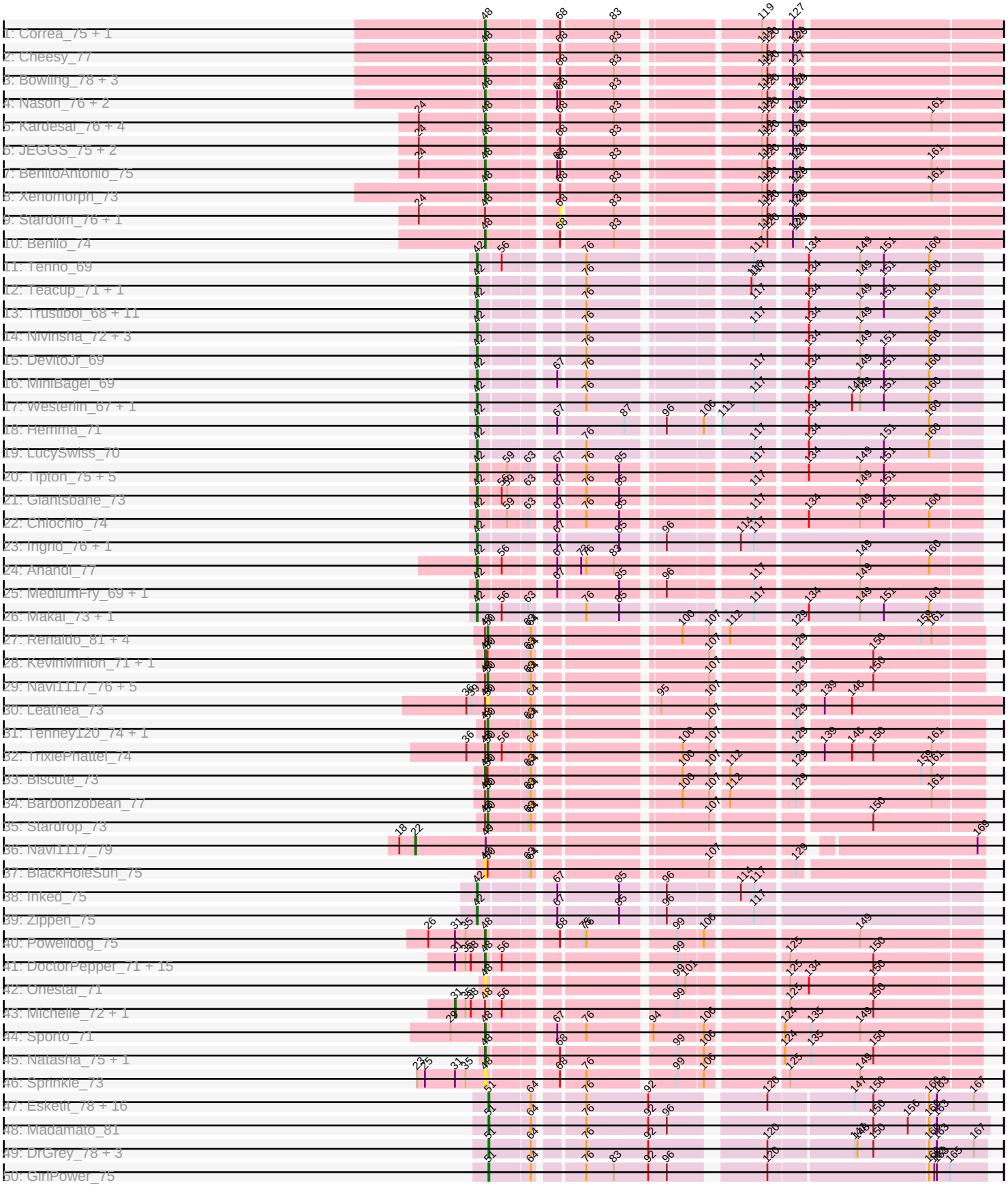
