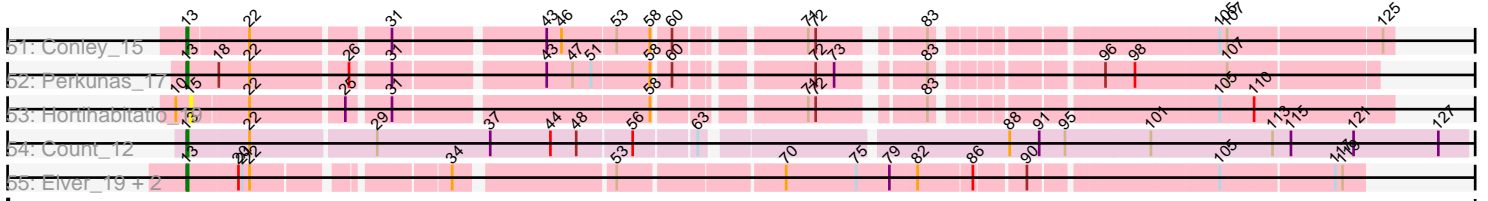


Pham 171336



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 171336 Report

This analysis was run 07/10/24 on database version 566.

Pham number 171336 has 107 members, 17 are drafts.

Phages represented in each track:

- Track 1 : Inked_9
- Track 2 : CastorTray_9, Trustiboi_8
- Track 3 : Gordon_8, AreFloNak_8, Tatanka_7, Darby_8, Nivinsha_8, Synepsis_7
- Track 4 : Niktson_7, ElephantMan_7, Teacup_8, Brunswick_8
- Track 5 : Issa_8, Breylor17_8
- Track 6 : ScienceWizSam_9
- Track 7 : Tenno_9, CapnMurica_8, MiniBagel_8
- Track 8 : DevitoJr_8
- Track 9 : Nightmare_9
- Track 10 : Tokki_9
- Track 11 : LilHuddy_8, Phaby_8
- Track 12 : Giantsbane_8
- Track 13 : Shepard_8
- Track 14 : Loretta_8, Ingrid_8
- Track 15 : Caterpillar_9, MediumFry_9
- Track 16 : Makai_8
- Track 17 : Truckee_8
- Track 18 : Kardashian_9
- Track 19 : Pepy6_020
- Track 20 : Poco6_019
- Track 21 : Pepy6_017
- Track 22 : Poco6_021
- Track 23 : Schwartz33_20
- Track 24 : Eddiemaniamia_19
- Track 25 : Schwartz33_5
- Track 26 : AlainaMarie_5
- Track 27 : Roney_15, Capybara_15, Magel_15, Kerry_15, Gravy_15, Odesza_15
- Track 28 : Figliar_5, Aflac_5
- Track 29 : Crocheter_4
- Track 30 : OlgasClover_5, Nithya_5, Duffington_5
- Track 31 : Madvan_5, Runhaar_5, Phepper_5, Nadmeg_5, Vardy_5, Burley_5
- Track 32 : Nithya_18, EndAve_18, AlainaMarie_18
- Track 33 : BluerMoon_6, Jodelie19_5, TenaciousP_6
- Track 34 : Crocheter_17, Untouchable_17, Nadmeg_18, Vardy_18, Runhaar_18, Burley_18, Phepper_18, Madvan_19
- Track 35 : Tanis_15, Gill_15
- Track 36 : Kenosha_17

- Track 37 : Aflac_18, Jodelie19_18, Figliar_18, TenaciousP_20, Rickmore_17, BluerMoon_20
- Track 38 : Petite_16
- Track 39 : FortCran_15, Artorias_15, Avazak_15, Captrips_15
- Track 40 : Mossy_19
- Track 41 : EndAve_5
- Track 42 : Fazel_16
- Track 43 : Chikenjars_5
- Track 44 : Secretariat_17
- Track 45 : Zeph_19, Hydrus_19
- Track 46 : Chikenjars_18, Duffington_18
- Track 47 : OhMyWard_5
- Track 48 : Pherobrine_17
- Track 49 : Untouchable_4
- Track 50 : Rickmore_4
- Track 51 : Conley_15
- Track 52 : Perkunas_17
- Track 53 : Hortihabitatio_19
- Track 54 : Count_12
- Track 55 : Elver_19, Paella_20, Qui_20

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

The start number called the most often in the published annotations is 13, it was called in 61 of the 90 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aflac_18, AlainaMarie_18, AreFloNak_8, Artorias_15, Avazak_15, BluerMoon_20, Breylor17_8, Brunswick_8, Burley_18, CapnMurica_8, Captrips_15, Copybara_15, CastorTray_9, Caterpillar_9, Chikenjars_18, Conley_15, Count_12, Crocheter_17, Darby_8, DevitoJr_8, Duffington_18, ElephantMan_7, Elver_19, EndAve_18, Figliar_18, FortCran_15, Giantsbane_8, Gill_15, Gordon_8, Gravy_15, Ingrid_8, Inked_9, Issa_8, Jodelie19_18, Kerry_15, LilHuddy_8, Loretta_8, Madvan_19, Magel_15, Makai_8, MediumFry_9, MiniBagel_8, Nadmeg_18, Niktson_7, Nithya_18, Nivinsha_8, Odesza_15, Paella_20, Perkunas_17, Petite_16, Phaby_8, Phepper_18, Poco6_019, Qui_20, Rickmore_17, Roney_15, Runhaar_18, Schwartz33_20, ScienceWizSam_9, Shepard_8, Synopsis_7, Tanis_15, Tatanka_7, Teacup_8, TenaciousP_20, Tenno_9, Truckee_8, Trustiboi_8, Untouchable_17, Vardy_18,

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

-

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

- Aflac_5, AlainaMarie_5, BluerMoon_6, Burley_5, Chikenjars_5, Crocheter_4, Duffington_5, Eddiemania_19, EndAve_5, Fazel_16, Figliar_5, Hortihabitatio_19, Hydrus_19, Jodelie19_5, Kardashian_9, Kenosha_17, Madvan_5, Mossy_19, Nadmeg_5, Nightmare_9, Nithya_5, OhMyWard_5, OlgasClover_5, Pepy6_017, Pepy6_020, Phepper_5, Pherobrine_17, Poco6_021, Rickmore_4, Runhaar_5, Schwartz33_5, Secretariat_17, TenaciousP_6, Tokki_9, Untouchable_4, Vardy_5, Zeph_19,

Summary by start number:

Start 6:

- Found in 1 of 107 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 90
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kardashian_9 (BI6),

Start 11:

- Found in 3 of 107 (2.8%) of genes in pham
- No Manual Annotations of this start.
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Pepy6_020 (CC), Poco6_021 (CC),

Start 12:

