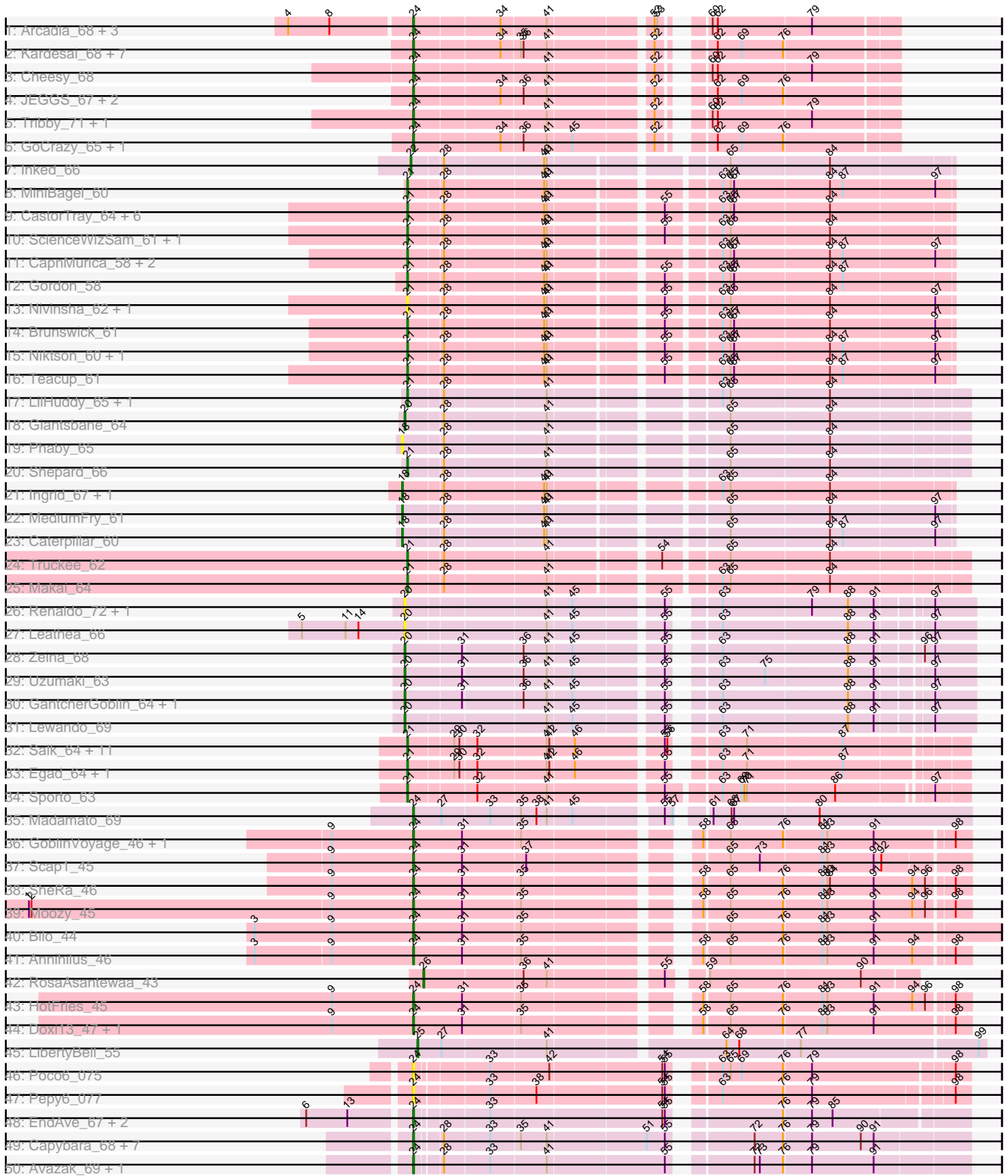
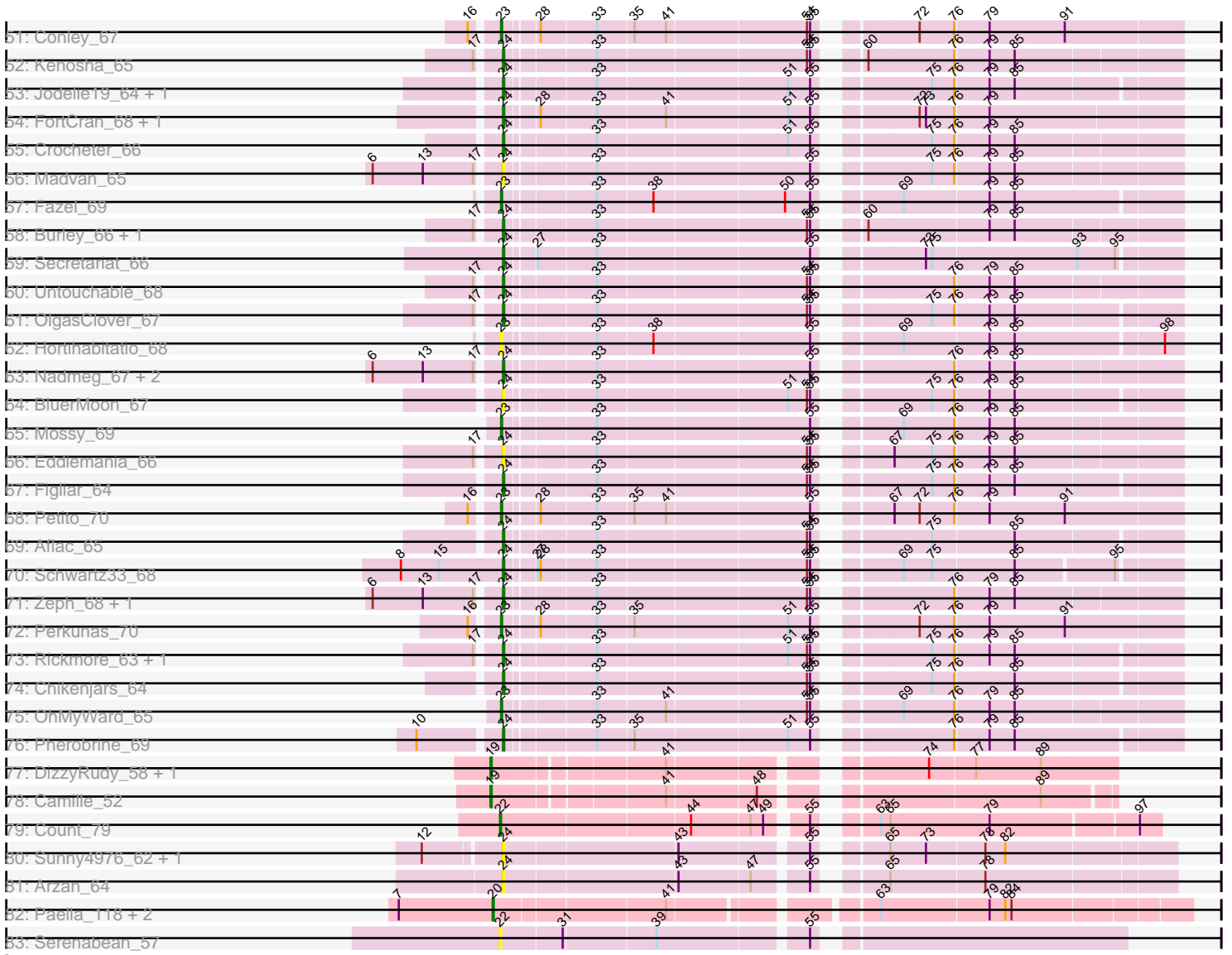


Pham 169785



Pham 169785



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 169785 Report

This analysis was run 07/09/24 on database version 566.

Pham number 169785 has 147 members, 23 are drafts.

