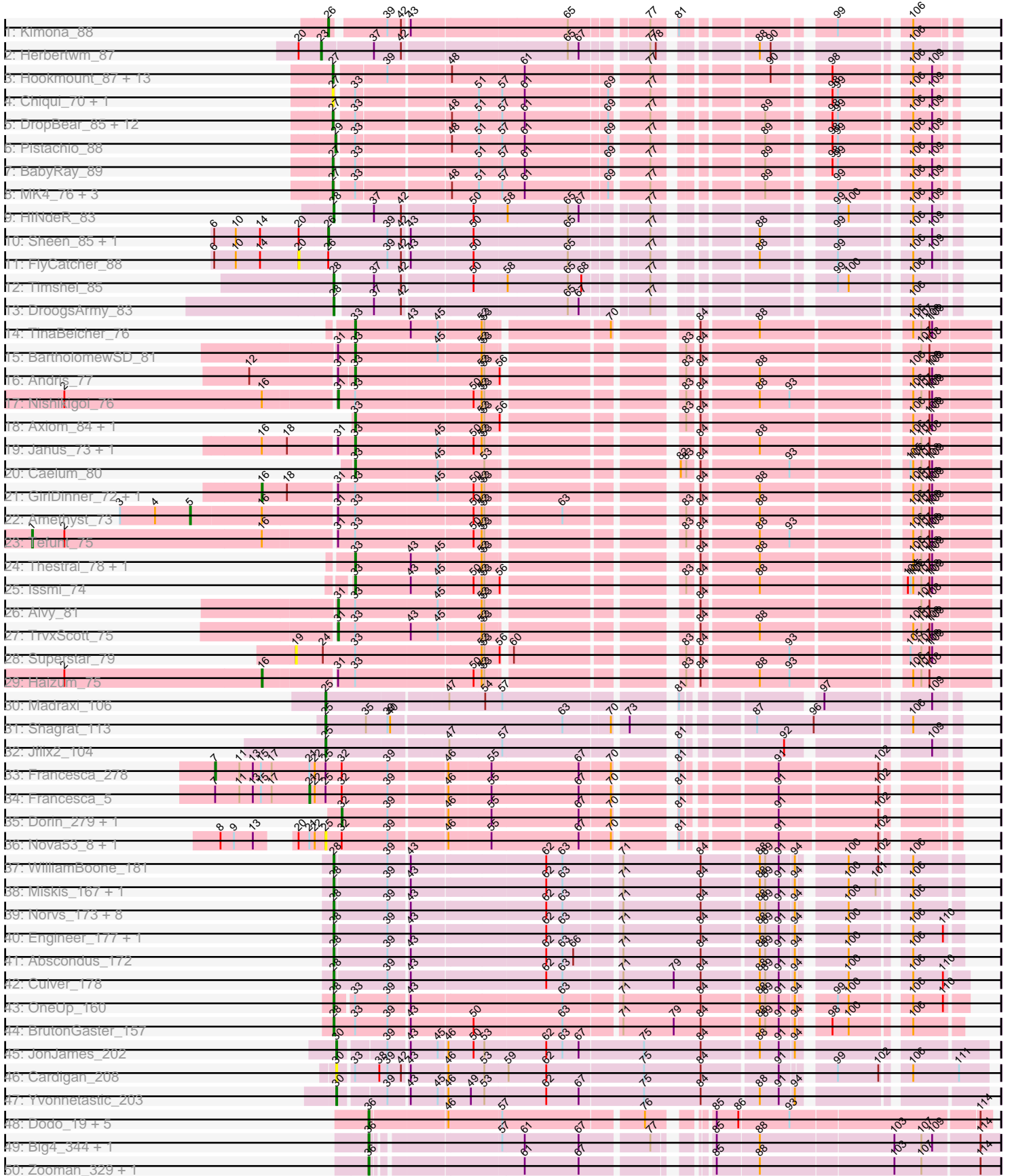
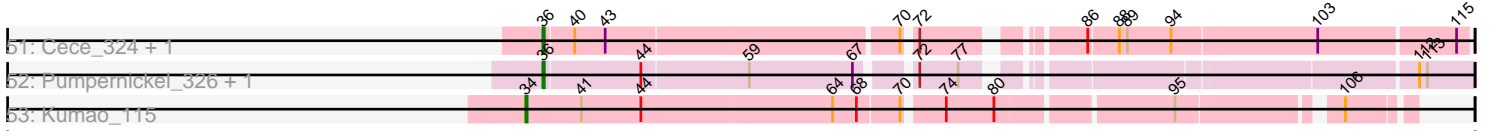


Pham 223028



Pham 223028



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 223028 Report

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

Pham number 223028 has 108 members, 19 are drafts.

Phages represented in each track:

- Track 1 : Kimona_88
- Track 2 : Herbertwm_87
- Track 3 : Hookmount_87, Veracruz_84, ResDef_85, Caviar_76, Popcicle_87, Todacoro_87, Margo_87, Norbert_83, Panamaxus_83, Noella_88, Pocahontas_86, Lambert1_87, QuinnKiro_86, Texage_85
- Track 4 : Chiqui_70, BabyJohn_70
- Track 5 : DropBear_85, HelDan_87, Heathen_87, SaturnRing_89, Puppy_89, TNguyen7_89, BlueBird_90, Fred313_85, Scout_87, Giroux_86, Kachowdy_85, Marchesa_87, Bugatti_89
- Track 6 : Pistachio_88
- Track 7 : BabyRay_89
- Track 8 : MK4_76, Rockstar_77, Isca_85, Phantastic_89
- Track 9 : HINdeR_83
- Track 10 : Sheen_85, Toro_86
- Track 11 : FlyCatcher_88
- Track 12 : Timshel_85
- Track 13 : DroogsArmy_83
- Track 14 : TinaBelcher_76
- Track 15 : BartholomewSD_81
- Track 16 : Andris_77
- Track 17 : Nishikigoi_76
- Track 18 : Axiom_84, Triumph_79
- Track 19 : Janus_73, Animus_72
- Track 20 : Caelum_80
- Track 21 : GirlDinner_72, SqueakyClean_73
- Track 22 : Amethyst_73
- Track 23 : Tefunt_75
- Track 24 : Thestral_78, Bowden_76
- Track 25 : Issmi_74
- Track 26 : Alvy_81
- Track 27 : TrvxScott_75
- Track 28 : Superstar_79
- Track 29 : Haizum_75
- Track 30 : Madraxi_106
- Track 31 : Shagrat_113
- Track 32 : Jflix2_104
- Track 33 : Francesca_278

- Track 34 : Francesca_5
- Track 35 : Dorin_279, Dorin_6
- Track 36 : Nova53_8, Nova53_281
- Track 37 : WilliamBoone_181
- Track 38 : Miskis_167, Bachita_178
- Track 39 : Norvs_173, Aphelion_174, Cucurbita_175, Lozinak_176, Toniann_176, ClubL_176, PhinkBoden_173, Geeche_180, Smoothie_177
- Track 40 : Engineer_177, Dusty_169
- Track 41 : Abscondus_172
- Track 42 : Culver_178
- Track 43 : OneUp_160
- Track 44 : BrutonGaster_157
- Track 45 : JonJames_202
- Track 46 : Cardigan_208
- Track 47 : Yvonnetastic_203
- Track 48 : Dodo_19, PauloDiaboli_373, A3Wally_18, Dodo_369, A3Wally_371, PauloDiaboli_18
- Track 49 : Big4_344, Big4_18
- Track 50 : Zooman_329, Zooman_16
- Track 51 : Cece_324, Cece_22
- Track 52 : Pumpernickel_326, Pumpernickel_25
- Track 53 : Kumao_115