- Found in 5 of 107 (4.7%) of genes in pham
- Manual Annotations of this start: 3 of 90
- Called 60.0% of time when present
- Phage (with cluster) where this start called: Hydrus_19 (DJ), Nightmare_9 (AU1), Zeph_19 (DJ),

Start 13:

- Found in 70 of 107 (65.4%) of genes in pham
- Manual Annotations of this start: 61 of 90
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aflac_18 (DJ), AlainaMarie_18 (DJ), AreFloNak_8 (AU1), Artorias_15 (DJ), Avazak_15 (DJ), BluerMoon_20 (DJ), Breylor17_8 (AU1), Brunswick_8 (AU1), Burley_18 (DJ), CapnMurica_8 (AU1), Captrips_15 (DJ), Capybara_15 (DJ), CastorTray_9 (AU1), Caterpillar_9 (AU4), Chikenjars_18 (DJ), Conley_15 (DJ), Count_12 (EL), Crocheter_17 (DJ), Darby_8 (AU1), DevitoJr_8 (AU1), Duffington_18 (DJ), ElephantMan_7 (AU1), Elver_19 (FK), EndAve_18 (DJ), Figliar_18 (DJ), FortCran_15 (DJ), Giantsbane_8 (AU2), Gill_15 (DJ), Gordon_8 (AU1), Gravy_15 (DJ), Ingrid_8 (AU3), Inked_9 (AU), Issa_8 (AU1), Jodelie19_18 (DJ), Kerry_15 (DJ), LilHuddy_8 (AU2), Loretta_8 (AU3), Madvan_19 (DJ), Magel_15 (DJ), Makai_8 (AU5), MediumFry_9 (AU4), MiniBagel_8 (AU1), Nadmeg_18 (DJ), Niktson_7 (AU1), Nithya_18 (DJ), Nivinsha_8 (AU1), Odesza_15 (DJ), Paella_20 (FK), Perkunas_17 (DJ), Petite_16 (DJ), Phaby_8 (AU2), Phepper_18 (DJ), Poco6_019 (CC), Qui_20 (FK), Rickmore_17 (DJ), Roney_15 (DJ), Runhaar_18 (DJ), Schwartz33_20 (DJ), ScienceWizSam_9 (AU1), Shepard_8 (AU2), Synopsis_7 (AU1), Tanis_15 (DJ), Tatanka_7 (AU1), Teacup_8 (AU1), TenaciousP_20 (DJ), Tenno_9 (AU1), Truckee_8 (AU5), Trustiboi_8 (AU1), Untouchable_17 (DJ), Vardy_18 (DJ),

Start 15:

- Found in 11 of 107 (10.3%) of genes in pham
- Manual Annotations of this start: 6 of 90
- Called 81.8% of time when present
- Phage (with cluster) where this start called: Eddiemania_19 (DJ), Fazel_16 (DJ), Hortihabitatio_19 (DJ), Kenosha_17 (DJ), Mossy_19 (DJ), Pepy6_017 (CC), Pherobrine_17 (DJ), Secretariat_17 (DJ), Tokki_9 (AU2),

Start 19:

- Found in 21 of 107 (19.6%) of genes in pham
- Manual Annotations of this start: 18 of 90
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aflac_5 (DJ), AlainaMarie_5 (DJ), BluerMoon_6 (DJ), Burley_5 (DJ), Chikenjars_5 (DJ), Crocheter_4 (DJ), Duffington_5 (DJ), EndAve_5 (DJ), Figliar_5 (DJ), Jodelie19_5 (DJ), Madvan_5 (DJ), Nadmeg_5 (DJ), Nithya_5 (DJ), OhMyWard_5 (DJ), OlgasClover_5 (DJ), Phepper_5 (DJ), Runhaar_5 (DJ), Schwartz33_5 (DJ), TenaciousP_6 (DJ), Untouchable_4 (DJ), Vardy_5 (DJ),

Start 35:

- Found in 1 of 107 (0.9%) of genes in pham
- Manual Annotations of this start: 1 of 90
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rickmore_4 (DJ),

Summary by clusters:

There are 11 clusters represented in this pham: EL, DJ, CC, AU1, AU3, AU2, AU5, AU4, BI6, AU, FK,

Info for manual annotations of cluster AU:

- Start number 13 was manually annotated 1 time for cluster AU.

Info for manual annotations of cluster AU1:

- Start number 12 was manually annotated 1 time for cluster AU1.
- Start number 13 was manually annotated 16 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 13 was manually annotated 3 times for cluster AU2.
- Start number 15 was manually annotated 1 time for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 13 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 13 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 13 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster BI6:

- Start number 6 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster DJ:

- Start number 12 was manually annotated 2 times for cluster DJ.
- Start number 13 was manually annotated 32 times for cluster DJ.
- Start number 15 was manually annotated 5 times for cluster DJ.
- Start number 19 was manually annotated 18 times for cluster DJ.
- Start number 35 was manually annotated 1 time for cluster DJ.

Info for manual annotations of cluster EL:

- Start number 13 was manually annotated 1 time for cluster EL.

Info for manual annotations of cluster FK:

- Start number 13 was manually annotated 2 times for cluster FK.

Gene Information:

Gene: Aflac_5 Start: 2074, Stop: 2889, Start Num: 19

Candidate Starts for Aflac_5:

(14, 2035), (Start: 19 @2074 has 18 MA's), (24, 2122), (27, 2167), (33, 2227), (42, 2287), (51, 2326), (61, 2386), (62, 2398), (77, 2509), (87, 2602), (105, 2764), (114, 2815), (117, 2851), (122, 2869),

Gene: Aflac_18 Start: 12253, Stop: 13095, Start Num: 13

Candidate Starts for Aflac_18:

(Start: 13 @12253 has 61 MA's), (22, 12301), (25, 12370), (31, 12400), (58, 12592), (70, 12673), (71, 12691), (72, 12697), (83, 12766), (105, 12964),

Gene: AlainaMarie_5 Start: 2068, Stop: 2880, Start Num: 19

Candidate Starts for AlainaMarie_5:

(1, 1897), (2, 1927), (3, 1957), (8, 2014), (14, 2029), (Start: 19 @2068 has 18 MA's), (24, 2116), (26, 2152), (27, 2161), (33, 2221), (42, 2281), (51, 2320), (53, 2338), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (105, 2758), (114, 2809), (117, 2845),

Gene: AlainaMarie_18 Start: 12243, Stop: 13085, Start Num: 13

Candidate Starts for AlainaMarie_18:

(Start: 13 @12243 has 61 MA's), (22, 12291), (25, 12360), (31, 12390), (53, 12555), (58, 12582), (70, 12663), (71, 12681), (72, 12687), (83, 12756), (105, 12954), (108, 12963),

