97, 7102), (98, 7105), (103, 7141), (112, 7201), (115, 7234), (129, 7345), (137, 7408), (169, 7600), (170, 7627), (171, 7630), (176, 7669), (178, 7678), (179, 7699), (186, 7759), (191, 7783), (193, 7795), (197, 7825), (215, 7906), (231, 8002), (233, 8017), (235, 8023), (241, 8074), (246, 8107), (247, 8131), (248, 8140), (249, 8158),

Gene: Sillytadpoles_20 Start: 6030, Stop: 7541, Start Num: 19

Candidate Starts for Sillytadpoles_20:

(3, 5691), (5, 5718), (7, 5742), (13, 5964), (14, 6006), (Start: 19 @6030 has 38 MA's), (51, 6273), (Start: 57 @6327 has 1 MA's), (64, 6390), (65, 6393), (76, 6465), (87, 6576), (96, 6633), (101, 6678), (108, 6789), (110, 6801), (111, 6813), (115, 6852), (120, 6903), (151, 7062), (154, 7080), (169, 7170), (172, 7203), (177, 7245), (184, 7311), (191, 7356), (193, 7368), (197, 7401),

Gene: Sixama_62 Start: 23138, Stop: 24844, Start Num: 15

Candidate Starts for Sixama_62:

(Start: 15 @23138 has 5 MA's), (28, 23231), (40, 23300), (45, 23348), (58, 23447), (80, 23615), (86, 23684), (91, 23720), (102, 23810), (106, 23831), (127, 24011), (128, 24023), (134, 24038), (137, 24062), (145, 24128), (158, 24200), (164, 24230), (166, 24239), (170, 24293), (172, 24302), (174, 24329), (196, 24476), (197, 24494), (201, 24524), (237, 24719), (242, 24785),

Gene: Squash_22 Start: 7064, Stop: 8575, Start Num: 19

Candidate Starts for Squash_22:

(3, 6725), (5, 6752), (11, 6968), (12, 6971), (13, 6998), (14, 7040), (Start: 19 @7064 has 38 MA's), (34, 7157), (51, 7307), (Start: 57 @7361 has 1 MA's), (64, 7424), (76, 7499), (87, 7610), (96, 7667), (101, 7712), (108, 7823), (110, 7835), (111, 7847), (115, 7886), (120, 7937), (151, 8096), (154, 8114), (169, 8204), (172, 8237), (177, 8279), (184, 8345), (191, 8390), (193, 8402), (197, 8435),

Gene: Statler_21 Start: 6569, Stop: 8080, Start Num: 19

Candidate Starts for Statler_21:

(3, 6230), (5, 6257), (7, 6281), (13, 6503), (14, 6545), (Start: 19 @6569 has 38 MA's), (34, 6662), (51, 6812), (Start: 57 @6866 has 1 MA's), (64, 6929), (65, 6932), (76, 7004), (87, 7115), (96, 7172), (101, 7217), (108, 7328), (110, 7340), (111, 7352), (115, 7391), (120, 7442), (151, 7601), (154, 7619), (169, 7709), (172, 7742), (177, 7784), (184, 7850), (191, 7895), (193, 7907), (197, 7940),

Gene: StrawberryJamm_22 Start: 6332, Stop: 7843, Start Num: 19

Candidate Starts for StrawberryJamm_22:

(3, 5993), (7, 6044), (13, 6266), (14, 6308), (Start: 19 @6332 has 38 MA's), (34, 6425), (51, 6575), (Start: 57 @6629 has 1 MA's), (64, 6692), (65, 6695), (76, 6767), (87, 6878), (96, 6935), (108, 7091),

(110, 7103), (111, 7115), (115, 7154), (120, 7205), (151, 7364), (154, 7382), (169, 7472), (172, 7505), (177, 7547), (184, 7613), (191, 7658), (193, 7670), (197, 7703),

Gene: Sunfish_22 Start: 7434, Stop: 8969, Start Num: 23

Candidate Starts for Sunfish_22:

(Start: 23 @7434 has 12 MA's), (35, 7518), (49, 7653), (56, 7710), (60, 7740), (64, 7776), (70, 7806), (76, 7851), (87, 7962), (98, 8037), (109, 8109), (111, 8127), (112, 8133), (113, 8151), (115, 8166), (150, 8385), (154, 8406), (170, 8523), (185, 8667), (191, 8697), (197, 8739), (206, 8787), (224, 8862), (236, 8955),