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

The start number called the most often in the published annotations is 27, it was called in 26 of the 89 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BabyJohn_70, BabyRay_89, BlueBird_90, Bugatti_89, Caviar_76, Chiqui_70, DropBear_85, Fred313_85, Giroux_86, Heathen_87, HelDan_87, Hookmount_87, Isca_85, Kachowdy_85, Lambert1_87, MK4_76, Marchesa_87, Margo_87, Noella_88, Norbert_83, Panamaxus_83, Phantastic_89, Pocahontas_86, Popcicle_87, Puppy_89, QuinnKiro_86, ResDef_85, Rockstar_77, SaturnRing_89, Scout_87, TNguyen7_89, Texage_85, Todacoro_87, Veracruz_84,

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

-

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

- A3Wally_18, A3Wally_371, Abscondus_172, Alvy_81, Amethyst_73, Andris_77, Animus_72, Aphelion_174, Axiom_84, Bachita_178, BartholomewSD_81, Big4_18, Big4_344, Bowden_76, BrutonGaster_157, Caelum_80, Cardigan_208, Cece_22, Cece_324, ClubL_176, Cucurbita_175, Culver_178, Dodo_19, Dodo_369, Dorin_279, Dorin_6, DroogsArmy_83, Dusty_169, Engineer_177, FlyCatcher_88, Francesca_278, Francesca_5, Geeche_180, GirlDinner_72, HINdeR_83, Haizum_75, Herbertwm_87, Issmi_74, Janus_73, Jflix2_104, JonJames_202, Kimona_88, Kumao_115, Lozinak_176, Madraxi_106, Miskis_167, Nishikigoi_76, Norvs_173, Nova53_281, Nova53_8, OneUp_160, PauloDiaboli_18, PauloDiaboli_373, PhinkBoden_173, Pistachio_88, Pumpernickel_25, Pumpernickel_326, Shagrat_113,

Sheen_85, Smoothie_177, SqueakyClean_73, Superstar_79, Tefunt_75, Thestral_78, Timshe_85, TinaBelcher_76, Toniann_176, Toro_86, Triumph_79, TrvxScott_75, WilliamBoone_181, Yvonnestic_203, Zooman_16, Zooman_329,

Summary by start number:

Start 1:

- Found in 1 of 108 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tefunt_75 (BD2),

Start 5:

- Found in 1 of 108 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amethyst_73 (BD2),

Start 7:

- Found in 2 of 108 (1.9%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Francesca_278 (CG),

Start 16:

- Found in 8 of 108 (7.4%) of genes in pham
- Manual Annotations of this start: 3 of 89
- Called 37.5% of time when present
- Phage (with cluster) where this start called: GirlDinner_72 (BD2), Haizum_75 (BD2), SqueakyClean_73 (BD2),

Start 19:

- Found in 1 of 108 (0.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Superstar_79 (BD2),

Start 20:

- Found in 6 of 108 (5.6%) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: FlyCatcher_88 (A7),

Start 21:

- Found in 4 of 108 (3.7%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Francesca_5 (CG),

Start 23:

- Found in 1 of 108 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Herbertwm_87 (A2),

Start 25:

- Found in 7 of 108 (6.5%) of genes in pham
- Manual Annotations of this start: 3 of 89
- Called 71.4% of time when present
- Phage (with cluster) where this start called: Jflix2_104 (CF), Madraxi_106 (CF), Nova53_281 (CG), Nova53_8 (CG), Shagratt_113 (CF),

Start 26:

- Found in 4 of 108 (3.7%) of genes in pham
- Manual Annotations of this start: 2 of 89
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Kimona_88 (A19), Sheen_85 (A7), Toro_86 (A7),

Start 27:

- Found in 34 of 108 (31.5%) of genes in pham
- Manual Annotations of this start: 26 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BabyJohn_70 (A3), BabyRay_89 (A3), BlueBird_90 (A3), Bugatti_89 (A3), Caviar_76 (A3), Chiqui_70 (A3), DropBear_85 (A3), Fred313_85 (A3), Giroux_86 (A3), Heathen_87 (A3), HelDan_87 (A3), Hookmount_87 (A3), Isca_85 (A3), Kachowdy_85 (A3), Lambert1_87 (A3), MK4_76 (A3), Marchesa_87 (A3), Margo_87 (A3), Noella_88 (A3), Norbert_83 (A3), Panamaxus_83 (A3), Phantastic_89 (A3), Pocahontas_86 (A3), Popcicle_87 (A3), Puppy_89 (A3), QuinnKiro_86 (A3), ResDef_85 (A3), Rockstar_77 (A3), SaturnRing_89 (A3), Scout_87 (A3), TNguyen7_89 (A3), Texage_85 (A3), Todacoro_87 (A3), Veracruz_84 (A3),

Start 28:

- Found in 21 of 108 (19.4%) of genes in pham
- Manual Annotations of this start: 19 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Abscondus_172 (CQ1), Aphelion_174 (CQ1), Bachita_178 (CQ1), BrutonGaster_157 (CQ2), ClubL_176 (CQ1), Cucurbita_175 (CQ1), Culver_178 (CQ1), DroogsArmy_83 (A7), Dusty_169 (CQ1), Engineer_177 (CQ1), Geeche_180 (CQ1), HINdeR_83 (A7), Lozinak_176 (CQ1), Miskis_167 (CQ1), Norvs_173 (CQ1), OneUp_160 (CQ2), PhinkBoden_173 (CQ1), Smoothie_177 (CQ1), Timshel_85 (A7), Toniann_176 (CQ1), WilliamBoone_181 (CQ1),

Start 29:

- Found in 1 of 108 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pistachio_88 (A3),

Start 30:

- Found in 3 of 108 (2.8%) of genes in pham
- Manual Annotations of this start: 2 of 89
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Cardigan_208 (DD), JonJames_202 (DD), Yvonnestic_203 (DD),

Start 31:

- Found in 12 of 108 (11.1%) of genes in pham
- Manual Annotations of this start: 3 of 89
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Alvy_81 (BD2), Nishikigoi_76 (BD2), TrvxScott_75 (BD2),

Start 32:

- Found in 6 of 108 (5.6%) of genes in pham
- Manual Annotations of this start: 2 of 89
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Dorin_279 (CG), Dorin_6 (CG),

Start 33:

- Found in 44 of 108 (40.7%) of genes in pham
- Manual Annotations of this start: 10 of 89
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Andris_77 (BD2), Animus_72 (BD2), Axiom_84 (BD2), BartholomewSD_81 (BD2), Bowden_76 (BD2), Caelum_80 (BD2), Issmi_74 (BD2), Janus_73 (BD2), Thestral_78 (BD2), TinaBelcher_76 (BD2), Triumph_79 (BD2),

Start 34:

- Found in 1 of 108 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kumao_115 (singleton),

Start 36:

- Found in 14 of 108 (13.0%) of genes in pham
- Manual Annotations of this start: 12 of 89
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A3Wally_18 (GD1), A3Wally_371 (GD1), Big4_18 (GD2), Big4_344 (GD2), Cece_22 (GD3), Cece_324 (GD3), Dodo_19 (GD1), Dodo_369 (GD1), PauloDiaboli_18 (GD1), PauloDiaboli_373 (GD1), Pumpernickel_25 (GD4), Pumpernickel_326 (GD4), Zooman_16 (GD2), Zooman_329 (GD2),

Summary by clusters:

There are 15 clusters represented in this pham: GD1, GD2, GD3, GD4, A19, DD, CG, CF, singleton, A3, A2, A7, BD2, CQ2, CQ1,

Info for manual annotations of cluster A19:

- Start number 26 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:

- Start number 23 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster A3:

- Start number 27 was manually annotated 26 times for cluster A3.
- Start number 29 was manually annotated 1 time for cluster A3.