Phages represented in each track:

- Track 1 : Arcadia_68, Nason_68, Elsa_68, Xenomorph_64
- Track 2 : Kardesai_68, Dynamite_68, NapoleonB_69, Benllo_68, Mooshroom_69, Circum_69, BenitoAntonio_66, Hankly_67
- Track 3 : Cheesy_68
- Track 4 : JEGGS_67, Mudcat_64, Heisenberger_67
- Track 5 : Tribby_71, Correa_66
- Track 6 : GoCrazy_65, KeaneyLin_64
- Track 7 : Inked_66
- Track 8 : MiniBagel_60
- Track 9 : CastorTray_64, Breylor17_60, Nightmare_62, DevitoJr_60, Tatanka_57, Trustiboi_60, Darby_59
- Track 10 : ScienceWizSam_61, Synopsis_59
- Track 11 : CapnMurica_58, Tenno_61, Issa_61
- Track 12 : Gordon_58
- Track 13 : Nivinsha_62, AreFloNak_63
- Track 14 : Brunswick_61
- Track 15 : Niktson_60, ElephantMan_60
- Track 16 : Teacup_61
- Track 17 : LilHuddy_65, Tokki_69
- Track 18 : Giantsbane_64
- Track 19 : Phaby_65
- Track 20 : Shepard_66
- Track 21 : Ingrid_67, Loretta_64
- Track 22 : MediumFry_61
- Track 23 : Caterpillar_60
- Track 24 : Truckee_62
- Track 25 : Makai_64
- Track 26 : Renaldo_72, BarbieDoll_70
- Track 27 : Leathea_66
- Track 28 : Zeina_68
- Track 29 : Uzumaki_63
- Track 30 : GantcherGoblin_64, Argan_63
- Track 31 : Lewando_69
- Track 32 : Salk_64, Raunak_65, BronxBay_64, Michelle_64, Shiba_63, MrAaronian_64, DoctorPepper_64, Sloopyjoe_64, Linda_64, Djungelskog_63, Stayer_64, StarLord_64
- Track 33 : Egad_64, ProfFrink_65

- Track 34 : Sporto_63
- Track 35 : Madamato_69
- Track 36 : GoblinVoyage_46, PherryCruz_45
- Track 37 : Scap1_45
- Track 38 : SheRa_46
- Track 39 : Moozy_45
- Track 40 : Bilo_44
- Track 41 : Annihilus_46
- Track 42 : RosaAsantewaa_43
- Track 43 : HotFries_45
- Track 44 : Doxi13_47, RavenPuff_46
- Track 45 : LibertyBell_55
- Track 46 : Poco6_075
- Track 47 : Pepy6_077
- Track 48 : EndAve_67, Nithya_66, AlainaMarie_65
- Track 49 : Capybara_68, Gravy_67, Tanis_68, Magel_69, Kerry_67, Roney_68, Odesza_67, Gill_68
- Track 50 : Avazak_69, Captrips_67
- Track 51 : Conley_67
- Track 52 : Kenosha_65
- Track 53 : Jodelie19_64, TenaciousP_71
- Track 54 : FortCran_68, Artorias_68
- Track 55 : Crocheter_66
- Track 56 : Madvan_65
- Track 57 : Fazel_69
- Track 58 : Burley_66, Phepper_67
- Track 59 : Secretariat_66
- Track 60 : Untouchable_68
- Track 61 : OlgasClover_67
- Track 62 : Hortihabitatio_68
- Track 63 : Nadmeg_67, Vardy_65, Runhaar_66
- Track 64 : BluerMoon_67
- Track 65 : Mossy_69
- Track 66 : Eddiemia_66
- Track 67 : Figliar_64
- Track 68 : Petite_70
- Track 69 : Aflac_65
- Track 70 : Schwartz33_68
- Track 71 : Zeph_68, Hydrus_68
- Track 72 : Perkunas_70
- Track 73 : Rickmore_63, Duffington_64
- Track 74 : Chikenjars_64
- Track 75 : OhMyWard_65
- Track 76 : Pherobrine_69
- Track 77 : DizzyRudy_58, Damascus_54
- Track 78 : Camille_52
- Track 79 : Count_79
- Track 80 : Sunny4976_62, Jazzy4900_63
- Track 81 : Arzan_64
- Track 82 : Paella_118, Qui_118, Elver_117
- Track 83 : Serenabean_57

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

The start number called the most often in the published annotations is 24, it was called in 65 of the 124 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aflac_65, AlainaMarie_65, Annihilus_46, Arcadia_68, Artorias_68, Arzan_64, Avazak_69, BenitoAntonio_66, Benllo_68, Bilo_44, BluerMoon_67, Burley_66, Captrips_67, Capybara_68, Cheesy_68, Chikenjars_64, Circum_69, Correa_66, Crocheter_66, Doxi13_47, Duffington_64, Dynamite_68, Eddiemania_66, Elsa_68, EndAve_67, Figliar_64, FortCran_68, Gill_68, GoCrazy_65, GoblinVoyage_46, Gravy_67, Hankly_67, Heisenberger_67, HotFries_45, Hydrus_68, JEGGS_67, Jazzy4900_63, Jodelie19_64, Kardesai_68, KeaneyLin_64, Kenosha_65, Kerry_67, Madamato_69, Madvan_65, Magel_69, Mooshroom_69, Moozy_45, Mudcat_64, Nadmeg_67, NapoleonB_69, Nason_68, Nithya_66, Odesza_67, OlgasClover_67, Pepy6_077, Phepper_67, Pherobrine_69, PherryCruz_45, Poco6_075, RavenPuff_46, Rickmore_63, Roney_68, Runhaar_66, Scap1_45, Schwartz33_68, Secretariat_66, SheRa_46, Sunny4976_62, Tanis_68, TenaciousP_71, Tribby_71, Untouchable_68, Vardy_65, Xenomorph_64, Zeph_68,

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

-

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

- AreFloNak_63, Argan_63, BarbieDoll_70, Breylor17_60, BronxBay_64, Brunswick_61, Camille_52, CapnMurica_58, CastorTray_64, Caterpillar_60, Conley_67, Count_79, Damascus_54, Darby_59, DevitoJr_60, DizzyRudy_58, Djungelskog_63, DoctorPepper_64, Egad_64, ElephantMan_60, Elver_117, Fazel_69, GantcherGoblin_64, Giantsbane_64, Gordon_58, Hortihabitatio_68, Ingrid_67, Inked_66, Issa_61, Leathea_66, Lewando_69, LibertyBell_55, LilHuddy_65, Linda_64, Loretta_64, Makai_64, MediumFry_61, Michelle_64, MiniBagel_60, Mossy_69, MrAaronian_64, Nightmare_62, Niktson_60, Nivinsha_62, OhMyWard_65, Paella_118, Perkunas_70, Petite_70, Phaby_65, ProfFrink_65, Qui_118, Raunak_65, Renaldo_72, RosaAsantewaa_43, Salk_64, ScienceWizSam_61, Serenabean_57, Shepard_66, Shiba_63, Sloopyjoe_64, Sporto_63, StarLord_64, Stayer_64, Synopsis_59, Tatanka_57, Teacup_61, Tenno_61, Tokki_69, Truckee_62, Trustiboi_60, Uzumaki_63, Zeina_68,

Summary by start number:

Start 18:

- Found in 5 of 147 (3.4%) of genes in pham
- Manual Annotations of this start: 4 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Caterpillar_60 (AU4), Ingrid_67 (AU3), Loretta_64 (AU3), MediumFry_61 (AU4), Phaby_65 (AU2),

Start 19:

- Found in 3 of 147 (2.0%) of genes in pham
- Manual Annotations of this start: 3 of 124
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Camille_52 (EL), Damascus_54 (EL), DizzyRudy_58 (EL),

Start 20:

- Found in 12 of 147 (8.2%) of genes in pham
- Manual Annotations of this start: 8 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Argan_63 (AU6), BarbieDoll_70 (AU6), Elver_117 (FK), GantcherGoblin_64 (AU6), Giantsbane_64 (AU2), Leatheia_66 (AU6), Lewando_69 (AU6), Paella_118 (FK), Qui_118 (FK), Renaldo_72 (AU6), Uzumaki_63 (AU6), Zeina_68 (AU6),

Start 21:

- Found in 40 of 147 (27.2%) of genes in pham
- Manual Annotations of this start: 34 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: AreFloNak_63 (AU1), Breylor17_60 (AU1), BronxBay_64 (AW), Brunswick_61 (AU1), CapnMurica_58 (AU1), CastorTray_64 (AU1), Darby_59 (AU1), DevitoJr_60 (AU1), Djungelskog_63 (AW), DoctorPepper_64 (AW), Egad_64 (AW), ElephantMan_60 (AU1), Gordon_58 (AU1), Issa_61 (AU1), LilHuddy_65 (AU2), Linda_64 (AW), Makai_64 (AU5), Michelle_64 (AW), MiniBagel_60 (AU1), MrAaronian_64 (AW), Nightmare_62 (AU1), Niktson_60 (AU1), Nivinsha_62 (AU1), ProfFrink_65 (AW), Raunak_65 (AW), Salk_64 (AW), ScienceWizSam_61 (AU1), Shepard_66 (AU2), Shiba_63 (AW), Sloopyjoe_64 (AW), Sporto_63 (AW), StarLord_64 (AW), Stayer_64 (AW), Synepsis_59 (AU1), Tatanka_57 (AU1), Teacup_61 (AU1), Tenno_61 (AU1), Tokki_69 (AU2), Truckee_62 (AU5), Trustiboi_60 (AU1),

Start 22:

- Found in 3 of 147 (2.0%) of genes in pham
- Manual Annotations of this start: 2 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Count_79 (EL), Inked_66 (AU), Serenabean_57 (HA),

Start 23:

- Found in 7 of 147 (4.8%) of genes in pham
- Manual Annotations of this start: 6 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Conley_67 (DJ), Fazel_69 (DJ), Hortihabitatio_68 (DJ), Mossy_69 (DJ), OhMyWard_65 (DJ), Perkunas_70 (DJ), Petito_70 (DJ),

Start 24:

- Found in 75 of 147 (51.0%) of genes in pham
- Manual Annotations of this start: 65 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aflac_65 (DJ), AlainaMarie_65 (DJ), Annihilus_46 (BI2), Arcadia_68 (AM), Artorias_68 (DJ), Arzan_64 (FI), Avazak_69 (DJ), BenitoAntonio_66 (AM), Benllo_68 (AM), Bilo_44 (BI2), BluerMoon_67 (DJ), Burley_66 (DJ), Captrips_67 (DJ), Copybara_68 (DJ), Cheesy_68 (AM), Chikenjars_64 (DJ), Circum_69 (AM), Correa_66 (AM), Crocheter_66 (DJ), Doxi13_47 (BI2), Duffington_64 (DJ), Dynamite_68 (AM), Eddiemania_66 (DJ),

Elsa_68 (AM), EndAve_67 (DJ), Figliar_64 (DJ), FortCran_68 (DJ), Gill_68 (DJ), GoCrazy_65 (AM), GoblinVoyage_46 (BI2), Gravy_67 (DJ), Hankly_67 (AM), Heisenberger_67 (AM), HotFries_45 (BI2), Hydrus_68 (DJ), JEGGS_67 (AM), Jazzy4900_63 (FI), Jodelie19_64 (DJ), Kardesai_68 (AM), KeaneyLin_64 (AM), Kenosha_65 (DJ), Kerry_67 (DJ), Madamato_69 (BI1), Madvan_65 (DJ), Magel_69 (DJ), Mooshroom_69 (AM), Moozy_45 (BI2), Mudcat_64 (AM), Nadmeg_67 (DJ), NapoleonB_69 (AM), Nason_68 (AM), Nithya_66 (DJ), Odesza_67 (DJ), OlgasClover_67 (DJ), Pepy6_077 (CC), Phepper_67 (DJ), Pherobrine_69 (DJ), PherryCruz_45 (BI2), Poco6_075 (CC), RavenPuff_46 (BI2), Rickmore_63 (DJ), Roney_68 (DJ), Runhaar_66 (DJ), Scap1_45 (BI2), Schwartz33_68 (DJ), Secretariat_66 (DJ), SheRa_46 (BI2), Sunny4976_62 (FI), Tanis_68 (DJ), TenaciousP_71 (DJ), Tribby_71 (AM), Untouchable_68 (DJ), Vardy_65 (DJ), Xenomorph_64 (AM), Zeph_68 (DJ),

Start 25:

- Found in 1 of 147 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LibertyBell_55 (BI3),

Start 26:

- Found in 1 of 147 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 124
- Called 100.0% of time when present
- Phage (with cluster) where this start called: RosaAsantewaa_43 (BI2),

Summary by clusters:

There are 18 clusters represented in this pham: EL, FK, DJ, AU5, CC, AM, AU1, AU3, AU2, AU, AU4, AW, AU6, FI, HA, BI2, BI3, BI1,

Info for manual annotations of cluster AM:

- Start number 24 was manually annotated 19 times for cluster AM.

Info for manual annotations of cluster AU:

- Start number 22 was manually annotated 1 time for cluster AU.

Info for manual annotations of cluster AU1:

- Start number 21 was manually annotated 17 times for cluster AU1.

Info for manual annotations of cluster AU2:

- Start number 20 was manually annotated 1 time for cluster AU2.
- Start number 21 was manually annotated 3 times for cluster AU2.

Info for manual annotations of cluster AU3:

- Start number 18 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:

- Start number 18 was manually annotated 2 times for cluster AU4.

Info for manual annotations of cluster AU5:

- Start number 21 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:

- Start number 20 was manually annotated 5 times for cluster AU6.

Info for manual annotations of cluster AW:

- Start number 21 was manually annotated 12 times for cluster AW.

Info for manual annotations of cluster BI1:

- Start number 24 was manually annotated 1 time for cluster BI1.

Info for manual annotations of cluster BI2:

- Start number 24 was manually annotated 10 times for cluster BI2.
- Start number 26 was manually annotated 1 time for cluster BI2.

Info for manual annotations of cluster BI3:

- Start number 25 was manually annotated 1 time for cluster BI3.

Info for manual annotations of cluster DJ:

- Start number 23 was manually annotated 6 times for cluster DJ.
- Start number 24 was manually annotated 35 times for cluster DJ.

Info for manual annotations of cluster EL:

- Start number 19 was manually annotated 3 times for cluster EL.
- Start number 22 was manually annotated 1 time for cluster EL.

Info for manual annotations of cluster FK:

- Start number 20 was manually annotated 2 times for cluster FK.

Gene Information:

Gene: Aflac_65 Start: 46978, Stop: 47559, Start Num: 24

Candidate Starts for Aflac_65:

(Start: 24 @46978 has 65 MA's), (33, 47053), (54, 47245), (55, 47248), (75, 47335), (85, 47410),

Gene: AlainaMarie_65 Start: 47020, Stop: 47601, Start Num: 24

Candidate Starts for AlainaMarie_65:

(6, 46906), (13, 46954), (Start: 24 @47020 has 65 MA's), (33, 47095), (54, 47287), (55, 47290), (76, 47398), (79, 47428), (85, 47452),

Gene: Annihilus_46 Start: 35097, Stop: 35678, Start Num: 24

Candidate Starts for Annihilus_46:

(3, 34917), (9, 35004), (Start: 24 @35097 has 65 MA's), (31, 35154), (35, 35220), (58, 35385), (65, 35412), (76, 35472), (81, 35514), (83, 35520), (91, 35574), (94, 35619), (98, 35661),

Gene: Arcadia_68 Start: 42977, Stop: 43471, Start Num: 24

Candidate Starts for Arcadia_68:

(4, 42839), (8, 42887), (Start: 24 @42977 has 65 MA's), (34, 43073), (41, 43124), (52, 43232), (53, 43235), (60, 43265), (62, 43271), (79, 43376),

Gene: AreFloNak_63 Start: 43375, Stop: 43950, Start Num: 21

Candidate Starts for AreFloNak_63:

(Start: 21 @43375 has 34 MA's), (28, 43411), (40, 43522), (41, 43525), (55, 43639), (63, 43693), (65, 43702), (84, 43813), (97, 43930),

Gene: Argan_63 Start: 42106, Stop: 42693, Start Num: 20

Candidate Starts for Argan_63:

(Start: 20 @42106 has 8 MA's), (31, 42169), (36, 42235), (41, 42262), (45, 42289), (55, 42382), (63, 42421), (88, 42562), (91, 42592), (97, 42646),

Gene: Artorias_68 Start: 47461, Stop: 48048, Start Num: 24

Candidate Starts for Artorias_68:

(Start: 24 @47461 has 65 MA's), (28, 47485), (33, 47536), (41, 47599), (51, 47710), (55, 47731), (72, 47806), (73, 47812), (76, 47839), (79, 47869),

Gene: Arzan_64 Start: 42782, Stop: 43357, Start Num: 24

Candidate Starts for Arzan_64:

(Start: 24 @42782 has 65 MA's), (43, 42938), (47, 43004), (55, 43049), (65, 43097), (78, 43184),

Gene: Avazak_69 Start: 47788, Stop: 48375, Start Num: 24

Candidate Starts for Avazak_69:

(Start: 24 @47788 has 65 MA's), (28, 47812), (33, 47863), (41, 47926), (55, 48058), (72, 48133), (73, 48139), (76, 48166), (79, 48196), (91, 48268),

Gene: BarbieDoll_70 Start: 43789, Stop: 44373, Start Num: 20

Candidate Starts for BarbieDoll_70:

(Start: 20 @43789 has 8 MA's), (41, 43942), (45, 43969), (55, 44062), (63, 44101), (79, 44200), (88, 44242), (91, 44272), (97, 44326),

Gene: BenitoAntonio_66 Start: 42012, Stop: 42506, Start Num: 24

Candidate Starts for BenitoAntonio_66:

(Start: 24 @42012 has 65 MA's), (34, 42108), (35, 42129), (36, 42132), (41, 42159), (52, 42267), (62, 42306), (69, 42333), (76, 42381),

Gene: Benllo_68 Start: 42690, Stop: 43184, Start Num: 24

Candidate Starts for Benllo_68:

(Start: 24 @42690 has 65 MA's), (34, 42786), (35, 42807), (36, 42810), (41, 42837), (52, 42945), (62, 42984), (69, 43011), (76, 43059),

Gene: Bilo_44 Start: 35251, Stop: 35868, Start Num: 24

Candidate Starts for Bilo_44:

(3, 35068), (9, 35158), (Start: 24 @35251 has 65 MA's), (31, 35308), (35, 35374), (65, 35566), (76, 35626), (81, 35668), (83, 35674), (91, 35728),

Gene: BluerMoon_67 Start: 47016, Stop: 47597, Start Num: 24

Candidate Starts for BluerMoon_67:

(Start: 24 @47016 has 65 MA's), (33, 47091), (51, 47265), (54, 47283), (55, 47286), (75, 47373), (76, 47394), (79, 47424), (85, 47448),

Gene: Breylor17_60 Start: 43951, Stop: 44526, Start Num: 21

Candidate Starts for Breylor17_60:

(Start: 21 @43951 has 34 MA's), (28, 43987), (40, 44098), (41, 44101), (55, 44215), (63, 44269), (65, 44278), (67, 44281), (84, 44389),

Gene: BronxBay_64 Start: 41915, Stop: 42493, Start Num: 21

Candidate Starts for BronxBay_64:

(Start: 21 @41915 has 34 MA's), (29, 41963), (30, 41969), (32, 41987), (41, 42065), (42, 42068), (46, 42095), (55, 42188), (56, 42191), (63, 42227), (71, 42254), (87, 42362),

Gene: Brunswick_61 Start: 43248, Stop: 43823, Start Num: 21

Candidate Starts for Brunswick_61:

(Start: 21 @43248 has 34 MA's), (28, 43284), (40, 43395), (41, 43398), (55, 43512), (63, 43566), (65, 43575), (67, 43578), (84, 43686), (97, 43803),

Gene: Burley_66 Start: 46701, Stop: 47285, Start Num: 24

Candidate Starts for Burley_66:

(17, 46683), (Start: 24 @46701 has 65 MA's), (33, 46776), (54, 46968), (55, 46971), (60, 46998), (79, 47109), (85, 47133),

Gene: Camille_52 Start: 38577, Stop: 39089, Start Num: 19

Candidate Starts for Camille_52:

(Start: 19 @38577 has 3 MA's), (41, 38727), (48, 38805), (89, 39030),

Gene: CapnMurica_58 Start: 44140, Stop: 44715, Start Num: 21

Candidate Starts for CapnMurica_58:

(Start: 21 @44140 has 34 MA's), (28, 44176), (40, 44287), (41, 44290), (63, 44458), (65, 44467), (67, 44470), (84, 44578), (87, 44593), (97, 44695),

Gene: Captrips_67 Start: 46936, Stop: 47523, Start Num: 24

Candidate Starts for Captrips_67:

(Start: 24 @46936 has 65 MA's), (28, 46960), (33, 47011), (41, 47074), (55, 47206), (72, 47281), (73, 47287), (76, 47314), (79, 47344), (91, 47416),

Gene: Capybara_68 Start: 47267, Stop: 47854, Start Num: 24

Candidate Starts for Capybara_68:

(Start: 24 @47267 has 65 MA's), (28, 47291), (33, 47342), (35, 47375), (41, 47405), (51, 47516), (55, 47537), (72, 47612), (76, 47645), (79, 47675), (90, 47732), (91, 47747),

Gene: CastorTray_64 Start: 44139, Stop: 44714, Start Num: 21

Candidate Starts for CastorTray_64:

(Start: 21 @44139 has 34 MA's), (28, 44175), (40, 44286), (41, 44289), (55, 44403), (63, 44457), (65, 44466), (67, 44469), (84, 44577),

Gene: Caterpillar_60 Start: 43063, Stop: 43644, Start Num: 18

Candidate Starts for Caterpillar_60:

(Start: 18 @43063 has 4 MA's), (28, 43105), (40, 43216), (41, 43219), (65, 43396), (84, 43507), (87, 43522), (97, 43624),

Gene: Cheesy_68 Start: 42204, Stop: 42698, Start Num: 24

Candidate Starts for Cheesy_68:

(Start: 24 @42204 has 65 MA's), (41, 42351), (52, 42459), (60, 42492), (62, 42498), (79, 42603),

Gene: Chikenjars_64 Start: 47040, Stop: 47621, Start Num: 24

Candidate Starts for Chikenjars_64:

(Start: 24 @47040 has 65 MA's), (33, 47115), (54, 47307), (55, 47310), (75, 47397), (76, 47418), (85, 47472),

Gene: Circum_69 Start: 42780, Stop: 43274, Start Num: 24

Candidate Starts for Circum_69:

(Start: 24 @42780 has 65 MA's), (34, 42876), (35, 42897), (36, 42900), (41, 42927), (52, 43035), (62, 43074), (69, 43101), (76, 43149),

Gene: Conley_67 Start: 48039, Stop: 48629, Start Num: 23

Candidate Starts for Conley_67:

(16, 48018), (Start: 23 @48039 has 6 MA's), (28, 48063), (33, 48114), (35, 48147), (41, 48177), (54, 48306), (55, 48309), (72, 48384), (76, 48417), (79, 48447), (91, 48519),

Gene: Correa_66 Start: 41778, Stop: 42272, Start Num: 24

Candidate Starts for Correa_66:

(Start: 24 @41778 has 65 MA's), (41, 41925), (52, 42033), (60, 42066), (62, 42072), (79, 42177),

Gene: Count_79 Start: 54971, Stop: 55534, Start Num: 22

Candidate Starts for Count_79:

(Start: 22 @54971 has 2 MA's), (44, 55145), (47, 55199), (49, 55211), (55, 55241), (63, 55280), (65, 55289), (79, 55382), (97, 55514),

Gene: Crocheter_66 Start: 47141, Stop: 47725, Start Num: 24

Candidate Starts for Crocheter_66:

(Start: 24 @47141 has 65 MA's), (33, 47216), (51, 47390), (55, 47411), (75, 47498), (76, 47519), (79, 47549), (85, 47573),

Gene: Damascus_54 Start: 40213, Stop: 40734, Start Num: 19

Candidate Starts for Damascus_54:

(Start: 19 @40213 has 3 MA's), (41, 40363), (74, 40564), (77, 40606), (89, 40666),

Gene: Darby_59 Start: 43186, Stop: 43761, Start Num: 21

Candidate Starts for Darby_59:

(Start: 21 @43186 has 34 MA's), (28, 43222), (40, 43333), (41, 43336), (55, 43450), (63, 43504), (65, 43513), (67, 43516), (84, 43624),

Gene: DevitoJr_60 Start: 43572, Stop: 44147, Start Num: 21

Candidate Starts for DevitoJr_60:

(Start: 21 @43572 has 34 MA's), (28, 43608), (40, 43719), (41, 43722), (55, 43836), (63, 43890), (65, 43899), (67, 43902), (84, 44010),

Gene: DizzyRudy_58 Start: 40100, Stop: 40621, Start Num: 19

Candidate Starts for DizzyRudy_58:

(Start: 19 @40100 has 3 MA's), (41, 40250), (74, 40451), (77, 40493), (89, 40553),

Gene: Djungelskog_63 Start: 41914, Stop: 42492, Start Num: 21

Candidate Starts for Djungelskog_63:

(Start: 21 @41914 has 34 MA's), (29, 41962), (30, 41968), (32, 41986), (41, 42064), (42, 42067), (46, 42094), (55, 42187), (56, 42190), (63, 42226), (71, 42253), (87, 42361),

Gene: DoctorPepper_64 Start: 41619, Stop: 42197, Start Num: 21

Candidate Starts for DoctorPepper_64:

(Start: 21 @41619 has 34 MA's), (29, 41667), (30, 41673), (32, 41691), (41, 41769), (42, 41772), (46, 41799), (55, 41892), (56, 41895), (63, 41931), (71, 41958), (87, 42066),

Gene: Doxi13_47 Start: 35297, Stop: 35878, Start Num: 24

Candidate Starts for Doxi13_47:

(9, 35204), (Start: 24 @35297 has 65 MA's), (31, 35354), (35, 35420), (58, 35585), (65, 35612), (76, 35672), (81, 35714), (83, 35720), (91, 35774), (98, 35861),

Gene: Duffington_64 Start: 46736, Stop: 47317, Start Num: 24

Candidate Starts for Duffington_64:

(17, 46718), (Start: 24 @46736 has 65 MA's), (33, 46811), (51, 46985), (54, 47003), (55, 47006), (75, 47093), (76, 47114), (79, 47144), (85, 47168),

Gene: Dynamite_68 Start: 42793, Stop: 43287, Start Num: 24

Candidate Starts for Dynamite_68:

(Start: 24 @42793 has 65 MA's), (34, 42889), (35, 42910), (36, 42913), (41, 42940), (52, 43048), (62, 43087), (69, 43114), (76, 43162),

Gene: Eddiemania_66 Start: 47892, Stop: 48476, Start Num: 24

Candidate Starts for Eddiemania_66:

(17, 47874), (Start: 24 @47892 has 65 MA's), (33, 47967), (54, 48159), (55, 48162), (67, 48213), (75, 48249), (76, 48270), (79, 48300), (85, 48324),

Gene: Egad_64 Start: 41910, Stop: 42488, Start Num: 21

Candidate Starts for Egad_64:

(Start: 21 @41910 has 34 MA's), (29, 41958), (30, 41964), (32, 41982), (41, 42060), (42, 42063), (46, 42090), (55, 42183), (63, 42222), (71, 42249), (87, 42357),

Gene: ElephantMan_60 Start: 43878, Stop: 44453, Start Num: 21

Candidate Starts for ElephantMan_60:

(Start: 21 @43878 has 34 MA's), (28, 43914), (40, 44025), (41, 44028), (55, 44142), (63, 44196), (65, 44205), (67, 44208), (84, 44316), (87, 44331), (97, 44433),

Gene: Elsa_68 Start: 42977, Stop: 43471, Start Num: 24

Candidate Starts for Elsa_68:

(4, 42839), (8, 42887), (Start: 24 @42977 has 65 MA's), (34, 43073), (41, 43124), (52, 43232), (53, 43235), (60, 43265), (62, 43271), (79, 43376),

Gene: Elver_117 Start: 65179, Stop: 65781, Start Num: 20

Candidate Starts for Elver_117:

(7, 65089), (Start: 20 @65179 has 8 MA's), (41, 65332), (63, 65500), (79, 65599), (82, 65614), (84, 65620),

Gene: EndAve_67 Start: 47204, Stop: 47785, Start Num: 24

Candidate Starts for EndAve_67:

(6, 47090), (13, 47138), (Start: 24 @47204 has 65 MA's), (33, 47279), (54, 47471), (55, 47474), (76, 47582), (79, 47612), (85, 47636),

Gene: Fazel_69 Start: 47551, Stop: 48135, Start Num: 23

Candidate Starts for Fazel_69:

(Start: 23 @47551 has 6 MA's), (33, 47626), (38, 47677), (50, 47797), (55, 47821), (69, 47881), (79, 47959), (85, 47983),

Gene: Figliar_64 Start: 47046, Stop: 47627, Start Num: 24

Candidate Starts for Figliar_64:

(Start: 24 @47046 has 65 MA's), (33, 47121), (54, 47313), (55, 47316), (75, 47403), (76, 47424), (79, 47454), (85, 47478),

Gene: FortCran_68 Start: 47461, Stop: 48048, Start Num: 24

Candidate Starts for FortCran_68:

(Start: 24 @47461 has 65 MA's), (28, 47485), (33, 47536), (41, 47599), (51, 47710), (55, 47731), (72, 47806), (73, 47812), (76, 47839), (79, 47869),

Gene: GantcherGoblin_64 Start: 42162, Stop: 42749, Start Num: 20

Candidate Starts for GantcherGoblin_64:

(Start: 20 @42162 has 8 MA's), (31, 42225), (36, 42291), (41, 42318), (45, 42345), (55, 42438), (63, 42477), (88, 42618), (91, 42648), (97, 42702),

Gene: Giantsbane_64 Start: 42742, Stop: 43335, Start Num: 20

Candidate Starts for Giantsbane_64:

(Start: 20 @42742 has 8 MA's), (28, 42781), (41, 42895), (65, 43072), (84, 43183),

Gene: Gill_68 Start: 47279, Stop: 47866, Start Num: 24

Candidate Starts for Gill_68:

(Start: 24 @47279 has 65 MA's), (28, 47303), (33, 47354), (35, 47387), (41, 47417), (51, 47528), (55, 47549), (72, 47624), (76, 47657), (79, 47687), (90, 47744), (91, 47759),

Gene: GoCrazy_65 Start: 42237, Stop: 42731, Start Num: 24

Candidate Starts for GoCrazy_65:

(Start: 24 @42237 has 65 MA's), (34, 42333), (36, 42357), (41, 42384), (45, 42411), (52, 42492), (62, 42531), (69, 42558), (76, 42606),

Gene: GoblinVoyage_46 Start: 35085, Stop: 35666, Start Num: 24

Candidate Starts for GoblinVoyage_46:

(9, 34992), (Start: 24 @35085 has 65 MA's), (31, 35142), (35, 35208), (58, 35373), (65, 35400), (76, 35460), (81, 35502), (83, 35508), (91, 35562), (98, 35649),

Gene: Gordon_58 Start: 44058, Stop: 44633, Start Num: 21

Candidate Starts for Gordon_58:

(Start: 21 @44058 has 34 MA's), (28, 44094), (40, 44205), (41, 44208), (55, 44322), (63, 44376), (65, 44385), (67, 44388), (84, 44496), (87, 44511),

Gene: Gravy_67 Start: 46957, Stop: 47544, Start Num: 24

Candidate Starts for Gravy_67:

(Start: 24 @46957 has 65 MA's), (28, 46981), (33, 47032), (35, 47065), (41, 47095), (51, 47206), (55, 47227), (72, 47302), (76, 47335), (79, 47365), (90, 47422), (91, 47437),

Gene: Hankly_67 Start: 41861, Stop: 42355, Start Num: 24

Candidate Starts for Hankly_67:

(Start: 24 @41861 has 65 MA's), (34, 41957), (35, 41978), (36, 41981), (41, 42008), (52, 42116), (62, 42155), (69, 42182), (76, 42230),

Gene: Heisenberger_67 Start: 42199, Stop: 42693, Start Num: 24

Candidate Starts for Heisenberger_67:

(Start: 24 @42199 has 65 MA's), (34, 42295), (36, 42319), (41, 42346), (52, 42454), (62, 42493), (69, 42520), (76, 42568),

Gene: Hortihabitatio_68 Start: 47935, Stop: 48519, Start Num: 23

Candidate Starts for Hortihabitatio_68:

(Start: 23 @47935 has 6 MA's), (33, 48010), (38, 48061), (55, 48205), (69, 48265), (79, 48343), (85, 48367), (98, 48502),

Gene: HotFries_45 Start: 35274, Stop: 35855, Start Num: 24

Candidate Starts for HotFries_45:

(9, 35181), (Start: 24 @35274 has 65 MA's), (31, 35331), (35, 35397), (58, 35562), (65, 35589), (76, 35649), (81, 35691), (83, 35697), (91, 35751), (94, 35796), (96, 35811), (98, 35838),

Gene: Hydrus_68 Start: 47867, Stop: 48451, Start Num: 24

Candidate Starts for Hydrus_68:

(6, 47753), (13, 47801), (17, 47849), (Start: 24 @47867 has 65 MA's), (33, 47942), (54, 48134), (55, 48137), (76, 48245), (79, 48275), (85, 48299),

Gene: Ingrid_67 Start: 43933, Stop: 44514, Start Num: 18

Candidate Starts for Ingrid_67:

(Start: 18 @43933 has 4 MA's), (28, 43975), (40, 44086), (41, 44089), (63, 44257), (65, 44266), (84, 44377),

Gene: Inked_66 Start: 44617, Stop: 45189, Start Num: 22

Candidate Starts for Inked_66:

(Start: 22 @44617 has 2 MA's), (28, 44650), (40, 44761), (41, 44764), (65, 44941), (84, 45052),

Gene: Issa_61 Start: 43234, Stop: 43809, Start Num: 21

Candidate Starts for Issa_61:

(Start: 21 @43234 has 34 MA's), (28, 43270), (40, 43381), (41, 43384), (63, 43552), (65, 43561), (67, 43564), (84, 43672), (87, 43687), (97, 43789),

Gene: JEGGS_67 Start: 42278, Stop: 42772, Start Num: 24

Candidate Starts for JEGGS_67:

(Start: 24 @42278 has 65 MA's), (34, 42374), (36, 42398), (41, 42425), (52, 42533), (62, 42572), (69, 42599), (76, 42647),

Gene: Jazzy4900_63 Start: 43553, Stop: 44128, Start Num: 24

Candidate Starts for Jazzy4900_63:

(12, 43484), (Start: 24 @43553 has 65 MA's), (43, 43709), (55, 43820), (65, 43868), (73, 43901), (78, 43955), (82, 43973),

Gene: Jodelie19_64 Start: 48450, Stop: 49031, Start Num: 24

Candidate Starts for Jodelie19_64:

(Start: 24 @48450 has 65 MA's), (33, 48525), (51, 48699), (55, 48720), (75, 48807), (76, 48828), (79, 48858), (85, 48882),

Gene: Kardesai_68 Start: 42587, Stop: 43081, Start Num: 24

Candidate Starts for Kardesai_68:

(Start: 24 @42587 has 65 MA's), (34, 42683), (35, 42704), (36, 42707), (41, 42734), (52, 42842), (62, 42881), (69, 42908), (76, 42956),

Gene: KeaneyLin_64 Start: 42237, Stop: 42731, Start Num: 24

Candidate Starts for KeaneyLin_64:

(Start: 24 @42237 has 65 MA's), (34, 42333), (36, 42357), (41, 42384), (45, 42411), (52, 42492), (62, 42531), (69, 42558), (76, 42606),

Gene: Kenosha_65 Start: 47320, Stop: 47904, Start Num: 24

Candidate Starts for Kenosha_65:

(17, 47302), (Start: 24 @47320 has 65 MA's), (33, 47395), (54, 47587), (55, 47590), (60, 47617), (76, 47698), (79, 47728), (85, 47752),

Gene: Kerry_67 Start: 46957, Stop: 47544, Start Num: 24

Candidate Starts for Kerry_67:

(Start: 24 @46957 has 65 MA's), (28, 46981), (33, 47032), (35, 47065), (41, 47095), (51, 47206), (55, 47227), (72, 47302), (76, 47335), (79, 47365), (90, 47422), (91, 47437),

Gene: Leathea_66 Start: 41902, Stop: 42486, Start Num: 20

Candidate Starts for Leathea_66:

(5, 41782), (11, 41833), (14, 41848), (Start: 20 @41902 has 8 MA's), (41, 42055), (45, 42082), (55, 42175), (63, 42214), (88, 42355), (91, 42385), (97, 42439),

Gene: Lewando_69 Start: 43861, Stop: 44445, Start Num: 20

Candidate Starts for Lewando_69:

(Start: 20 @43861 has 8 MA's), (41, 44014), (45, 44041), (55, 44134), (63, 44173), (88, 44314), (91, 44344), (97, 44398),

Gene: LibertyBell_55 Start: 39572, Stop: 40195, Start Num: 25

Candidate Starts for LibertyBell_55:

(Start: 25 @39572 has 1 MA's), (27, 39599), (41, 39716), (64, 39902), (68, 39917), (77, 39986), (99, 40187),

Gene: LilHuddy_65 Start: 43852, Stop: 44442, Start Num: 21

Candidate Starts for LilHuddy_65:

(Start: 21 @43852 has 34 MA's), (28, 43888), (41, 44002), (63, 44170), (65, 44179), (84, 44290),

Gene: Linda_64 Start: 41912, Stop: 42490, Start Num: 21

Candidate Starts for Linda_64:

(Start: 21 @41912 has 34 MA's), (29, 41960), (30, 41966), (32, 41984), (41, 42062), (42, 42065), (46, 42092), (55, 42185), (56, 42188), (63, 42224), (71, 42251), (87, 42359),

Gene: Loretta_64 Start: 43933, Stop: 44514, Start Num: 18

Candidate Starts for Loretta_64:

(Start: 18 @43933 has 4 MA's), (28, 43975), (40, 44086), (41, 44089), (63, 44257), (65, 44266), (84, 44377),

Gene: Madamoto_69 Start: 44307, Stop: 44897, Start Num: 24

Candidate Starts for Madamoto_69:

(Start: 24 @44307 has 65 MA's), (27, 44340), (33, 44394), (35, 44427), (38, 44445), (41, 44457), (45, 44484), (55, 44574), (57, 44583), (61, 44607), (66, 44628), (67, 44631), (80, 44727),

Gene: Madvan_65 Start: 46753, Stop: 47337, Start Num: 24

Candidate Starts for Madvan_65:

(6, 46639), (13, 46687), (17, 46735), (Start: 24 @46753 has 65 MA's), (33, 46828), (55, 47023), (75, 47110), (76, 47131), (79, 47161), (85, 47185),

Gene: Magel_69 Start: 47194, Stop: 47781, Start Num: 24

Candidate Starts for Magel_69:

(Start: 24 @47194 has 65 MA's), (28, 47218), (33, 47269), (35, 47302), (41, 47332), (51, 47443), (55, 47464), (72, 47539), (76, 47572), (79, 47602), (90, 47659), (91, 47674),

Gene: Makai_64 Start: 43998, Stop: 44588, Start Num: 21

Candidate Starts for Makai_64:

(Start: 21 @43998 has 34 MA's), (28, 44034), (41, 44148), (63, 44316), (65, 44325), (84, 44436),

Gene: MediumFry_61 Start: 43358, Stop: 43939, Start Num: 18

Candidate Starts for MediumFry_61:

(Start: 18 @43358 has 4 MA's), (28, 43400), (40, 43511), (41, 43514), (65, 43691), (84, 43802), (97, 43919),

Gene: Michelle_64 Start: 41914, Stop: 42492, Start Num: 21

Candidate Starts for Michelle_64:

(Start: 21 @41914 has 34 MA's), (29, 41962), (30, 41968), (32, 41986), (41, 42064), (42, 42067), (46, 42094), (55, 42187), (56, 42190), (63, 42226), (71, 42253), (87, 42361),

Gene: MiniBagel_60 Start: 44123, Stop: 44698, Start Num: 21

Candidate Starts for MiniBagel_60:

(Start: 21 @44123 has 34 MA's), (28, 44159), (40, 44270), (41, 44273), (63, 44441), (65, 44450), (67, 44453), (84, 44561), (87, 44576), (97, 44678),

Gene: Mooshroom_69 Start: 42587, Stop: 43081, Start Num: 24

Candidate Starts for Mooshroom_69:

(Start: 24 @42587 has 65 MA's), (34, 42683), (35, 42704), (36, 42707), (41, 42734), (52, 42842), (62, 42881), (69, 42908), (76, 42956),

Gene: Moozy_45 Start: 35081, Stop: 35662, Start Num: 24

Candidate Starts for Moozy_45:

(1, 34637), (2, 34640), (9, 34988), (Start: 24 @35081 has 65 MA's), (31, 35138), (35, 35204), (58, 35369), (65, 35396), (76, 35456), (81, 35498), (83, 35504), (91, 35558), (94, 35603), (96, 35618), (98, 35645),

Gene: Mossy_69 Start: 48724, Stop: 49308, Start Num: 23

Candidate Starts for Mossy_69:

(Start: 23 @48724 has 6 MA's), (33, 48799), (55, 48994), (69, 49054), (76, 49102), (79, 49132), (85, 49156),

Gene: MrAaronian_64 Start: 41914, Stop: 42492, Start Num: 21

Candidate Starts for MrAaronian_64:

(Start: 21 @41914 has 34 MA's), (29, 41962), (30, 41968), (32, 41986), (41, 42064), (42, 42067), (46, 42094), (55, 42187), (56, 42190), (63, 42226), (71, 42253), (87, 42361),

Gene: Mudcat_64 Start: 43636, Stop: 44130, Start Num: 24

Candidate Starts for Mudcat_64:

(Start: 24 @43636 has 65 MA's), (34, 43732), (36, 43756), (41, 43783), (52, 43891), (62, 43930), (69, 43957), (76, 44005),

Gene: Nadmeg_67 Start: 47984, Stop: 48568, Start Num: 24

Candidate Starts for Nadmeg_67:

(6, 47870), (13, 47918), (17, 47966), (Start: 24 @47984 has 65 MA's), (33, 48059), (55, 48254), (76, 48362), (79, 48392), (85, 48416),

Gene: NapoleonB_69 Start: 42793, Stop: 43287, Start Num: 24

Candidate Starts for NapoleonB_69:

(Start: 24 @42793 has 65 MA's), (34, 42889), (35, 42910), (36, 42913), (41, 42940), (52, 43048), (62, 43087), (69, 43114), (76, 43162),

Gene: Nason_68 Start: 42977, Stop: 43471, Start Num: 24

Candidate Starts for Nason_68:

(4, 42839), (8, 42887), (Start: 24 @42977 has 65 MA's), (34, 43073), (41, 43124), (52, 43232), (53, 43235), (60, 43265), (62, 43271), (79, 43376),

Gene: Nightmare_62 Start: 44420, Stop: 44995, Start Num: 21

Candidate Starts for Nightmare_62:

(Start: 21 @44420 has 34 MA's), (28, 44456), (40, 44567), (41, 44570), (55, 44684), (63, 44738), (65, 44747), (67, 44750), (84, 44858),

Gene: Niktson_60 Start: 43878, Stop: 44453, Start Num: 21

Candidate Starts for Niktson_60:

(Start: 21 @43878 has 34 MA's), (28, 43914), (40, 44025), (41, 44028), (55, 44142), (63, 44196), (65, 44205), (67, 44208), (84, 44316), (87, 44331), (97, 44433),

Gene: Nithya_66 Start: 46904, Stop: 47485, Start Num: 24

Candidate Starts for Nithya_66:

(6, 46790), (13, 46838), (Start: 24 @46904 has 65 MA's), (33, 46979), (54, 47171), (55, 47174), (76, 47282), (79, 47312), (85, 47336),

Gene: Nivinsha_62 Start: 43375, Stop: 43950, Start Num: 21

Candidate Starts for Nivinsha_62:

(Start: 21 @43375 has 34 MA's), (28, 43411), (40, 43522), (41, 43525), (55, 43639), (63, 43693), (65, 43702), (84, 43813), (97, 43930),

Gene: Odesza_67 Start: 47138, Stop: 47725, Start Num: 24

Candidate Starts for Odesza_67:

(Start: 24 @47138 has 65 MA's), (28, 47162), (33, 47213), (35, 47246), (41, 47276), (51, 47387), (55, 47408), (72, 47483), (76, 47516), (79, 47546), (90, 47603), (91, 47618),

Gene: OhMyWard_65 Start: 48483, Stop: 49067, Start Num: 23

Candidate Starts for OhMyWard_65:

(Start: 23 @48483 has 6 MA's), (33, 48558), (41, 48621), (54, 48750), (55, 48753), (69, 48813), (76, 48861), (79, 48891), (85, 48915),

Gene: OlgasClover_67 Start: 48040, Stop: 48621, Start Num: 24

Candidate Starts for OlgasClover_67:

(17, 48022), (Start: 24 @48040 has 65 MA's), (33, 48115), (54, 48307), (55, 48310), (75, 48397), (76, 48418), (79, 48448), (85, 48472),

Gene: Paella_118 Start: 65767, Stop: 66369, Start Num: 20

Candidate Starts for Paella_118:

(7, 65677), (Start: 20 @65767 has 8 MA's), (41, 65920), (63, 66088), (79, 66187), (82, 66202), (84, 66208),

Gene: Pepy6_077 Start: 58658, Stop: 59239, Start Num: 24

Candidate Starts for Pepy6_077:

(Start: 24 @58658 has 65 MA's), (33, 58736), (38, 58787), (54, 58928), (55, 58931), (63, 58970), (76, 59039), (79, 59069), (98, 59222),

Gene: Perkunas_70 Start: 47540, Stop: 48130, Start Num: 23

Candidate Starts for Perkunas_70:

(16, 47519), (Start: 23 @47540 has 6 MA's), (28, 47564), (33, 47615), (35, 47648), (51, 47789), (55, 47810), (72, 47885), (76, 47918), (79, 47948), (91, 48020),

Gene: Petito_70 Start: 48710, Stop: 49300, Start Num: 23

Candidate Starts for Petito_70:

(16, 48689), (Start: 23 @48710 has 6 MA's), (28, 48734), (33, 48785), (35, 48818), (41, 48848), (55, 48980), (67, 49031), (72, 49055), (76, 49088), (79, 49118), (91, 49190),

Gene: Phaby_65 Start: 44410, Stop: 45006, Start Num: 18

Candidate Starts for Phaby_65:

(Start: 18 @44410 has 4 MA's), (28, 44452), (41, 44566), (65, 44743), (84, 44854),

Gene: Phepper_67 Start: 46995, Stop: 47579, Start Num: 24

Candidate Starts for Phepper_67:

(17, 46977), (Start: 24 @46995 has 65 MA's), (33, 47070), (54, 47262), (55, 47265), (60, 47292), (79, 47403), (85, 47427),

Gene: Pherobrine_69 Start: 48757, Stop: 49341, Start Num: 24

Candidate Starts for Pherobrine_69:

(10, 48685), (Start: 24 @48757 has 65 MA's), (33, 48832), (35, 48865), (51, 49006), (55, 49027), (76, 49135), (79, 49165), (85, 49189),

Gene: PherryCruz_45 Start: 35270, Stop: 35851, Start Num: 24

Candidate Starts for PherryCruz_45:

(9, 35177), (Start: 24 @35270 has 65 MA's), (31, 35327), (35, 35393), (58, 35558), (65, 35585), (76, 35645), (81, 35687), (83, 35693), (91, 35747), (98, 35834),

Gene: Poco6_075 Start: 59837, Stop: 60418, Start Num: 24

Candidate Starts for Poco6_075:

(Start: 24 @59837 has 65 MA's), (33, 59912), (42, 59978), (54, 60104), (55, 60107), (63, 60146), (65, 60155), (69, 60167), (76, 60215), (79, 60245), (98, 60401),

Gene: ProfFrink_65 Start: 41909, Stop: 42487, Start Num: 21

Candidate Starts for ProfFrink_65:

(Start: 21 @41909 has 34 MA's), (29, 41957), (30, 41963), (32, 41981), (41, 42059), (42, 42062), (46, 42089), (55, 42182), (63, 42221), (71, 42248), (87, 42356),

Gene: Qui_118 Start: 65767, Stop: 66369, Start Num: 20

Candidate Starts for Qui_118:

(7, 65677), (Start: 20 @65767 has 8 MA's), (41, 65920), (63, 66088), (79, 66187), (82, 66202), (84, 66208),

Gene: Raunak_65 Start: 41570, Stop: 42148, Start Num: 21

Candidate Starts for Raunak_65:

(Start: 21 @41570 has 34 MA's), (29, 41618), (30, 41624), (32, 41642), (41, 41720), (42, 41723), (46, 41750), (55, 41843), (56, 41846), (63, 41882), (71, 41909), (87, 42017),

Gene: RavenPuff_46 Start: 35293, Stop: 35874, Start Num: 24

Candidate Starts for RavenPuff_46:

(9, 35200), (Start: 24 @35293 has 65 MA's), (31, 35350), (35, 35416), (58, 35581), (65, 35608), (76, 35668), (81, 35710), (83, 35716), (91, 35770), (98, 35857),

Gene: Renaldo_72 Start: 44085, Stop: 44669, Start Num: 20

Candidate Starts for Renaldo_72:

(Start: 20 @44085 has 8 MA's), (41, 44238), (45, 44265), (55, 44358), (63, 44397), (79, 44496), (88, 44538), (91, 44568), (97, 44622),

Gene: Rickmore_63 Start: 45423, Stop: 46004, Start Num: 24

Candidate Starts for Rickmore_63:

(17, 45405), (Start: 24 @45423 has 65 MA's), (33, 45498), (51, 45672), (54, 45690), (55, 45693), (75, 45780), (76, 45801), (79, 45831), (85, 45855),

Gene: Roney_68 Start: 47304, Stop: 47891, Start Num: 24

Candidate Starts for Roney_68:

(Start: 24 @47304 has 65 MA's), (28, 47328), (33, 47379), (35, 47412), (41, 47442), (51, 47553), (55, 47574), (72, 47649), (76, 47682), (79, 47712), (90, 47769), (91, 47784),

Gene: RosaAsantewaa_43 Start: 34545, Stop: 35060, Start Num: 26

Candidate Starts for RosaAsantewaa_43:

(Start: 26 @34545 has 1 MA's), (36, 34656), (41, 34683), (55, 34797), (59, 34827), (90, 34998),

Gene: Runhaar_66 Start: 46805, Stop: 47389, Start Num: 24

Candidate Starts for Runhaar_66:

(6, 46691), (13, 46739), (17, 46787), (Start: 24 @46805 has 65 MA's), (33, 46880), (55, 47075), (76, 47183), (79, 47213), (85, 47237),

Gene: Salk_64 Start: 41912, Stop: 42490, Start Num: 21

Candidate Starts for Salk_64:

(Start: 21 @41912 has 34 MA's), (29, 41960), (30, 41966), (32, 41984), (41, 42062), (42, 42065), (46, 42092), (55, 42185), (56, 42188), (63, 42224), (71, 42251), (87, 42359),

Gene: Scap1_45 Start: 34871, Stop: 35452, Start Num: 24

Candidate Starts for Scap1_45:

(9, 34778), (Start: 24 @34871 has 65 MA's), (31, 34928), (37, 35000), (65, 35186), (73, 35219), (81, 35288), (83, 35294), (91, 35348), (92, 35357),

Gene: Schwartz33_68 Start: 47476, Stop: 48054, Start Num: 24

Candidate Starts for Schwartz33_68:

(8, 47380), (15, 47416), (Start: 24 @47476 has 65 MA's), (27, 47497), (28, 47500), (33, 47551), (54, 47743), (55, 47746), (69, 47806), (75, 47833), (85, 47908), (95, 47998),