Gene: AreFloNak_8 Start: 5330, Stop: 6178, Start Num: 13

Candidate Starts for AreFloNak_8:

(Start: 13 @5330 has 61 MA's), (20, 5366), (22, 5375), (28, 5462), (31, 5477), (32, 5489), (52, 5636), (55, 5651), (58, 5669), (72, 5774), (90, 5900), (102, 5999), (117, 6128), (118, 6131), (124, 6164),

Gene: Artorias_15 Start: 9651, Stop: 10493, Start Num: 13

Candidate Starts for Artorias_15:

(Start: 13 @9651 has 61 MA's), (22, 9699), (31, 9798), (43, 9909), (47, 9930), (58, 9990), (71, 10089), (72, 10095), (83, 10164), (105, 10362),

Gene: Avazak_15 Start: 9658, Stop: 10500, Start Num: 13

Candidate Starts for Avazak_15:

(Start: 13 @9658 has 61 MA's), (22, 9706), (31, 9805), (43, 9916), (47, 9937), (58, 9997), (71, 10096), (72, 10102), (83, 10171), (105, 10369),

Gene: BluerMoon_6 Start: 2068, Stop: 2883, Start Num: 19

Candidate Starts for BluerMoon_6:

(Start: 19 @2068 has 18 MA's), (24, 2116), (27, 2161), (33, 2221), (42, 2281), (51, 2320), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (105, 2758), (114, 2809), (117, 2845), (122, 2863),

Gene: BluerMoon_20 Start: 12247, Stop: 13089, Start Num: 13

Candidate Starts for BluerMoon_20:

(Start: 13 @12247 has 61 MA's), (22, 12295), (25, 12364), (31, 12394), (58, 12586), (70, 12667), (71, 12685), (72, 12691), (83, 12760), (105, 12958),

Gene: Breylor17_8 Start: 5455, Stop: 6303, Start Num: 13

Candidate Starts for Breylor17_8:

(Start: 13 @5455 has 61 MA's), (20, 5491), (22, 5500), (28, 5587), (31, 5602), (32, 5614), (52, 5761), (58, 5794), (70, 5875), (72, 5899), (90, 6025), (102, 6124), (117, 6253), (118, 6256), (124, 6289),

Gene: Brunswick_8 Start: 5440, Stop: 6291, Start Num: 13

Candidate Starts for Brunswick_8:

(Start: 13 @5440 has 61 MA's), (20, 5476), (22, 5485), (28, 5572), (31, 5587), (32, 5599), (45, 5707), (52, 5749), (55, 5764), (58, 5782), (70, 5863), (71, 5881), (72, 5887), (102, 6112), (117, 6241), (118, 6244), (124, 6277),

Gene: Burley_18 Start: 12011, Stop: 12853, Start Num: 13

Candidate Starts for Burley_18:

(Start: 13 @12011 has 61 MA's), (22, 12059), (25, 12128), (31, 12158), (58, 12350), (71, 12449), (72, 12455), (83, 12524), (105, 12722),

Gene: Burley_5 Start: 2068, Stop: 2883, Start Num: 19

Candidate Starts for Burley_5:

(14, 2029), (Start: 19 @2068 has 18 MA's), (24, 2116), (27, 2161), (33, 2221), (51, 2320), (53, 2338), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (93, 2638), (98, 2692), (105, 2758), (106, 2761), (117, 2845), (122, 2863),

Gene: CapnMurica_8 Start: 6536, Stop: 7387, Start Num: 13

Candidate Starts for CapnMurica_8:

(Start: 13 @6536 has 61 MA's), (20, 6572), (22, 6581), (28, 6668), (31, 6683), (32, 6695), (45, 6803), (52, 6845), (55, 6860), (58, 6878), (70, 6959), (72, 6983), (102, 7208), (117, 7337), (118, 7340), (124, 7373),

Gene: Captrips_15 Start: 9658, Stop: 10500, Start Num: 13

Candidate Starts for Captrips_15:

(Start: 13 @9658 has 61 MA's), (22, 9706), (31, 9805), (43, 9916), (47, 9937), (58, 9997), (71, 10096), (72, 10102), (83, 10171), (105, 10369),

Gene: Capybara_15 Start: 9377, Stop: 10219, Start Num: 13

Candidate Starts for Capybara_15:

(Start: 13 @9377 has 61 MA's), (22, 9425), (31, 9524), (43, 9635), (51, 9671), (58, 9716), (72, 9821), (83, 9890), (105, 10088),

Gene: CastorTray_9 Start: 5309, Stop: 6157, Start Num: 13

Candidate Starts for CastorTray_9:

(Start: 13 @5309 has 61 MA's), (20, 5345), (22, 5354), (28, 5441), (31, 5456), (32, 5468), (52, 5615), (58, 5648), (72, 5753), (90, 5879), (102, 5978), (117, 6107), (118, 6110), (124, 6143),

Gene: Caterpillar_9 Start: 5548, Stop: 6399, Start Num: 13

Candidate Starts for Caterpillar_9:

(Start: 13 @5548 has 61 MA's), (20, 5584), (22, 5593), (28, 5680), (31, 5695), (32, 5707), (49, 5833), (52, 5857), (53, 5863), (58, 5890), (70, 5971), (72, 5995), (87, 6100), (102, 6220), (117, 6349), (118, 6352), (124, 6385),

Gene: Chikenjars_5 Start: 2068, Stop: 2880, Start Num: 19

Candidate Starts for Chikenjars_5:

(Start: 19 @2068 has 18 MA's), (24, 2116), (26, 2152), (27, 2161), (33, 2221), (42, 2281), (51, 2320), (53, 2338), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (105, 2758), (114, 2809), (117, 2845),

Gene: Chikenjars_18 Start: 12243, Stop: 13085, Start Num: 13

Candidate Starts for Chikenjars_18:

(Start: 13 @12243 has 61 MA's), (22, 12291), (25, 12360), (31, 12390), (53, 12555), (58, 12582), (70, 12663), (71, 12681), (72, 12687), (83, 12756), (105, 12954),

Gene: Conley_15 Start: 9685, Stop: 10524, Start Num: 13

Candidate Starts for Conley_15:

(Start: 13 @9685 has 61 MA's), (22, 9730), (31, 9829), (43, 9940), (46, 9952), (53, 9994), (58, 10021), (60, 10033), (71, 10120), (72, 10126), (83, 10195), (105, 10393), (107, 10399), (125, 10516),

Gene: Count_12 Start: 6180, Stop: 7169, Start Num: 13

Candidate Starts for Count_12:

(Start: 13 @6180 has 61 MA's), (22, 6228), (29, 6324), (37, 6414), (44, 6462), (48, 6483), (56, 6525), (63, 6570), (88, 6798), (91, 6822), (95, 6843), (101, 6912), (113, 7011), (115, 7026), (121, 7077), (127, 7146),

Gene: Crocheter_4 Start: 995, Stop: 1810, Start Num: 19

Candidate Starts for Crocheter_4:

(8, 941), (Start: 19 @995 has 18 MA's), (24, 1043), (27, 1088), (33, 1148), (50, 1244), (51, 1247), (53, 1265), (61, 1307), (62, 1319), (77, 1430), (87, 1523), (93, 1565), (106, 1688), (117, 1772),

Gene: Crocheter_17 Start: 10971, Stop: 11813, Start Num: 13

Candidate Starts for Crocheter_17:

(Start: 13 @10971 has 61 MA's), (22, 11019), (25, 11088), (31, 11118), (58, 11310), (71, 11409), (72, 11415), (83, 11484), (105, 11682),

Gene: Darby_8 Start: 5312, Stop: 6160, Start Num: 13

Candidate Starts for Darby_8:

(Start: 13 @5312 has 61 MA's), (20, 5348), (22, 5357), (28, 5444), (31, 5459), (32, 5471), (52, 5618), (55, 5633), (58, 5651), (72, 5756), (90, 5882), (102, 5981), (117, 6110), (118, 6113), (124, 6146),

Gene: DevitoJr_8 Start: 5454, Stop: 6302, Start Num: 13

Candidate Starts for DevitoJr_8:

(Start: 13 @5454 has 61 MA's), (20, 5490), (22, 5499), (28, 5586), (31, 5601), (32, 5613), (52, 5760), (55, 5775), (58, 5793), (71, 5892), (72, 5898), (90, 6024), (102, 6123), (117, 6252), (118, 6255), (124, 6288),

Gene: Duffington_18 Start: 12228, Stop: 13070, Start Num: 13

Candidate Starts for Duffington_18:

(Start: 13 @12228 has 61 MA's), (22, 12276), (25, 12345), (31, 12375), (53, 12540), (58, 12567), (70, 12648), (71, 12666), (72, 12672), (83, 12741), (105, 12939),

Gene: Duffington_5 Start: 2068, Stop: 2880, Start Num: 19

Candidate Starts for Duffington_5:

(Start: 19 @2068 has 18 MA's), (24, 2116), (27, 2161), (33, 2221), (42, 2281), (51, 2320), (53, 2338), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (105, 2758), (114, 2809), (117, 2845),

Gene: Eddiemania_19 Start: 13011, Stop: 13850, Start Num: 15

Candidate Starts for Eddiemania_19:

(Start: 12 @13005 has 3 MA's), (Start: 15 @13011 has 6 MA's), (22, 13056), (25, 13125), (31, 13155), (58, 13347), (68, 13413), (71, 13446), (72, 13452), (83, 13521), (105, 13719), (117, 13806),

Gene: ElephantMan_7 Start: 5470, Stop: 6321, Start Num: 13

Candidate Starts for ElephantMan_7:

(Start: 13 @5470 has 61 MA's), (20, 5506), (22, 5515), (28, 5602), (31, 5617), (32, 5629), (45, 5737), (52, 5779), (55, 5794), (58, 5812), (70, 5893), (71, 5911), (72, 5917), (102, 6142), (117, 6271), (118, 6274), (124, 6307),

Gene: Elver_19 Start: 11351, Stop: 12199, Start Num: 13

Candidate Starts for Elver_19:

(Start: 13 @11351 has 61 MA's), (20, 11390), (21, 11393), (22, 11399), (34, 11528), (53, 11642), (70, 11765), (75, 11822), (79, 11849), (82, 11870), (86, 11912), (90, 11948), (105, 12089), (117, 12176), (119, 12182),

Gene: EndAve_5 Start: 2068, Stop: 2880, Start Num: 19

Candidate Starts for EndAve_5:

(14, 2029), (Start: 19 @2068 has 18 MA's), (24, 2116), (26, 2152), (27, 2161), (33, 2221), (42, 2281), (51, 2320), (53, 2338), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (105, 2758), (114, 2809), (117, 2845),

Gene: EndAve_18 Start: 12243, Stop: 13085, Start Num: 13

Candidate Starts for EndAve_18:

(Start: 13 @12243 has 61 MA's), (22, 12291), (25, 12360), (31, 12390), (53, 12555), (58, 12582), (70, 12663), (71, 12681), (72, 12687), (83, 12756), (105, 12954), (108, 12963),

Gene: Fazel_16 Start: 11367, Stop: 12203, Start Num: 15

Candidate Starts for Fazel_16:

(10, 11355), (Start: 15 @11367 has 6 MA's), (22, 11409), (23, 11421), (25, 11478), (31, 11508), (53, 11673), (58, 11700), (71, 11799), (72, 11805), (83, 11874), (105, 12072), (110, 12099), (114, 12123),

Gene: Figliar_5 Start: 2074, Stop: 2889, Start Num: 19

Candidate Starts for Figliar_5:

(14, 2035), (Start: 19 @2074 has 18 MA's), (24, 2122), (27, 2167), (33, 2227), (42, 2287), (51, 2326), (61, 2386), (62, 2398), (77, 2509), (87, 2602), (105, 2764), (114, 2815), (117, 2851), (122, 2869),

Gene: Figliar_18 Start: 12253, Stop: 13095, Start Num: 13

Candidate Starts for Figliar_18:

(Start: 13 @12253 has 61 MA's), (22, 12301), (25, 12370), (31, 12400), (58, 12592), (70, 12673), (71, 12691), (72, 12697), (83, 12766), (105, 12964),

Gene: FortCran_15 Start: 9651, Stop: 10493, Start Num: 13

Candidate Starts for FortCran_15:

(Start: 13 @9651 has 61 MA's), (22, 9699), (31, 9798), (43, 9909), (47, 9930), (58, 9990), (71, 10089), (72, 10095), (83, 10164), (105, 10362),

Gene: Giantsbane_8 Start: 5270, Stop: 6124, Start Num: 13

Candidate Starts for Giantsbane_8:

(Start: 13 @5270 has 61 MA's), (22, 5318), (28, 5405), (31, 5420), (32, 5432), (38, 5492), (52, 5582), (53, 5588), (55, 5597), (58, 5615), (70, 5696), (72, 5720), (90, 5846), (102, 5945), (118, 6077), (124, 6110),

Gene: Gill_15 Start: 9377, Stop: 10219, Start Num: 13

Candidate Starts for Gill_15:

(Start: 13 @9377 has 61 MA's), (22, 9425), (31, 9524), (43, 9635), (51, 9671), (58, 9716), (72, 9821), (83, 9890), (105, 10088),