Info for manual annotations of cluster A7:

- Start number 26 was manually annotated 1 time for cluster A7.
- Start number 28 was manually annotated 3 times for cluster A7.

Info for manual annotations of cluster BD2:

- Start number 1 was manually annotated 1 time for cluster BD2.
- Start number 5 was manually annotated 1 time for cluster BD2.
- Start number 16 was manually annotated 3 times for cluster BD2.
- Start number 31 was manually annotated 3 times for cluster BD2.
- Start number 33 was manually annotated 10 times for cluster BD2.

Info for manual annotations of cluster CF:

- Start number 25 was manually annotated 3 times for cluster CF.

Info for manual annotations of cluster CG:

- Start number 7 was manually annotated 1 time for cluster CG.
- Start number 21 was manually annotated 1 time for cluster CG.
- Start number 32 was manually annotated 2 times for cluster CG.

Info for manual annotations of cluster CQ1:

- Start number 28 was manually annotated 14 times for cluster CQ1.

Info for manual annotations of cluster CQ2:

- Start number 28 was manually annotated 2 times for cluster CQ2.

Info for manual annotations of cluster DD:

- Start number 30 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster GD1:

- Start number 36 was manually annotated 4 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 36 was manually annotated 4 times for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 36 was manually annotated 2 times for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 36 was manually annotated 2 times for cluster GD4.

Gene Information:

Gene: A3Wally_18 Start: 6344, Stop: 6961, Start Num: 36

Candidate Starts for A3Wally_18:

(Start: 36 @6344 has 12 MA's), (46, 6425), (57, 6482), (76, 6626), (85, 6674), (86, 6698), (93, 6752), (114, 6950),

Gene: A3Wally_371 Start: 185565, Stop: 186182, Start Num: 36

Candidate Starts for A3Wally_371:

(Start: 36 @185565 has 12 MA's), (46, 185646), (57, 185703), (76, 185847), (85, 185895), (86, 185919), (93, 185973), (114, 186171),

Gene: Abscondus_172 Start: 87791, Stop: 87168, Start Num: 28

Candidate Starts for Abscondus_172:

(Start: 28 @87791 has 19 MA's), (39, 87734), (43, 87713), (62, 87569), (63, 87551), (66, 87539), (71, 87494), (84, 87410), (88, 87350), (89, 87344), (91, 87329), (94, 87314), (100, 87272), (106, 87218),

Gene: Alvy_81 Start: 49735, Stop: 49100, Start Num: 31

Candidate Starts for Alvy_81:

(Start: 31 @49735 has 3 MA's), (Start: 33 @49717 has 10 MA's), (45, 49627), (52, 49582), (53, 49579), (84, 49390), (107, 49174), (108, 49165),

Gene: Amethyst_73 Start: 46722, Stop: 45931, Start Num: 5

Candidate Starts for Amethyst_73:

(3, 46800), (4, 46761), (Start: 5 @46722 has 1 MA's), (Start: 16 @46644 has 3 MA's), (Start: 31 @46566 has 3 MA's), (Start: 33 @46548 has 10 MA's), (50, 46422), (52, 46413), (53, 46410), (63, 46335), (83, 46230), (84, 46221), (88, 46161), (106, 46014), (107, 46005), (108, 45996), (109, 45993),

Gene: Andris_77 Start: 47684, Stop: 47067, Start Num: 33

Candidate Starts for Andris_77:

(12, 47792), (Start: 31 @47699 has 3 MA's), (Start: 33 @47684 has 10 MA's), (52, 47549), (53, 47546), (56, 47531), (83, 47366), (84, 47357), (88, 47297), (106, 47150), (108, 47132), (109, 47129),

Gene: Animus_72 Start: 47796, Stop: 47179, Start Num: 33

Candidate Starts for Animus_72:

(Start: 16 @47892 has 3 MA's), (18, 47865), (Start: 31 @47814 has 3 MA's), (Start: 33 @47796 has 10 MA's), (45, 47706), (50, 47670), (52, 47661), (53, 47658), (84, 47469), (88, 47409), (106, 47262), (107, 47253), (108, 47244),

Gene: Aphelion_174 Start: 88689, Stop: 88066, Start Num: 28

Candidate Starts for Aphelion_174:

(Start: 28 @88689 has 19 MA's), (39, 88632), (43, 88611), (62, 88467), (63, 88449), (71, 88392), (84, 88308), (88, 88248), (89, 88242), (91, 88227), (94, 88212), (100, 88170), (106, 88116),

Gene: Axiom_84 Start: 48694, Stop: 48077, Start Num: 33

Candidate Starts for Axiom_84:

(Start: 33 @48694 has 10 MA's), (52, 48559), (53, 48556), (56, 48541), (83, 48376), (84, 48367), (106, 48160), (108, 48142), (109, 48139),

Gene: BabyJohn_70 Start: 45191, Stop: 44616, Start Num: 27

Candidate Starts for BabyJohn_70:

(Start: 27 @45191 has 26 MA's), (Start: 33 @45173 has 10 MA's), (51, 45047), (57, 45023), (61, 44999), (69, 44912), (77, 44876), (98, 44729), (99, 44723), (106, 44657), (109, 44636),

Gene: BabyRay_89 Start: 49017, Stop: 48442, Start Num: 27

Candidate Starts for BabyRay_89:

(Start: 27 @49017 has 26 MA's), (Start: 33 @48999 has 10 MA's), (51, 48873), (57, 48849), (61, 48825), (69, 48738), (77, 48702), (89, 48609), (98, 48555), (99, 48549), (106, 48483), (109, 48462),

Gene: Bachita_178 Start: 88765, Stop: 88142, Start Num: 28

Candidate Starts for Bachita_178:

(Start: 28 @88765 has 19 MA's), (39, 88708), (43, 88687), (62, 88543), (63, 88525), (71, 88468), (84, 88384), (88, 88324), (89, 88318), (91, 88303), (94, 88288), (100, 88246), (101, 88216), (106, 88192),

Gene: BartholomewSD_81 Start: 48836, Stop: 48219, Start Num: 33

Candidate Starts for BartholomewSD_81:

(Start: 31 @48854 has 3 MA's), (Start: 33 @48836 has 10 MA's), (45, 48746), (52, 48701), (53, 48698), (83, 48518), (84, 48509), (107, 48293), (108, 48284),