Gene: Talia1610_209 Start: 144680, Stop: 143235, Start Num: 27

Candidate Starts for Talia1610_209:

(Start: 27 @144680 has 2 MA's), (31, 144659), (58, 144452), (61, 144410), (64, 144389), (66, 144383), (68, 144368), (84, 144215), (103, 144077), (105, 144065), (121, 143918), (127, 143879), (136, 143837), (141, 143822), (142, 143816), (143, 143804), (145, 143771), (146, 143768), (153, 143735), (155, 143717), (170, 143603), (172, 143594), (173, 143579), (178, 143549), (182, 143501), (184, 143486), (187, 143468), (194, 143426), (197, 143402), (198, 143393), (202, 143369), (216, 143312),

Gene: Tank_15 Start: 6269, Stop: 8035, Start Num: 23

Candidate Starts for Tank_15:

(Start: 23 @6269 has 12 MA's), (Start: 57 @6551 has 1 MA's), (63, 6602), (64, 6614), (65, 6617), (92, 6872), (93, 6875), (97, 6905), (103, 6944), (109, 6980), (110, 6986), (115, 7037), (121, 7091), (127, 7130), (137, 7214), (140, 7226), (141, 7229), (147, 7283), (148, 7286), (154, 7316), (168, 7403), (169, 7406), (170, 7433), (179, 7505), (191, 7589), (193, 7601), (228, 7814), (229, 7817), (245, 7967), (246, 7970), (249, 8021),

Gene: Teehee_21 Start: 7267, Stop: 8778, Start Num: 19

Candidate Starts for Teehee_21:

(3, 6928), (7, 6979), (13, 7201), (14, 7243), (Start: 19 @7267 has 38 MA's), (34, 7360), (51, 7510), (Start: 57 @7564 has 1 MA's), (64, 7627), (65, 7630), (76, 7702), (87, 7813), (96, 7870), (101, 7915), (108, 8026), (110, 8038), (111, 8050), (115, 8089), (120, 8140), (151, 8299), (154, 8317), (169, 8407), (172, 8440), (177, 8482), (184, 8548), (191, 8593), (193, 8605), (197, 8638),

Gene: Tempo_19 Start: 5705, Stop: 7168, Start Num: 19

Candidate Starts for Tempo_19:

(13, 5645), (Start: 19 @5705 has 38 MA's), (30, 5789), (46, 5918), (51, 5948), (59, 6023), (64, 6065), (87, 6251), (110, 6404), (111, 6416), (156, 6698), (162, 6731), (166, 6746), (169, 6776), (177, 6866), (183, 6926), (193, 6989), (199, 7034),

Gene: Tissue_19 Start: 6401, Stop: 7912, Start Num: 19

Candidate Starts for Tissue_19:

(3, 6062), (5, 6089), (13, 6335), (14, 6377), (Start: 19 @6401 has 38 MA's), (51, 6644), (Start: 57 @6698 has 1 MA's), (63, 6749), (64, 6761), (76, 6836), (87, 6947), (96, 7004), (101, 7049), (108, 7160), (110, 7172), (111, 7184), (115, 7223), (120, 7274), (151, 7433), (154, 7451), (169, 7541), (172, 7574), (177, 7616), (184, 7682), (191, 7727), (193, 7739), (197, 7772),

Gene: Viceroy_19 Start: 6032, Stop: 7543, Start Num: 19

Candidate Starts for Viceroy_19:

(3, 5693), (5, 5720), (7, 5744), (13, 5966), (14, 6008), (Start: 19 @6032 has 38 MA's), (51, 6275), (Start: 57 @6329 has 1 MA's), (64, 6392), (65, 6395), (76, 6467), (87, 6578), (96, 6635), (101, 6680), (108, 6791), (110, 6803), (111, 6815), (115, 6854), (120, 6905), (151, 7064), (154, 7082), (169, 7172), (172, 7205), (177, 7247), (184, 7313), (191, 7358), (193, 7370), (197, 7403),

Gene: WaddleDee_209 Start: 147158, Stop: 145704, Start Num: 27

Candidate Starts for WaddleDee_209:

(Start: 27 @147158 has 2 MA's), (37, 147101), (42, 147053), (58, 146930), (64, 146867), (68, 146846), (70, 146837), (84, 146705), (98, 146603), (102, 146570), (103, 146567), (105, 146555), (116, 146459), (120, 146411), (121, 146408), (124, 146387), (127, 146369), (136, 146327), (138, 146321), (145, 146261), (163, 146162), (171, 146090), (172, 146084), (174, 146057), (182, 145991), (184, 145976), (187, 145958), (192, 145934), (197, 145892), (198, 145883), (202, 145859), (209, 145832),

Gene: Wayne3_21 Start: 6997, Stop: 8508, Start Num: 19

Candidate Starts for Wayne3_21:

(3, 6658), (7, 6709), (13, 6931), (14, 6973), (Start: 19 @6997 has 38 MA's), (34, 7090), (51, 7240), (Start: 57 @7294 has 1 MA's), (64, 7357), (65, 7360), (76, 7432), (87, 7543), (96, 7600), (101, 7645), (108, 7756), (110, 7768), (111, 7780), (115, 7819), (120, 7870), (151, 8029), (154, 8047), (169, 8137), (172, 8170), (177, 8212), (184, 8278), (191, 8323), (193, 8335), (197, 8368),

Gene: Wheelie_19 Start: 6348, Stop: 7859, Start Num: 19

Candidate Starts for Wheelie_19:

(3, 6009), (7, 6060), (13, 6282), (14, 6324), (Start: 19 @6348 has 38 MA's), (34, 6441), (51, 6591), (Start: 57 @6645 has 1 MA's), (64, 6708), (65, 6711), (76, 6783), (87, 6894), (96, 6951), (101, 6996), (108, 7107), (110, 7119), (111, 7131), (115, 7170), (120, 7221), (151, 7380), (154, 7398), (169, 7488), (172, 7521), (177, 7563), (184, 7629), (191, 7674), (193, 7686), (197, 7719),

Gene: Wilca_19 Start: 5601, Stop: 7064, Start Num: 19

Candidate Starts for Wilca_19:

(Start: 19 @5601 has 38 MA's), (30, 5685), (46, 5814), (51, 5844), (59, 5919), (64, 5961), (87, 6147), (110, 6300), (111, 6312), (123, 6417), (148, 6549), (162, 6627), (169, 6672), (177, 6762), (183, 6822), (193, 6885), (199, 6930), (203, 6954), (210, 6978),

Gene: Wilde_15 Start: 6197, Stop: 7963, Start Num: 23

Candidate Starts for Wilde_15:

(Start: 23 @6197 has 12 MA's), (Start: 57 @6479 has 1 MA's), (63, 6530), (64, 6542), (65, 6545), (92, 6800), (93, 6803), (97, 6833), (98, 6836), (103, 6872), (109, 6908), (110, 6914), (115, 6965), (121, 7019), (127, 7058), (137, 7142), (140, 7154), (141, 7157), (147, 7211), (148, 7214), (154, 7244), (168, 7331), (169, 7334), (170, 7361), (179, 7433), (191, 7517), (193, 7529), (228, 7742), (229, 7745), (245, 7895), (246, 7898), (249, 7949),

Gene: Zagie_20 Start: 6535, Stop: 8046, Start Num: 19

Candidate Starts for Zagie_20:

(3, 6196), (5, 6223), (7, 6247), (13, 6469), (14, 6511), (Start: 19 @6535 has 38 MA's), (51, 6778), (Start: 57 @6832 has 1 MA's), (64, 6895), (65, 6898), (76, 6970), (87, 7081), (96, 7138), (101, 7183), (108, 7294), (110, 7306), (111, 7318), (115, 7357), (120, 7408), (151, 7567), (154, 7585), (169, 7675), (172, 7708), (177, 7750), (184, 7816), (191, 7861), (193, 7873), (197, 7906),

Gene: Zhafia_23 Start: 6773, Stop: 8284, Start Num: 19

Candidate Starts for Zhafia_23:

(3, 6434), (5, 6461), (13, 6707), (14, 6749), (Start: 19 @6773 has 38 MA's), (51, 7016), (Start: 57 @7070 has 1 MA's), (63, 7121), (64, 7133), (76, 7208), (87, 7319), (96, 7376), (101, 7421), (108, 7532), (110, 7544), (111, 7556), (115, 7595), (120, 7646), (151, 7805), (154, 7823), (169, 7913), (172, 7946), (177, 7988), (184, 8054), (191, 8099), (193, 8111), (197, 8144),