Gene: Gordon_8 Start: 6578, Stop: 7426, Start Num: 13

Candidate Starts for Gordon_8:

(Start: 13 @6578 has 61 MA's), (20, 6614), (22, 6623), (28, 6710), (31, 6725), (32, 6737), (52, 6884), (55, 6899), (58, 6917), (72, 7022), (90, 7148), (102, 7247), (117, 7376), (118, 7379), (124, 7412),

Gene: Gravy_15 Start: 9377, Stop: 10219, Start Num: 13

Candidate Starts for Gravy_15:

(Start: 13 @9377 has 61 MA's), (22, 9425), (31, 9524), (43, 9635), (51, 9671), (58, 9716), (72, 9821), (83, 9890), (105, 10088),

Gene: Hortihabitatio_19 Start: 11738, Stop: 12574, Start Num: 15

Candidate Starts for Hortihabitatio_19:

(10, 11726), (Start: 15 @11738 has 6 MA's), (22, 11780), (25, 11849), (31, 11879), (58, 12071), (71, 12170), (72, 12176), (83, 12245), (105, 12443), (110, 12470),

Gene: Hydrus_19 Start: 12821, Stop: 13666, Start Num: 12

Candidate Starts for Hydrus_19:

(Start: 12 @12821 has 3 MA's), (Start: 15 @12827 has 6 MA's), (22, 12872), (25, 12941), (31, 12971), (58, 13163), (71, 13262), (72, 13268), (83, 13337), (105, 13535), (117, 13622),

Gene: Ingrid_8 Start: 5356, Stop: 6204, Start Num: 13

Candidate Starts for Ingrid_8:

(Start: 13 @5356 has 61 MA's), (22, 5401), (28, 5488), (31, 5503), (32, 5515), (47, 5635), (52, 5662), (53, 5668), (55, 5677), (58, 5695), (70, 5776), (72, 5800), (87, 5905), (90, 5926), (102, 6025), (118, 6157), (124, 6190),

Gene: Inked_9 Start: 5530, Stop: 6381, Start Num: 13

Candidate Starts for Inked_9:

(Start: 13 @5530 has 61 MA's), (22, 5575), (28, 5662), (31, 5677), (32, 5689), (52, 5839), (53, 5845), (58, 5872), (70, 5953), (72, 5977), (102, 6202), (118, 6334), (124, 6367),

Gene: Issa_8 Start: 5285, Stop: 6133, Start Num: 13

Candidate Starts for Issa_8:

(Start: 13 @5285 has 61 MA's), (20, 5321), (22, 5330), (28, 5417), (31, 5432), (32, 5444), (52, 5591), (58, 5624), (70, 5705), (72, 5729), (90, 5855), (102, 5954), (117, 6083), (118, 6086), (124, 6119),

Gene: Jodelie19_18 Start: 12247, Stop: 13089, Start Num: 13

Candidate Starts for Jodelie19_18:

(Start: 13 @12247 has 61 MA's), (22, 12295), (25, 12364), (31, 12394), (58, 12586), (70, 12667), (71, 12685), (72, 12691), (83, 12760), (105, 12958),

Gene: Jodelie19_5 Start: 2068, Stop: 2883, Start Num: 19

Candidate Starts for Jodelie19_5:

(Start: 19 @2068 has 18 MA's), (24, 2116), (27, 2161), (33, 2221), (42, 2281), (51, 2320), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (105, 2758), (114, 2809), (117, 2845), (122, 2863),

Gene: Kardashian_9 Start: 5672, Stop: 6547, Start Num: 6

Candidate Starts for Kardashian_9:

(Start: 6 @5672 has 1 MA's), (9, 5678), (18, 5714), (22, 5738), (31, 5834), (34, 5879), (41, 5924), (58, 6020), (61, 6035), (74, 6155), (76, 6173), (77, 6176), (84, 6233), (89, 6281), (94, 6311), (98, 6362), (100, 6371), (103, 6389), (112, 6464), (113, 6470), (116, 6509),

Gene: Kenosha_17 Start: 11428, Stop: 12267, Start Num: 15

Candidate Starts for Kenosha_17:

(Start: 12 @11422 has 3 MA's), (Start: 15 @11428 has 6 MA's), (22, 11473), (25, 11542), (31, 11572), (58, 11764), (71, 11863), (72, 11869), (83, 11938), (105, 12136), (117, 12223),

Gene: Kerry_15 Start: 9377, Stop: 10219, Start Num: 13

Candidate Starts for Kerry_15:

(Start: 13 @9377 has 61 MA's), (22, 9425), (31, 9524), (43, 9635), (51, 9671), (58, 9716), (72, 9821), (83, 9890), (105, 10088),

Gene: LilHuddy_8 Start: 5267, Stop: 6118, Start Num: 13

Candidate Starts for LilHuddy_8:

(Start: 13 @5267 has 61 MA's), (22, 5315), (28, 5402), (31, 5417), (32, 5429), (51, 5564), (52, 5576), (53, 5582), (55, 5591), (58, 5609), (70, 5690), (71, 5708), (72, 5714), (83, 5783), (118, 6071), (124, 6104),

Gene: Loretta_8 Start: 5356, Stop: 6204, Start Num: 13

Candidate Starts for Loretta_8:

(Start: 13 @5356 has 61 MA's), (22, 5401), (28, 5488), (31, 5503), (32, 5515), (47, 5635), (52, 5662), (53, 5668), (55, 5677), (58, 5695), (70, 5776), (72, 5800), (87, 5905), (90, 5926), (102, 6025), (118, 6157), (124, 6190),

Gene: Madvan_5 Start: 2068, Stop: 2883, Start Num: 19

Candidate Starts for Madvan_5:

(14, 2029), (Start: 19 @2068 has 18 MA's), (24, 2116), (27, 2161), (33, 2221), (51, 2320), (53, 2338), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (93, 2638), (98, 2692), (105, 2758), (106, 2761), (117, 2845), (122, 2863),

Gene: Madvan_19 Start: 12044, Stop: 12886, Start Num: 13

Candidate Starts for Madvan_19:

(Start: 13 @12044 has 61 MA's), (22, 12092), (25, 12161), (31, 12191), (58, 12383), (71, 12482), (72, 12488), (83, 12557), (105, 12755),

Gene: Magel_15 Start: 9377, Stop: 10219, Start Num: 13

Candidate Starts for Magel_15:

(Start: 13 @9377 has 61 MA's), (22, 9425), (31, 9524), (43, 9635), (51, 9671), (58, 9716), (72, 9821), (83, 9890), (105, 10088),

Gene: Makai_8 Start: 5396, Stop: 6247, Start Num: 13

Candidate Starts for Makai_8:

(Start: 13 @5396 has 61 MA's), (22, 5444), (28, 5531), (30, 5540), (31, 5546), (32, 5558), (52, 5705), (53, 5711), (58, 5738), (70, 5819), (72, 5843), (87, 5948), (110, 6137), (118, 6200), (124, 6233),

Gene: MediumFry_9 Start: 5577, Stop: 6428, Start Num: 13

Candidate Starts for MediumFry_9:

(Start: 13 @5577 has 61 MA's), (20, 5613), (22, 5622), (28, 5709), (31, 5724), (32, 5736), (49, 5862), (52, 5886), (53, 5892), (58, 5919), (70, 6000), (72, 6024), (87, 6129), (102, 6249), (117, 6378), (118, 6381), (124, 6414),

Gene: MiniBagel_8 Start: 6536, Stop: 7387, Start Num: 13

Candidate Starts for MiniBagel_8:

(Start: 13 @6536 has 61 MA's), (20, 6572), (22, 6581), (28, 6668), (31, 6683), (32, 6695), (45, 6803), (52, 6845), (55, 6860), (58, 6878), (70, 6959), (72, 6983), (102, 7208), (117, 7337), (118, 7340), (124, 7373),

Gene: Mossy_19 Start: 13461, Stop: 14300, Start Num: 15

Candidate Starts for Mossy_19:

(Start: 15 @13461 has 6 MA's), (22, 13506), (25, 13575), (31, 13605), (58, 13797), (71, 13896), (72, 13902), (83, 13971), (105, 14169), (110, 14196), (117, 14256),

Gene: Nadmeg_18 Start: 12045, Stop: 12887, Start Num: 13

Candidate Starts for Nadmeg_18:

(Start: 13 @12045 has 61 MA's), (22, 12093), (25, 12162), (31, 12192), (58, 12384), (71, 12483), (72, 12489), (83, 12558), (105, 12756),

Gene: Nadmeg_5 Start: 2069, Stop: 2884, Start Num: 19

Candidate Starts for Nadmeg_5:

(14, 2030), (Start: 19 @2069 has 18 MA's), (24, 2117), (27, 2162), (33, 2222), (51, 2321), (53, 2339), (61, 2381), (62, 2393), (77, 2504), (87, 2597), (93, 2639), (98, 2693), (105, 2759), (106, 2762), (117, 2846), (122, 2864),

Gene: Nightmare_9 Start: 5909, Stop: 6760, Start Num: 12

Candidate Starts for Nightmare_9:

(Start: 12 @5909 has 3 MA's), (22, 5957), (28, 6044), (31, 6059), (32, 6071), (52, 6218), (55, 6233), (58, 6251), (70, 6332), (72, 6356), (90, 6482), (102, 6581), (117, 6710), (118, 6713), (124, 6746),

Gene: Niktson_7 Start: 5470, Stop: 6321, Start Num: 13

Candidate Starts for Niktson_7:

(Start: 13 @5470 has 61 MA's), (20, 5506), (22, 5515), (28, 5602), (31, 5617), (32, 5629), (45, 5737), (52, 5779), (55, 5794), (58, 5812), (70, 5893), (71, 5911), (72, 5917), (102, 6142), (117, 6271), (118, 6274), (124, 6307),

Gene: Nithya_18 Start: 12243, Stop: 13085, Start Num: 13

Candidate Starts for Nithya_18:

(Start: 13 @12243 has 61 MA's), (22, 12291), (25, 12360), (31, 12390), (53, 12555), (58, 12582), (70, 12663), (71, 12681), (72, 12687), (83, 12756), (105, 12954), (108, 12963),

Gene: Nithya_5 Start: 2068, Stop: 2880, Start Num: 19

Candidate Starts for Nithya_5:

(Start: 19 @2068 has 18 MA's), (24, 2116), (27, 2161), (33, 2221), (42, 2281), (51, 2320), (53, 2338), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (105, 2758), (114, 2809), (117, 2845),

Gene: Nivinsha_8 Start: 5330, Stop: 6178, Start Num: 13

Candidate Starts for Nivinsha_8:

(Start: 13 @5330 has 61 MA's), (20, 5366), (22, 5375), (28, 5462), (31, 5477), (32, 5489), (52, 5636), (55, 5651), (58, 5669), (72, 5774), (90, 5900), (102, 5999), (117, 6128), (118, 6131), (124, 6164),

Gene: Odesza_15 Start: 9377, Stop: 10219, Start Num: 13

Candidate Starts for Odesza_15:

(Start: 13 @9377 has 61 MA's), (22, 9425), (31, 9524), (43, 9635), (51, 9671), (58, 9716), (72, 9821), (83, 9890), (105, 10088),

Gene: OhMyWard_5 Start: 2067, Stop: 2879, Start Num: 19

Candidate Starts for OhMyWard_5:

(8, 2013), (14, 2028), (Start: 19 @2067 has 18 MA's), (24, 2115), (27, 2160), (33, 2220), (51, 2319), (53, 2337), (60, 2376), (61, 2379), (62, 2391), (77, 2502), (84, 2559), (87, 2595), (89, 2610), (102, 2715), (105, 2757),

Gene: OlgasClover_5 Start: 2068, Stop: 2880, Start Num: 19

Candidate Starts for OlgasClover_5:

(Start: 19 @2068 has 18 MA's), (24, 2116), (27, 2161), (33, 2221), (42, 2281), (51, 2320), (53, 2338), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (105, 2758), (114, 2809), (117, 2845),

Gene: Paella_20 Start: 11353, Stop: 12201, Start Num: 13

Candidate Starts for Paella_20:

(Start: 13 @11353 has 61 MA's), (20, 11392), (21, 11395), (22, 11401), (34, 11530), (53, 11644), (70, 11767), (75, 11824), (79, 11851), (82, 11872), (86, 11914), (90, 11950), (105, 12091), (117, 12178), (119, 12184),

Gene: Pepy6_020 Start: 18201, Stop: 19283, Start Num: 11

Candidate Starts for Pepy6_020:

(11, 18201), (16, 18213), (22, 18255), (40, 18477), (54, 18555), (59, 18585), (65, 18630), (66, 18633), (67, 18660), (81, 18795), (97, 18942), (99, 18972), (104, 19017), (109, 19044), (111, 19065), (120, 19134), (123, 19146), (126, 19203),

Gene: Pepy6_017 Start: 15271, Stop: 16104, Start Num: 15

Candidate Starts for Pepy6_017:

(10, 15259), (Start: 15 @15271 has 6 MA's), (22, 15316), (25, 15385), (31, 15415), (52, 15574), (58, 15607), (68, 15673), (69, 15682), (71, 15706), (72, 15712), (83, 15781), (89, 15832), (96, 15889), (105, 15979), (111, 16012),