Gene: Big4_344 Start: 182798, Stop: 183415, Start Num: 36

Candidate Starts for Big4_344:

(Start: 36 @182798 has 12 MA's), (57, 182924), (61, 182948), (67, 183008), (77, 183077), (85, 183116), (88, 183161), (103, 183305), (107, 183335), (109, 183347), (114, 183395),

Gene: Big4_18 Start: 8104, Stop: 8721, Start Num: 36

Candidate Starts for Big4_18:

(Start: 36 @8104 has 12 MA's), (57, 8230), (61, 8254), (67, 8314), (77, 8383), (85, 8422), (88, 8467), (103, 8611), (107, 8641), (109, 8653), (114, 8701),

Gene: BlueBird_90 Start: 48809, Stop: 48234, Start Num: 27

Candidate Starts for BlueBird_90:

(Start: 27 @48809 has 26 MA's), (Start: 33 @48791 has 10 MA's), (48, 48695), (51, 48665), (57, 48641), (61, 48617), (69, 48530), (77, 48494), (89, 48401), (98, 48347), (99, 48341), (106, 48275), (109, 48254),

Gene: Bowden_76 Start: 49410, Stop: 48793, Start Num: 33

Candidate Starts for Bowden_76:

(Start: 33 @49410 has 10 MA's), (43, 49350), (45, 49320), (52, 49275), (53, 49272), (84, 49083), (88, 49023), (106, 48876), (107, 48867), (108, 48858), (109, 48855),

Gene: BrutonGaster_157 Start: 84932, Stop: 84306, Start Num: 28

Candidate Starts for BrutonGaster_157:

(Start: 28 @84932 has 19 MA's), (Start: 33 @84908 has 10 MA's), (39, 84872), (43, 84851), (50, 84785), (63, 84689), (71, 84632), (79, 84578), (84, 84548), (88, 84488), (89, 84482), (91, 84467), (94, 84452), (98, 84428), (100, 84410), (106, 84356),

Gene: Bugatti_89 Start: 48809, Stop: 48234, Start Num: 27

Candidate Starts for Bugatti_89:

(Start: 27 @48809 has 26 MA's), (Start: 33 @48791 has 10 MA's), (48, 48695), (51, 48665), (57, 48641), (61, 48617), (69, 48530), (77, 48494), (89, 48401), (98, 48347), (99, 48341), (106, 48275), (109, 48254),

Gene: Caelum_80 Start: 47718, Stop: 47101, Start Num: 33

Candidate Starts for Caelum_80:

(Start: 33 @47718 has 10 MA's), (45, 47628), (53, 47580), (82, 47406), (83, 47400), (84, 47391), (93, 47298), (105, 47187), (106, 47184), (107, 47175), (108, 47166), (109, 47163),

Gene: Cardigan_208 Start: 99151, Stop: 98492, Start Num: 30

Candidate Starts for Cardigan_208:

(Start: 30 @99151 has 2 MA's), (Start: 33 @99136 has 10 MA's), (38, 99109), (39, 99100), (42, 99085), (43, 99079), (46, 99040), (53, 99001), (59, 98977), (62, 98935), (75, 98830), (84, 98767), (91, 98686), (99, 98641), (102, 98596), (106, 98575), (111, 98524),

Gene: Caviar_76 Start: 45435, Stop: 44860, Start Num: 27

Candidate Starts for Caviar_76:

(Start: 27 @45435 has 26 MA's), (39, 45384), (48, 45321), (61, 45243), (77, 45120), (90, 45021), (98, 44973), (106, 44901), (109, 44880),

Gene: Cece_324 Start: 176346, Stop: 176969, Start Num: 36

Candidate Starts for Cece_324:

(Start: 36 @176346 has 12 MA's), (40, 176367), (43, 176388), (70, 176598), (72, 176604), (86, 176697), (88, 176718), (89, 176724), (94, 176757), (103, 176862), (115, 176961),

Gene: Cece_22 Start: 7912, Stop: 8535, Start Num: 36

Candidate Starts for Cece_22:

(Start: 36 @7912 has 12 MA's), (40, 7933), (43, 7954), (70, 8164), (72, 8170), (86, 8263), (88, 8284), (89, 8290), (94, 8323), (103, 8428), (115, 8527),

Gene: Chiqui_70 Start: 45200, Stop: 44625, Start Num: 27

Candidate Starts for Chiqui_70:

(Start: 27 @45200 has 26 MA's), (Start: 33 @45182 has 10 MA's), (51, 45056), (57, 45032), (61, 45008), (69, 44921), (77, 44885), (98, 44738), (99, 44732), (106, 44666), (109, 44645),

Gene: ClubL_176 Start: 88010, Stop: 87387, Start Num: 28

Candidate Starts for ClubL_176:

(Start: 28 @88010 has 19 MA's), (39, 87953), (43, 87932), (62, 87788), (63, 87770), (71, 87713), (84, 87629), (88, 87569), (89, 87563), (91, 87548), (94, 87533), (100, 87491), (106, 87437),

Gene: Cucurbita_175 Start: 89071, Stop: 88448, Start Num: 28

Candidate Starts for Cucurbita_175:

(Start: 28 @89071 has 19 MA's), (39, 89014), (43, 88993), (62, 88849), (63, 88831), (71, 88774), (84, 88690), (88, 88630), (89, 88624), (91, 88609), (94, 88594), (100, 88552), (106, 88498),

Gene: Culver_178 Start: 87604, Stop: 86975, Start Num: 28

Candidate Starts for Culver_178:

(Start: 28 @87604 has 19 MA's), (39, 87547), (43, 87526), (62, 87382), (63, 87364), (71, 87307), (79, 87253), (84, 87223), (88, 87163), (89, 87157), (91, 87142), (94, 87127), (100, 87085), (106, 87031), (110, 86998),

Gene: Dodo_19 Start: 6191, Stop: 6808, Start Num: 36

Candidate Starts for Dodo_19:

(Start: 36 @6191 has 12 MA's), (46, 6272), (57, 6329), (76, 6473), (85, 6521), (86, 6545), (93, 6599), (114, 6797),

Gene: Dodo_369 Start: 184391, Stop: 185008, Start Num: 36

Candidate Starts for Dodo_369:

(Start: 36 @184391 has 12 MA's), (46, 184472), (57, 184529), (76, 184673), (85, 184721), (86, 184745), (93, 184799), (114, 184997),

Gene: Dorin_279 Start: 135233, Stop: 135826, Start Num: 32

Candidate Starts for Dorin_279:

(Start: 32 @135233 has 2 MA's), (39, 135284), (46, 135344), (55, 135389), (67, 135485), (70, 135518), (81, 135569), (91, 135656), (102, 135761),

Gene: Dorin_6 Start: 2985, Stop: 3578, Start Num: 32

Candidate Starts for Dorin_6:

(Start: 32 @2985 has 2 MA's), (39, 3036), (46, 3096), (55, 3141), (67, 3237), (70, 3270), (81, 3321), (91, 3408), (102, 3513),

Gene: DroogsArmy_83 Start: 51878, Stop: 51303, Start Num: 28

Candidate Starts for DroogsArmy_83:

(Start: 28 @51878 has 19 MA's), (37, 51842), (42, 51812), (65, 51638), (67, 51626), (77, 51566), (106, 51347),

Gene: DropBear_85 Start: 48620, Stop: 48045, Start Num: 27

Candidate Starts for DropBear_85:

(Start: 27 @48620 has 26 MA's), (Start: 33 @48602 has 10 MA's), (48, 48506), (51, 48476), (57, 48452), (61, 48428), (69, 48341), (77, 48305), (89, 48212), (98, 48158), (99, 48152), (106, 48086), (109, 48065),

Gene: Dusty_169 Start: 87415, Stop: 86792, Start Num: 28

Candidate Starts for Dusty_169:

(Start: 28 @87415 has 19 MA's), (39, 87358), (43, 87337), (62, 87193), (63, 87175), (71, 87118), (84, 87034), (88, 86974), (89, 86968), (91, 86953), (94, 86938), (100, 86896), (106, 86842), (110, 86809),

Gene: Engineer_177 Start: 88766, Stop: 88143, Start Num: 28

Candidate Starts for Engineer_177:

(Start: 28 @88766 has 19 MA's), (39, 88709), (43, 88688), (62, 88544), (63, 88526), (71, 88469), (84, 88385), (88, 88325), (89, 88319), (91, 88304), (94, 88289), (100, 88247), (106, 88193), (110, 88160),

Gene: FlyCatcher_88 Start: 52479, Stop: 51859, Start Num: 20

Candidate Starts for FlyCatcher_88:

(6, 52572), (10, 52548), (14, 52521), (20, 52479), (Start: 26 @52449 has 2 MA's), (39, 52383), (42, 52368), (43, 52362), (50, 52296), (65, 52194), (77, 52122), (88, 52035), (99, 51969), (106, 51903), (109, 51882),

Gene: Francesca_278 Start: 135872, Stop: 136606, Start Num: 7

Candidate Starts for Francesca_278:

(Start: 7 @135872 has 1 MA's), (11, 135899), (13, 135914), (15, 135923), (17, 135935), (Start: 21 @135977 has 1 MA's), (22, 135983), (Start: 25 @135995 has 3 MA's), (Start: 32 @136013 has 2 MA's), (39, 136064), (46, 136124), (55, 136169), (67, 136265), (70, 136298), (81, 136349), (91, 136436), (102, 136541),

Gene: Francesca_5 Start: 3091, Stop: 3720, Start Num: 21

Candidate Starts for Francesca_5:

(Start: 7 @2986 has 1 MA's), (11, 3013), (13, 3028), (15, 3037), (17, 3049), (Start: 21 @3091 has 1 MA's), (22, 3097), (Start: 25 @3109 has 3 MA's), (Start: 32 @3127 has 2 MA's), (39, 3178), (46, 3238), (55, 3283), (67, 3379), (70, 3412), (81, 3463), (91, 3550), (102, 3655),

Gene: Fred313_85 Start: 48411, Stop: 47836, Start Num: 27

Candidate Starts for Fred313_85:

(Start: 27 @48411 has 26 MA's), (Start: 33 @48393 has 10 MA's), (48, 48297), (51, 48267), (57, 48243), (61, 48219), (69, 48132), (77, 48096), (89, 48003), (98, 47949), (99, 47943), (106, 47877), (109, 47856),

Gene: Geeche_180 Start: 89434, Stop: 88811, Start Num: 28

Candidate Starts for Geeche_180:

(Start: 28 @89434 has 19 MA's), (39, 89377), (43, 89356), (62, 89212), (63, 89194), (71, 89137), (84, 89053), (88, 88993), (89, 88987), (91, 88972), (94, 88957), (100, 88915), (106, 88861),

Gene: GirlDinner_72 Start: 47389, Stop: 46676, Start Num: 16

Candidate Starts for GirlDinner_72:

(Start: 16 @47389 has 3 MA's), (18, 47362), (Start: 31 @47311 has 3 MA's), (Start: 33 @47293 has 10 MA's), (45, 47203), (50, 47167), (52, 47158), (53, 47155), (84, 46966), (88, 46906), (106, 46759), (107, 46750), (108, 46741), (109, 46738),

Gene: Giroux_86 Start: 48808, Stop: 48233, Start Num: 27

Candidate Starts for Giroux_86:

(Start: 27 @48808 has 26 MA's), (Start: 33 @48790 has 10 MA's), (48, 48694), (51, 48664), (57, 48640), (61, 48616), (69, 48529), (77, 48493), (89, 48400), (98, 48346), (99, 48340), (106, 48274), (109, 48253),

Gene: HINdeR_83 Start: 51240, Stop: 50665, Start Num: 28

Candidate Starts for HINdeR_83:

(Start: 28 @51240 has 19 MA's), (37, 51204), (42, 51174), (50, 51102), (58, 51066), (65, 51000), (67, 50988), (77, 50928), (99, 50775), (100, 50763), (106, 50709), (109, 50688),

Gene: Haizum_75 Start: 47776, Stop: 47066, Start Num: 16

Candidate Starts for Haizum_75:

(2, 47995), (Start: 16 @47776 has 3 MA's), (Start: 31 @47701 has 3 MA's), (Start: 33 @47683 has 10 MA's), (50, 47557), (52, 47548), (53, 47545), (83, 47365), (84, 47356), (88, 47296), (93, 47263), (106, 47149), (107, 47140), (108, 47131),

Gene: Heathen_87 Start: 48499, Stop: 47924, Start Num: 27

Candidate Starts for Heathen_87:

(Start: 27 @48499 has 26 MA's), (Start: 33 @48481 has 10 MA's), (48, 48385), (51, 48355), (57, 48331), (61, 48307), (69, 48220), (77, 48184), (89, 48091), (98, 48037), (99, 48031), (106, 47965), (109, 47944),

Gene: HelDan_87 Start: 48722, Stop: 48147, Start Num: 27

Candidate Starts for HelDan_87:

(Start: 27 @48722 has 26 MA's), (Start: 33 @48704 has 10 MA's), (48, 48608), (51, 48578), (57, 48554), (61, 48530), (69, 48443), (77, 48407), (89, 48314), (98, 48260), (99, 48254), (106, 48188), (109, 48167),

Gene: Herbertwm_87 Start: 49870, Stop: 49277, Start Num: 23

Candidate Starts for Herbertwm_87:

(20, 49894), (Start: 23 @49870 has 1 MA's), (37, 49816), (42, 49786), (65, 49612), (67, 49600), (77, 49540), (78, 49534), (88, 49453), (90, 49441), (106, 49321),

Gene: Hookmount_87 Start: 48438, Stop: 47863, Start Num: 27

Candidate Starts for Hookmount_87:

(Start: 27 @48438 has 26 MA's), (39, 48387), (48, 48324), (61, 48246), (77, 48123), (90, 48024), (98, 47976), (106, 47904), (109, 47883),

Gene: Isca_85 Start: 48320, Stop: 47745, Start Num: 27

Candidate Starts for Isca_85:

(Start: 27 @48320 has 26 MA's), (Start: 33 @48302 has 10 MA's), (48, 48206), (51, 48176), (57, 48152), (61, 48128), (69, 48041), (77, 48005), (89, 47912), (99, 47852), (106, 47786), (109, 47765),