Gene: ScienceWizSam_61 Start: 43537, Stop: 44112, Start Num: 21

Candidate Starts for ScienceWizSam_61:

(Start: 21 @43537 has 34 MA's), (28, 43573), (40, 43684), (41, 43687), (55, 43801), (63, 43855), (65, 43864), (84, 43975),

Gene: Secretariat_66 Start: 46436, Stop: 47020, Start Num: 24

Candidate Starts for Secretariat_66:

(Start: 24 @46436 has 65 MA's), (27, 46457), (33, 46511), (55, 46706), (73, 46787), (75, 46793), (93, 46928), (95, 46964),

Gene: Serenabean_57 Start: 40188, Stop: 40733, Start Num: 22

Candidate Starts for Serenabean_57:

(Start: 22 @40188 has 2 MA's), (31, 40245), (39, 40329), (55, 40461),

Gene: SheRa_46 Start: 35151, Stop: 35732, Start Num: 24

Candidate Starts for SheRa_46:

(9, 35058), (Start: 24 @35151 has 65 MA's), (31, 35208), (35, 35274), (58, 35439), (65, 35466), (76, 35526), (81, 35568), (83, 35574), (84, 35577), (91, 35628), (94, 35673), (96, 35688), (98, 35715),

Gene: Shepard_66 Start: 43711, Stop: 44301, Start Num: 21

Candidate Starts for Shepard_66:

(Start: 21 @43711 has 34 MA's), (28, 43747), (41, 43861), (65, 44038), (84, 44149),

Gene: Shiba_63 Start: 41570, Stop: 42148, Start Num: 21

Candidate Starts for Shiba_63:

(Start: 21 @41570 has 34 MA's), (29, 41618), (30, 41624), (32, 41642), (41, 41720), (42, 41723), (46, 41750), (55, 41843), (56, 41846), (63, 41882), (71, 41909), (87, 42017),

Gene: Sloopyjoe_64 Start: 41916, Stop: 42494, Start Num: 21

Candidate Starts for Sloopyjoe_64:

(Start: 21 @41916 has 34 MA's), (29, 41964), (30, 41970), (32, 41988), (41, 42066), (42, 42069), (46, 42096), (55, 42189), (56, 42192), (63, 42228), (71, 42255), (87, 42363),

Gene: Sporto_63 Start: 43022, Stop: 43609, Start Num: 21

Candidate Starts for Sporto_63:

(Start: 21 @43022 has 34 MA's), (32, 43094), (41, 43172), (55, 43295), (63, 43349), (69, 43370), (70, 43373), (71, 43376), (86, 43475), (97, 43571),

Gene: StarLord_64 Start: 41909, Stop: 42487, Start Num: 21

Candidate Starts for StarLord_64:

(Start: 21 @41909 has 34 MA's), (29, 41957), (30, 41963), (32, 41981), (41, 42059), (42, 42062), (46, 42089), (55, 42182), (56, 42185), (63, 42221), (71, 42248), (87, 42356),

Gene: Stayer_64 Start: 41912, Stop: 42490, Start Num: 21

Candidate Starts for Stayer_64:

(Start: 21 @41912 has 34 MA's), (29, 41960), (30, 41966), (32, 41984), (41, 42062), (42, 42065), (46, 42092), (55, 42185), (56, 42188), (63, 42224), (71, 42251), (87, 42359),

Gene: Sunny4976_62 Start: 43553, Stop: 44128, Start Num: 24

Candidate Starts for Sunny4976_62:

(12, 43484), (Start: 24 @43553 has 65 MA's), (43, 43709), (55, 43820), (65, 43868), (73, 43901), (78, 43955), (82, 43973),

Gene: Synopsis_59 Start: 43542, Stop: 44117, Start Num: 21

Candidate Starts for Synopsis_59:

(Start: 21 @43542 has 34 MA's), (28, 43578), (40, 43689), (41, 43692), (55, 43806), (63, 43860), (65, 43869), (84, 43980),

Gene: Tanis_68 Start: 47124, Stop: 47711, Start Num: 24

Candidate Starts for Tanis_68:

(Start: 24 @47124 has 65 MA's), (28, 47148), (33, 47199), (35, 47232), (41, 47262), (51, 47373), (55, 47394), (72, 47469), (76, 47502), (79, 47532), (90, 47589), (91, 47604),

Gene: Tatanka_57 Start: 43674, Stop: 44249, Start Num: 21

Candidate Starts for Tatanka_57:

(Start: 21 @43674 has 34 MA's), (28, 43710), (40, 43821), (41, 43824), (55, 43938), (63, 43992), (65, 44001), (67, 44004), (84, 44112),

Gene: Teacup_61 Start: 43957, Stop: 44532, Start Num: 21

Candidate Starts for Teacup_61:

(Start: 21 @43957 has 34 MA's), (28, 43993), (40, 44104), (41, 44107), (55, 44221), (63, 44275), (65, 44284), (67, 44287), (84, 44395), (87, 44410), (97, 44512),

Gene: TenaciousP_71 Start: 48412, Stop: 48993, Start Num: 24

Candidate Starts for TenaciousP_71:

(Start: 24 @48412 has 65 MA's), (33, 48487), (51, 48661), (55, 48682), (75, 48769), (76, 48790), (79, 48820), (85, 48844),

Gene: Tenno_61 Start: 44195, Stop: 44770, Start Num: 21

Candidate Starts for Tenno_61:

(Start: 21 @44195 has 34 MA's), (28, 44231), (40, 44342), (41, 44345), (63, 44513), (65, 44522), (67, 44525), (84, 44633), (87, 44648), (97, 44750),

Gene: Tokki_69 Start: 44065, Stop: 44655, Start Num: 21

Candidate Starts for Tokki_69:

(Start: 21 @44065 has 34 MA's), (28, 44101), (41, 44215), (63, 44383), (65, 44392), (84, 44503),

Gene: Tribby_71 Start: 43164, Stop: 43658, Start Num: 24

Candidate Starts for Tribby_71:

(Start: 24 @43164 has 65 MA's), (41, 43311), (52, 43419), (60, 43452), (62, 43458), (79, 43563),

Gene: Truckee_62 Start: 43782, Stop: 44372, Start Num: 21

Candidate Starts for Truckee_62:

(Start: 21 @43782 has 34 MA's), (28, 43818), (41, 43932), (54, 44043), (65, 44109), (84, 44220),

Gene: Trustiboi_60 Start: 43797, Stop: 44372, Start Num: 21

Candidate Starts for Trustiboi_60:

(Start: 21 @43797 has 34 MA's), (28, 43833), (40, 43944), (41, 43947), (55, 44061), (63, 44115), (65, 44124), (67, 44127), (84, 44235),

Gene: Untouchable_68 Start: 47995, Stop: 48579, Start Num: 24

Candidate Starts for Untouchable_68:

(17, 47977), (Start: 24 @47995 has 65 MA's), (33, 48070), (54, 48262), (55, 48265), (76, 48373), (79, 48403), (85, 48427),

Gene: Uzumaki_63 Start: 42263, Stop: 42850, Start Num: 20

Candidate Starts for Uzumaki_63:

(Start: 20 @42263 has 8 MA's), (31, 42326), (36, 42392), (41, 42419), (45, 42446), (55, 42539), (63, 42578), (75, 42626), (88, 42719), (91, 42749), (97, 42803),

Gene: Vardy_65 Start: 46695, Stop: 47279, Start Num: 24

Candidate Starts for Vardy_65:

(6, 46581), (13, 46629), (17, 46677), (Start: 24 @46695 has 65 MA's), (33, 46770), (55, 46965), (76, 47073), (79, 47103), (85, 47127),

Gene: Xenomorph_64 Start: 42648, Stop: 43142, Start Num: 24

Candidate Starts for Xenomorph_64:

(4, 42510), (8, 42558), (Start: 24 @42648 has 65 MA's), (34, 42744), (41, 42795), (52, 42903), (53, 42906), (60, 42936), (62, 42942), (79, 43047),

Gene: Zeina_68 Start: 42957, Stop: 43544, Start Num: 20

Candidate Starts for Zeina_68:

(Start: 20 @42957 has 8 MA's), (31, 43020), (36, 43086), (41, 43113), (45, 43140), (55, 43233), (63, 43272), (88, 43413), (91, 43443), (96, 43488), (97, 43497),

Gene: Zeph_68 Start: 47834, Stop: 48418, Start Num: 24

Candidate Starts for Zeph_68:

(6, 47720), (13, 47768), (17, 47816), (Start: 24 @47834 has 65 MA's), (33, 47909), (54, 48101), (55, 48104), (76, 48212), (79, 48242), (85, 48266),