Gene: Perkunas_17 Start: 10170, Stop: 11000, Start Num: 13

Candidate Starts for Perkunas_17:

(Start: 13 @10170 has 61 MA's), (18, 10194), (22, 10218), (26, 10290), (31, 10317), (43, 10428), (47, 10449), (51, 10464), (58, 10509), (60, 10521), (72, 10614), (73, 10629), (83, 10683), (96, 10791), (98, 10815), (107, 10887),

Gene: Petite_16 Start: 9875, Stop: 10717, Start Num: 13

Candidate Starts for Petite_16:

(Start: 13 @9875 has 61 MA's), (22, 9923), (31, 10022), (43, 10133), (46, 10145), (53, 10187), (58, 10214), (60, 10226), (71, 10313), (72, 10319), (83, 10388), (105, 10586), (107, 10592),

Gene: Phaby_8 Start: 5257, Stop: 6108, Start Num: 13

Candidate Starts for Phaby_8:

(Start: 13 @5257 has 61 MA's), (22, 5305), (28, 5392), (31, 5407), (32, 5419), (51, 5554), (52, 5566), (53, 5572), (55, 5581), (58, 5599), (70, 5680), (71, 5698), (72, 5704), (83, 5773), (118, 6061), (124, 6094),

Gene: Phepper_5 Start: 2068, Stop: 2883, Start Num: 19

Candidate Starts for Phepper_5:

(14, 2029), (Start: 19 @2068 has 18 MA's), (24, 2116), (27, 2161), (33, 2221), (51, 2320), (53, 2338), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (93, 2638), (98, 2692), (105, 2758), (106, 2761), (117, 2845), (122, 2863),

Gene: Phepper_18 Start: 12043, Stop: 12885, Start Num: 13

Candidate Starts for Phepper_18:

(Start: 13 @12043 has 61 MA's), (22, 12091), (25, 12160), (31, 12190), (58, 12382), (71, 12481), (72, 12487), (83, 12556), (105, 12754),

Gene: Pherobrine_17 Start: 12100, Stop: 12939, Start Num: 15

Candidate Starts for Pherobrine_17:

(5, 12070), (11, 12091), (Start: 15 @12100 has 6 MA's), (22, 12145), (25, 12214), (31, 12244), (58, 12436), (71, 12535), (72, 12541), (83, 12610), (105, 12808), (110, 12835), (117, 12895),

Gene: POCO6_019 Start: 18028, Stop: 18864, Start Num: 13

Candidate Starts for POCO6_019:

(Start: 13 @18028 has 61 MA's), (17, 18040), (22, 18076), (25, 18145), (30, 18169), (31, 18175), (52, 18334), (58, 18367), (69, 18442), (71, 18466), (72, 18472), (83, 18541), (89, 18592), (96, 18649), (105, 18739),

Gene: POCO6_021 Start: 19849, Stop: 20922, Start Num: 11

Candidate Starts for POCO6_021:

(4, 19798), (11, 19849), (22, 19900), (36, 20074), (65, 20269), (66, 20272), (78, 20407), (85, 20464), (92, 20533), (97, 20581), (102, 20629), (103, 20632), (104, 20656), (105, 20671), (109, 20683), (113, 20713), (123, 20785), (126, 20842),

Gene: Qui_20 Start: 11353, Stop: 12201, Start Num: 13

Candidate Starts for Qui_20:

(Start: 13 @11353 has 61 MA's), (20, 11392), (21, 11395), (22, 11401), (34, 11530), (53, 11644), (70, 11767), (75, 11824), (79, 11851), (82, 11872), (86, 11914), (90, 11950), (105, 12091), (117, 12178), (119, 12184),

Gene: Rickmore_17 Start: 10813, Stop: 11655, Start Num: 13

Candidate Starts for Rickmore_17:

(Start: 13 @10813 has 61 MA's), (22, 10861), (25, 10930), (31, 10960), (58, 11152), (70, 11233), (71, 11251), (72, 11257), (83, 11326), (105, 11524),

Gene: Rickmore_4 Start: 792, Stop: 1448, Start Num: 35

Candidate Starts for Rickmore_4:

(Start: 35 @792 has 1 MA's), (42, 849), (51, 888), (53, 906), (61, 948), (62, 960), (77, 1071), (87, 1164), (105, 1326), (114, 1377), (117, 1413),

Gene: Roney_15 Start: 9377, Stop: 10219, Start Num: 13

Candidate Starts for Roney_15:

(Start: 13 @9377 has 61 MA's), (22, 9425), (31, 9524), (43, 9635), (51, 9671), (58, 9716), (72, 9821), (83, 9890), (105, 10088),

Gene: Runhaar_5 Start: 2068, Stop: 2883, Start Num: 19

Candidate Starts for Runhaar_5:

(14, 2029), (Start: 19 @2068 has 18 MA's), (24, 2116), (27, 2161), (33, 2221), (51, 2320), (53, 2338), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (93, 2638), (98, 2692), (105, 2758), (106, 2761), (117, 2845), (122, 2863),

Gene: Runhaar_18 Start: 12045, Stop: 12887, Start Num: 13

Candidate Starts for Runhaar_18:

(Start: 13 @12045 has 61 MA's), (22, 12093), (25, 12162), (31, 12192), (58, 12384), (71, 12483), (72, 12489), (83, 12558), (105, 12756),

Gene: Schwartz33_20 Start: 12921, Stop: 13763, Start Num: 13

Candidate Starts for Schwartz33_20:

(Start: 13 @12921 has 61 MA's), (22, 12969), (25, 13038), (31, 13068), (55, 13242), (58, 13260), (71, 13359), (72, 13365), (83, 13434), (105, 13632), (110, 13659), (117, 13719),

Gene: Schwartz33_5 Start: 2080, Stop: 2886, Start Num: 19

Candidate Starts for Schwartz33_5:

(8, 2026), (Start: 19 @2080 has 18 MA's), (24, 2128), (39, 2275), (43, 2296), (57, 2374), (64, 2407), (71, 2467), (75, 2506), (77, 2515), (80, 2536), (87, 2608), (93, 2650), (98, 2704), (102, 2728), (114, 2821),

Gene: ScienceWizSam_9 Start: 5285, Stop: 6133, Start Num: 13

Candidate Starts for ScienceWizSam_9:

(Start: 13 @5285 has 61 MA's), (20, 5321), (22, 5330), (28, 5417), (31, 5432), (32, 5444), (52, 5591), (58, 5624), (72, 5729), (102, 5954), (117, 6083), (118, 6086), (124, 6119),

Gene: Secretariat_17 Start: 11631, Stop: 12470, Start Num: 15

Candidate Starts for Secretariat_17:

(Start: 15 @11631 has 6 MA's), (22, 11676), (25, 11745), (31, 11775), (58, 11967), (71, 12066), (72, 12072), (83, 12141), (95, 12225), (105, 12339), (110, 12366), (111, 12372),

Gene: Shepard_8 Start: 5267, Stop: 6118, Start Num: 13

Candidate Starts for Shepard_8:

(Start: 13 @5267 has 61 MA's), (22, 5315), (28, 5402), (31, 5417), (32, 5429), (51, 5564), (52, 5576), (53, 5582), (55, 5591), (58, 5609), (70, 5690), (71, 5708), (72, 5714), (83, 5783), (102, 5939), (118, 6071), (124, 6104),

Gene: Synopsis_7 Start: 5450, Stop: 6298, Start Num: 13

Candidate Starts for Synopsis_7:

(Start: 13 @5450 has 61 MA's), (20, 5486), (22, 5495), (28, 5582), (31, 5597), (32, 5609), (52, 5756), (55, 5771), (58, 5789), (72, 5894), (90, 6020), (102, 6119), (117, 6248), (118, 6251), (124, 6284),

Gene: Tanis_15 Start: 9227, Stop: 10069, Start Num: 13

Candidate Starts for Tanis_15:

(Start: 13 @9227 has 61 MA's), (22, 9275), (31, 9374), (43, 9485), (51, 9521), (58, 9566), (72, 9671), (83, 9740), (105, 9938),

Gene: Tatanka_7 Start: 5390, Stop: 6238, Start Num: 13

Candidate Starts for Tatanka_7:

(Start: 13 @5390 has 61 MA's), (20, 5426), (22, 5435), (28, 5522), (31, 5537), (32, 5549), (52, 5696), (55, 5711), (58, 5729), (72, 5834), (90, 5960), (102, 6059), (117, 6188), (118, 6191), (124, 6224),

Gene: Teacup_8 Start: 5285, Stop: 6136, Start Num: 13

Candidate Starts for Teacup_8:

(Start: 13 @5285 has 61 MA's), (20, 5321), (22, 5330), (28, 5417), (31, 5432), (32, 5444), (45, 5552), (52, 5594), (55, 5609), (58, 5627), (70, 5708), (71, 5726), (72, 5732), (102, 5957), (117, 6086), (118, 6089), (124, 6122),

Gene: TenaciousP_20 Start: 12247, Stop: 13089, Start Num: 13

Candidate Starts for TenaciousP_20:

(Start: 13 @12247 has 61 MA's), (22, 12295), (25, 12364), (31, 12394), (58, 12586), (70, 12667), (71, 12685), (72, 12691), (83, 12760), (105, 12958),

Gene: TenaciousP_6 Start: 2068, Stop: 2883, Start Num: 19

Candidate Starts for TenaciousP_6:

(Start: 19 @2068 has 18 MA's), (24, 2116), (27, 2161), (33, 2221), (42, 2281), (51, 2320), (61, 2380), (62, 2392), (77, 2503), (87, 2596), (105, 2758), (114, 2809), (117, 2845), (122, 2863),

Gene: Tenno_9 Start: 6536, Stop: 7387, Start Num: 13

Candidate Starts for Tenno_9:

(Start: 13 @6536 has 61 MA's), (20, 6572), (22, 6581), (28, 6668), (31, 6683), (32, 6695), (45, 6803), (52, 6845), (55, 6860), (58, 6878), (70, 6959), (72, 6983), (102, 7208), (117, 7337), (118, 7340), (124, 7373),

Gene: Tokki_9 Start: 5877, Stop: 6725, Start Num: 15

Candidate Starts for Tokki_9:

(5, 5847), (7, 5859), (Start: 15 @5877 has 6 MA's), (22, 5922), (28, 6009), (31, 6024), (32, 6036), (51, 6171), (52, 6183), (53, 6189), (58, 6216), (70, 6297), (71, 6315), (72, 6321), (83, 6390), (118, 6678), (124, 6711),

Gene: Truckee_8 Start: 5343, Stop: 6194, Start Num: 13

Candidate Starts for Truckee_8:

(Start: 13 @5343 has 61 MA's), (22, 5391), (28, 5478), (31, 5493), (32, 5505), (40, 5586), (47, 5625), (52, 5652), (53, 5658), (58, 5685), (70, 5766), (72, 5790), (83, 5859), (118, 6147), (124, 6180),

Gene: Trustiboi_8 Start: 5474, Stop: 6322, Start Num: 13

Candidate Starts for Trustiboi_8:

(Start: 13 @5474 has 61 MA's), (20, 5510), (22, 5519), (28, 5606), (31, 5621), (32, 5633), (52, 5780), (58, 5813), (72, 5918), (90, 6044), (102, 6143), (117, 6272), (118, 6275), (124, 6308),

Gene: Untouchable_17 Start: 10970, Stop: 11812, Start Num: 13

Candidate Starts for Untouchable_17:

(Start: 13 @10970 has 61 MA's), (22, 11018), (25, 11087), (31, 11117), (58, 11309), (71, 11408), (72, 11414), (83, 11483), (105, 11681),

Gene: Untouchable_4 Start: 995, Stop: 1810, Start Num: 19

Candidate Starts for Untouchable_4:

(8, 941), (Start: 19 @995 has 18 MA's), (24, 1043), (27, 1088), (33, 1148), (50, 1244), (51, 1247), (53, 1265), (61, 1307), (62, 1319), (77, 1430), (87, 1523), (93, 1565), (105, 1685), (106, 1688), (117, 1772),

Gene: Vardy_18 Start: 12010, Stop: 12852, Start Num: 13

Candidate Starts for Vardy_18:

(Start: 13 @12010 has 61 MA's), (22, 12058), (25, 12127), (31, 12157), (58, 12349), (71, 12448), (72, 12454), (83, 12523), (105, 12721),

Gene: Vardy_5 Start: 2067, Stop: 2882, Start Num: 19

Candidate Starts for Vardy_5:

(14, 2028), (Start: 19 @2067 has 18 MA's), (24, 2115), (27, 2160), (33, 2220), (51, 2319), (53, 2337), (61, 2379), (62, 2391), (77, 2502), (87, 2595), (93, 2637), (98, 2691), (105, 2757), (106, 2760), (117, 2844), (122, 2862),

Gene: Zeph_19 Start: 12803, Stop: 13648, Start Num: 12

Candidate Starts for Zeph_19:

(Start: 12 @12803 has 3 MA's), (Start: 15 @12809 has 6 MA's), (22, 12854), (25, 12923), (31, 12953), (58, 13145), (71, 13244), (72, 13250), (83, 13319), (105, 13517), (117, 13604),