Gene: Issmi_74 Start: 47397, Stop: 46780, Start Num: 33

Candidate Starts for Issmi_74:

(Start: 33 @47397 has 10 MA's), (43, 47337), (45, 47307), (50, 47271), (52, 47262), (53, 47259), (56, 47244), (83, 47079), (84, 47070), (88, 47010), (104, 46869), (105, 46866), (106, 46863), (107, 46854), (108, 46845), (109, 46842),

Gene: Janus_73 Start: 47630, Stop: 47013, Start Num: 33

Candidate Starts for Janus_73:

(Start: 16 @47726 has 3 MA's), (18, 47699), (Start: 31 @47648 has 3 MA's), (Start: 33 @47630 has 10 MA's), (45, 47540), (50, 47504), (52, 47495), (53, 47492), (84, 47303), (88, 47243), (106, 47096), (107, 47087), (108, 47078),

Gene: JfliX2_104 Start: 60265, Stop: 59663, Start Num: 25

Candidate Starts for JfliX2_104:

(Start: 25 @60265 has 3 MA's), (47, 60136), (57, 60079), (81, 59911), (92, 59818), (109, 59686),

Gene: JonJames_202 Start: 99705, Stop: 99052, Start Num: 30

Candidate Starts for JonJames_202:

(Start: 30 @99705 has 2 MA's), (39, 99657), (43, 99636), (45, 99606), (46, 99597), (50, 99570), (53, 99558), (62, 99492), (63, 99474), (67, 99456), (75, 99387), (84, 99324), (88, 99264), (91, 99243), (94, 99228),

Gene: Kachowdy_85 Start: 48751, Stop: 48176, Start Num: 27

Candidate Starts for Kachowdy_85:

(Start: 27 @48751 has 26 MA's), (Start: 33 @48733 has 10 MA's), (48, 48637), (51, 48607), (57, 48583), (61, 48559), (69, 48472), (77, 48436), (89, 48343), (98, 48289), (99, 48283), (106, 48217), (109, 48196),

Gene: Kimona_88 Start: 48949, Stop: 48371, Start Num: 26

Candidate Starts for Kimona_88:

(Start: 26 @48949 has 2 MA's), (39, 48895), (42, 48880), (43, 48874), (65, 48706), (77, 48634), (81, 48616), (99, 48481), (106, 48415),

Gene: Kumao_115 Start: 68291, Stop: 67680, Start Num: 34

Candidate Starts for Kumao_115:

(Start: 34 @68291 has 1 MA's), (41, 68249), (44, 68204), (64, 68063), (68, 68045), (70, 68015), (74, 67991), (80, 67955), (95, 67832), (106, 67724),

Gene: Lambert1_87 Start: 48439, Stop: 47864, Start Num: 27

Candidate Starts for Lambert1_87:

(Start: 27 @48439 has 26 MA's), (39, 48388), (48, 48325), (61, 48247), (77, 48124), (90, 48025), (98, 47977), (106, 47905), (109, 47884),

Gene: Lozinak_176 Start: 88614, Stop: 87991, Start Num: 28

Candidate Starts for Lozinak_176:

(Start: 28 @88614 has 19 MA's), (39, 88557), (43, 88536), (62, 88392), (63, 88374), (71, 88317), (84, 88233), (88, 88173), (89, 88167), (91, 88152), (94, 88137), (100, 88095), (106, 88041),

Gene: MK4_76 Start: 44881, Stop: 44306, Start Num: 27

Candidate Starts for MK4_76:

(Start: 27 @44881 has 26 MA's), (Start: 33 @44863 has 10 MA's), (48, 44767), (51, 44737), (57, 44713), (61, 44689), (69, 44602), (77, 44566), (89, 44473), (99, 44413), (106, 44347), (109, 44326),

Gene: Madraxi_106 Start: 62326, Stop: 61724, Start Num: 25

Candidate Starts for Madraxi_106:

(Start: 25 @62326 has 3 MA's), (47, 62197), (54, 62158), (57, 62140), (81, 61972), (97, 61849), (109, 61747),

Gene: Marchesa_87 Start: 48613, Stop: 48038, Start Num: 27

Candidate Starts for Marchesa_87:

(Start: 27 @48613 has 26 MA's), (Start: 33 @48595 has 10 MA's), (48, 48499), (51, 48469), (57, 48445), (61, 48421), (69, 48334), (77, 48298), (89, 48205), (98, 48151), (99, 48145), (106, 48079), (109, 48058),

Gene: Margo_87 Start: 48464, Stop: 47889, Start Num: 27

Candidate Starts for Margo_87:

(Start: 27 @48464 has 26 MA's), (39, 48413), (48, 48350), (61, 48272), (77, 48149), (90, 48050), (98, 48002), (106, 47930), (109, 47909),

Gene: Miskis_167 Start: 87455, Stop: 86832, Start Num: 28

Candidate Starts for Miskis_167:

(Start: 28 @87455 has 19 MA's), (39, 87398), (43, 87377), (62, 87233), (63, 87215), (71, 87158), (84, 87074), (88, 87014), (89, 87008), (91, 86993), (94, 86978), (100, 86936), (101, 86906), (106, 86882),

Gene: Nishikigoi_76 Start: 47701, Stop: 47066, Start Num: 31

Candidate Starts for Nishikigoi_76:

(2, 47995), (Start: 16 @47776 has 3 MA's), (Start: 31 @47701 has 3 MA's), (Start: 33 @47683 has 10 MA's), (50, 47557), (52, 47548), (53, 47545), (83, 47365), (84, 47356), (88, 47296), (93, 47263), (106, 47149), (107, 47140), (108, 47131), (109, 47128),

Gene: Noella_88 Start: 48440, Stop: 47865, Start Num: 27

Candidate Starts for Noella_88:

(Start: 27 @48440 has 26 MA's), (39, 48389), (48, 48326), (61, 48248), (77, 48125), (90, 48026), (98, 47978), (106, 47906), (109, 47885),

Gene: Norbert_83 Start: 48437, Stop: 47862, Start Num: 27

Candidate Starts for Norbert_83:

(Start: 27 @48437 has 26 MA's), (39, 48386), (48, 48323), (61, 48245), (77, 48122), (90, 48023), (98, 47975), (106, 47903), (109, 47882),

Gene: Norvs_173 Start: 87790, Stop: 87167, Start Num: 28

Candidate Starts for Norvs_173:

(Start: 28 @87790 has 19 MA's), (39, 87733), (43, 87712), (62, 87568), (63, 87550), (71, 87493), (84, 87409), (88, 87349), (89, 87343), (91, 87328), (94, 87313), (100, 87271), (106, 87217),

Gene: Nova53_8 Start: 3418, Stop: 4029, Start Num: 25

Candidate Starts for Nova53_8:

(8, 3331), (9, 3346), (13, 3367), (20, 3388), (Start: 21 @3400 has 1 MA's), (22, 3406), (Start: 25 @3418 has 3 MA's), (Start: 32 @3436 has 2 MA's), (39, 3487), (46, 3547), (55, 3592), (67, 3688), (70, 3721), (81, 3772), (91, 3859), (102, 3964),

Gene: Nova53_281 Start: 136137, Stop: 136748, Start Num: 25

Candidate Starts for Nova53_281:

(8, 136050), (9, 136065), (13, 136086), (20, 136107), (Start: 21 @136119 has 1 MA's), (22, 136125), (Start: 25 @136137 has 3 MA's), (Start: 32 @136155 has 2 MA's), (39, 136206), (46, 136266), (55, 136311), (67, 136407), (70, 136440), (81, 136491), (91, 136578), (102, 136683),

Gene: OneUp_160 Start: 87682, Stop: 87056, Start Num: 28

Candidate Starts for OneUp_160:

(Start: 28 @87682 has 19 MA's), (Start: 33 @87664 has 10 MA's), (39, 87628), (43, 87607), (63, 87445), (71, 87388), (84, 87304), (88, 87244), (89, 87238), (91, 87223), (94, 87208), (99, 87178), (100, 87166), (106, 87112), (110, 87079),

Gene: Panamaxus_83 Start: 48439, Stop: 47864, Start Num: 27

Candidate Starts for Panamaxus_83:

(Start: 27 @48439 has 26 MA's), (39, 48388), (48, 48325), (61, 48247), (77, 48124), (90, 48025), (98, 47977), (106, 47905), (109, 47884),

Gene: PauloDiaboli_373 Start: 182813, Stop: 183430, Start Num: 36

Candidate Starts for PauloDiaboli_373:

(Start: 36 @182813 has 12 MA's), (46, 182894), (57, 182951), (76, 183095), (85, 183143), (86, 183167), (93, 183221), (114, 183419),

Gene: PauloDiaboli_18 Start: 6184, Stop: 6801, Start Num: 36

Candidate Starts for PauloDiaboli_18:

(Start: 36 @6184 has 12 MA's), (46, 6265), (57, 6322), (76, 6466), (85, 6514), (86, 6538), (93, 6592), (114, 6790),

Gene: Phantastic_89 Start: 48438, Stop: 47863, Start Num: 27

Candidate Starts for Phantastic_89:

(Start: 27 @48438 has 26 MA's), (Start: 33 @48420 has 10 MA's), (48, 48324), (51, 48294), (57, 48270), (61, 48246), (69, 48159), (77, 48123), (89, 48030), (99, 47970), (106, 47904), (109, 47883),

Gene: PhinkBoden_173 Start: 88188, Stop: 87565, Start Num: 28

Candidate Starts for PhinkBoden_173:

(Start: 28 @88188 has 19 MA's), (39, 88131), (43, 88110), (62, 87966), (63, 87948), (71, 87891), (84, 87807), (88, 87747), (89, 87741), (91, 87726), (94, 87711), (100, 87669), (106, 87615),

Gene: Pistachio_88 Start: 48356, Stop: 47781, Start Num: 29

Candidate Starts for Pistachio_88:

(Start: 29 @48356 has 1 MA's), (Start: 33 @48338 has 10 MA's), (48, 48242), (51, 48212), (57, 48188), (61, 48164), (69, 48077), (77, 48041), (89, 47948), (98, 47894), (99, 47888), (106, 47822), (109, 47801),

Gene: Pocahontas_86 Start: 48435, Stop: 47860, Start Num: 27

Candidate Starts for Pocahontas_86:

(Start: 27 @48435 has 26 MA's), (39, 48384), (48, 48321), (61, 48243), (77, 48120), (90, 48021), (98, 47973), (106, 47901), (109, 47880),

Gene: Popcicle_87 Start: 48435, Stop: 47860, Start Num: 27

Candidate Starts for Popcicle_87:

(Start: 27 @48435 has 26 MA's), (39, 48384), (48, 48321), (61, 48243), (77, 48120), (90, 48021), (98, 47973), (106, 47901), (109, 47880),

Gene: Pumpernickel_326 Start: 176211, Stop: 176831, Start Num: 36

Candidate Starts for Pumpernickel_326:

(Start: 36 @176211 has 12 MA's), (44, 176280), (59, 176355), (67, 176433), (72, 176466), (77, 176493), (112, 176790), (113, 176796),

Gene: Pumpernickel_25 Start: 10079, Stop: 10699, Start Num: 36

Candidate Starts for Pumpernickel_25:

(Start: 36 @10079 has 12 MA's), (44, 10148), (59, 10223), (67, 10301), (72, 10334), (77, 10361), (112, 10658), (113, 10664),

Gene: Puppy_89 Start: 48426, Stop: 47851, Start Num: 27

Candidate Starts for Puppy_89:

(Start: 27 @48426 has 26 MA's), (Start: 33 @48408 has 10 MA's), (48, 48312), (51, 48282), (57, 48258), (61, 48234), (69, 48147), (77, 48111), (89, 48018), (98, 47964), (99, 47958), (106, 47892), (109, 47871),

Gene: QuinnKiro_86 Start: 48438, Stop: 47863, Start Num: 27

Candidate Starts for QuinnKiro_86:

(Start: 27 @48438 has 26 MA's), (39, 48387), (48, 48324), (61, 48246), (77, 48123), (90, 48024), (98, 47976), (106, 47904), (109, 47883),

Gene: ResDef_85 Start: 48441, Stop: 47866, Start Num: 27

Candidate Starts for ResDef_85:

(Start: 27 @48441 has 26 MA's), (39, 48390), (48, 48327), (61, 48249), (77, 48126), (90, 48027), (98, 47979), (106, 47907), (109, 47886),

Gene: Rockstar_77 Start: 46128, Stop: 45553, Start Num: 27

Candidate Starts for Rockstar_77:

(Start: 27 @46128 has 26 MA's), (Start: 33 @46110 has 10 MA's), (48, 46014), (51, 45984), (57, 45960), (61, 45936), (69, 45849), (77, 45813), (89, 45720), (99, 45660), (106, 45594), (109, 45573),

Gene: SaturnRing_89 Start: 48809, Stop: 48234, Start Num: 27

Candidate Starts for SaturnRing_89:

(Start: 27 @48809 has 26 MA's), (Start: 33 @48791 has 10 MA's), (48, 48695), (51, 48665), (57, 48641), (61, 48617), (69, 48530), (77, 48494), (89, 48401), (98, 48347), (99, 48341), (106, 48275), (109, 48254),

Gene: Scout_87 Start: 47962, Stop: 47387, Start Num: 27

Candidate Starts for Scout_87:

(Start: 27 @47962 has 26 MA's), (Start: 33 @47944 has 10 MA's), (48, 47848), (51, 47818), (57, 47794), (61, 47770), (69, 47683), (77, 47647), (89, 47554), (98, 47500), (99, 47494), (106, 47428), (109, 47407),

Gene: Shagrat_113 Start: 60969, Stop: 60352, Start Num: 25

Candidate Starts for Shagrat_113:

(Start: 25 @60969 has 3 MA's), (35, 60924), (39, 60900), (40, 60897), (63, 60717), (70, 60669), (73, 60657), (87, 60555), (96, 60492), (106, 60399),

Gene: Sheen_85 Start: 51786, Stop: 51196, Start Num: 26

Candidate Starts for Sheen_85:

(6, 51909), (10, 51885), (14, 51858), (20, 51816), (Start: 26 @51786 has 2 MA's), (39, 51720), (42, 51705), (43, 51699), (50, 51633), (65, 51531), (77, 51459), (88, 51372), (99, 51306), (106, 51240), (109, 51219),

Gene: Smoothie_177 Start: 88486, Stop: 87863, Start Num: 28

Candidate Starts for Smoothie_177:

(Start: 28 @88486 has 19 MA's), (39, 88429), (43, 88408), (62, 88264), (63, 88246), (71, 88189), (84, 88105), (88, 88045), (89, 88039), (91, 88024), (94, 88009), (100, 87967), (106, 87913),

Gene: SqueakyClean_73 Start: 47904, Stop: 47191, Start Num: 16

Candidate Starts for SqueakyClean_73:

(Start: 16 @47904 has 3 MA's), (18, 47877), (Start: 31 @47826 has 3 MA's), (Start: 33 @47808 has 10 MA's), (45, 47718), (50, 47682), (52, 47673), (53, 47670), (84, 47481), (88, 47421), (106, 47274), (107, 47265), (108, 47256), (109, 47253),

Gene: Superstar_79 Start: 47292, Stop: 46609, Start Num: 19

Candidate Starts for Superstar_79:

(19, 47292), (24, 47262), (Start: 33 @47226 has 10 MA's), (52, 47091), (53, 47088), (56, 47073), (60, 47067), (83, 46908), (84, 46899), (93, 46806), (105, 46695), (107, 46683), (108, 46674), (109, 46671),

Gene: TNguyen7_89 Start: 48767, Stop: 48192, Start Num: 27

Candidate Starts for TNguyen7_89:

(Start: 27 @48767 has 26 MA's), (Start: 33 @48749 has 10 MA's), (48, 48653), (51, 48623), (57, 48599), (61, 48575), (69, 48488), (77, 48452), (89, 48359), (98, 48305), (99, 48299), (106, 48233), (109, 48212),

Gene: Tefunt_75 Start: 47945, Stop: 46980, Start Num: 1

Candidate Starts for Tefunt_75:

(Start: 1 @47945 has 1 MA's), (2, 47909), (Start: 16 @47690 has 3 MA's), (Start: 31 @47615 has 3 MA's), (Start: 33 @47597 has 10 MA's), (50, 47471), (52, 47462), (53, 47459), (83, 47279), (84, 47270), (88, 47210), (93, 47177), (106, 47063), (107, 47054), (108, 47045), (109, 47042),

Gene: Texage_85 Start: 48439, Stop: 47864, Start Num: 27

Candidate Starts for Texage_85:

(Start: 27 @48439 has 26 MA's), (39, 48388), (48, 48325), (61, 48247), (77, 48124), (90, 48025), (98, 47977), (106, 47905), (109, 47884),

Gene: Thestral_78 Start: 49437, Stop: 48820, Start Num: 33

Candidate Starts for Thestral_78:

(Start: 33 @49437 has 10 MA's), (43, 49377), (45, 49347), (52, 49302), (53, 49299), (84, 49110), (88, 49050), (106, 48903), (107, 48894), (108, 48885), (109, 48882),

Gene: Timshel_85 Start: 51894, Stop: 51319, Start Num: 28

Candidate Starts for Timshel_85:

(Start: 28 @51894 has 19 MA's), (37, 51858), (42, 51828), (50, 51756), (58, 51720), (65, 51654), (68, 51639), (77, 51582), (99, 51429), (100, 51417), (106, 51363),

Gene: TinaBelcher_76 Start: 49299, Stop: 48682, Start Num: 33

Candidate Starts for TinaBelcher_76:

(Start: 33 @49299 has 10 MA's), (43, 49239), (45, 49209), (52, 49164), (53, 49161), (70, 49038), (84, 48972), (88, 48912), (106, 48765), (107, 48756), (108, 48747), (109, 48744),

Gene: Todacoro_87 Start: 48438, Stop: 47863, Start Num: 27

Candidate Starts for Todacoro_87:

(Start: 27 @48438 has 26 MA's), (39, 48387), (48, 48324), (61, 48246), (77, 48123), (90, 48024), (98, 47976), (106, 47904), (109, 47883),

Gene: Toniann_176 Start: 87931, Stop: 87308, Start Num: 28

Candidate Starts for Toniann_176:

(Start: 28 @87931 has 19 MA's), (39, 87874), (43, 87853), (62, 87709), (63, 87691), (71, 87634), (84, 87550), (88, 87490), (89, 87484), (91, 87469), (94, 87454), (100, 87412), (106, 87358),

Gene: Toro_86 Start: 52449, Stop: 51859, Start Num: 26

Candidate Starts for Toro_86:

(6, 52572), (10, 52548), (14, 52521), (20, 52479), (Start: 26 @52449 has 2 MA's), (39, 52383), (42, 52368), (43, 52362), (50, 52296), (65, 52194), (77, 52122), (88, 52035), (99, 51969), (106, 51903), (109, 51882),

Gene: Triumph_79 Start: 48452, Stop: 47835, Start Num: 33

Candidate Starts for Triumph_79:

(Start: 33 @48452 has 10 MA's), (52, 48317), (53, 48314), (56, 48299), (83, 48134), (84, 48125), (106, 47918), (108, 47900), (109, 47897),

Gene: TrvxScott_75 Start: 49422, Stop: 48787, Start Num: 31

Candidate Starts for TrvxScott_75:

(Start: 31 @49422 has 3 MA's), (Start: 33 @49404 has 10 MA's), (43, 49344), (45, 49314), (52, 49269), (53, 49266), (84, 49077), (88, 49017), (106, 48870), (107, 48861), (108, 48852), (109, 48849),

Gene: Veracruz_84 Start: 48439, Stop: 47864, Start Num: 27

Candidate Starts for Veracruz_84:

(Start: 27 @48439 has 26 MA's), (39, 48388), (48, 48325), (61, 48247), (77, 48124), (90, 48025), (98, 47977), (106, 47905), (109, 47884),

Gene: WilliamBoone_181 Start: 87425, Stop: 86802, Start Num: 28

Candidate Starts for WilliamBoone_181:

(Start: 28 @87425 has 19 MA's), (39, 87368), (43, 87347), (62, 87203), (63, 87185), (71, 87128), (84, 87044), (88, 86984), (89, 86978), (91, 86963), (94, 86948), (100, 86906), (102, 86873), (106, 86852),

Gene: Yvonnetastic_203 Start: 96754, Stop: 96101, Start Num: 30

Candidate Starts for Yvonnetastic_203:

(Start: 30 @96754 has 2 MA's), (39, 96706), (43, 96685), (45, 96655), (46, 96646), (49, 96622), (53, 96607), (62, 96541), (67, 96505), (75, 96436), (84, 96373), (88, 96313), (91, 96292), (94, 96277),

Gene: Zooman_329 Start: 183136, Stop: 183753, Start Num: 36

Candidate Starts for Zooman_329:

(Start: 36 @183136 has 12 MA's), (61, 183286), (67, 183346), (85, 183454), (88, 183499), (103, 183643), (107, 183673), (114, 183733),

Gene: Zooman_16 Start: 7485, Stop: 8102, Start Num: 36

Candidate Starts for Zooman_16:

(Start: 36 @7485 has 12 MA's), (61, 7635), (67, 7695), (85, 7803), (88, 7848), (103, 7992), (107, 8022), (114, 8082),