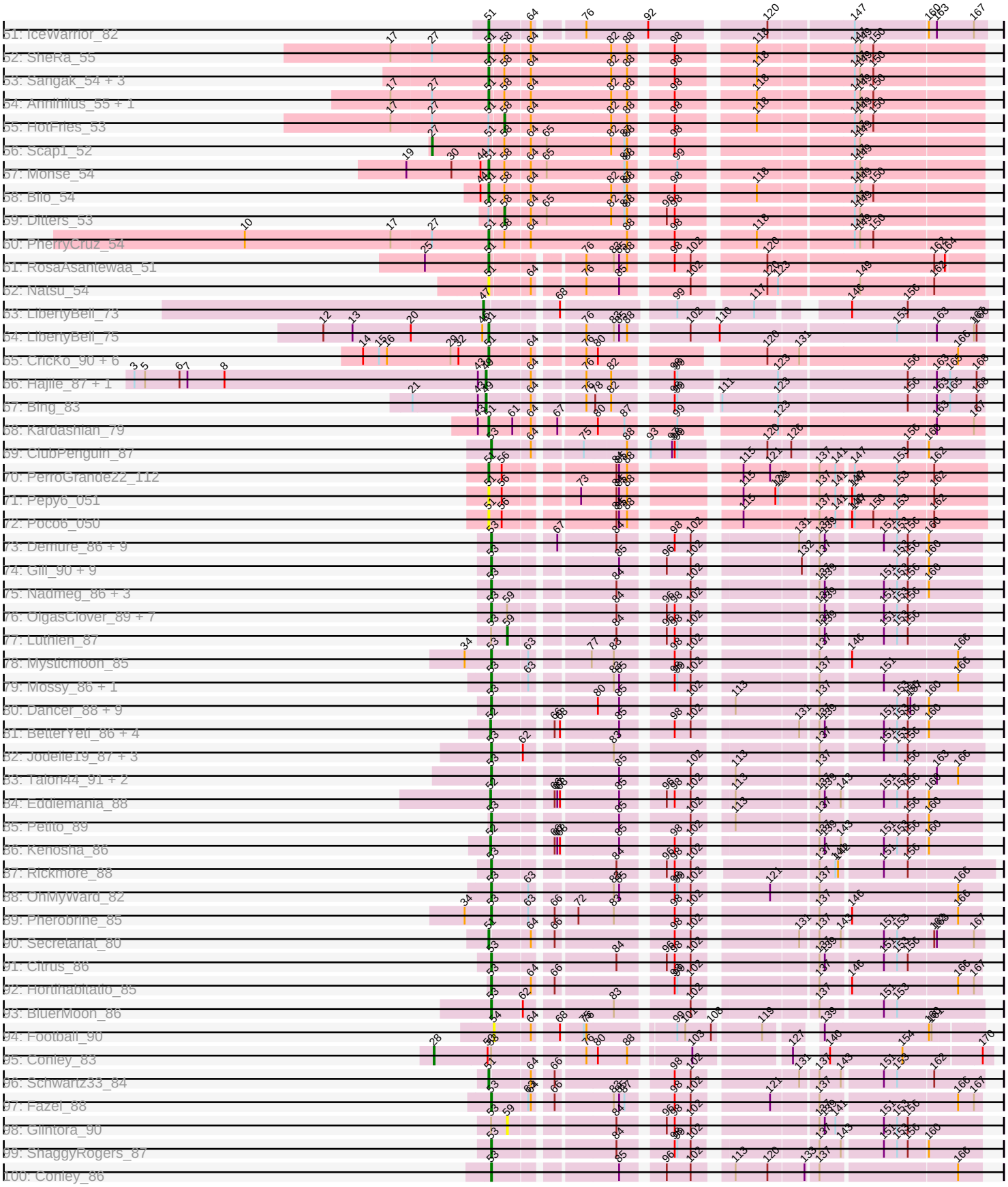
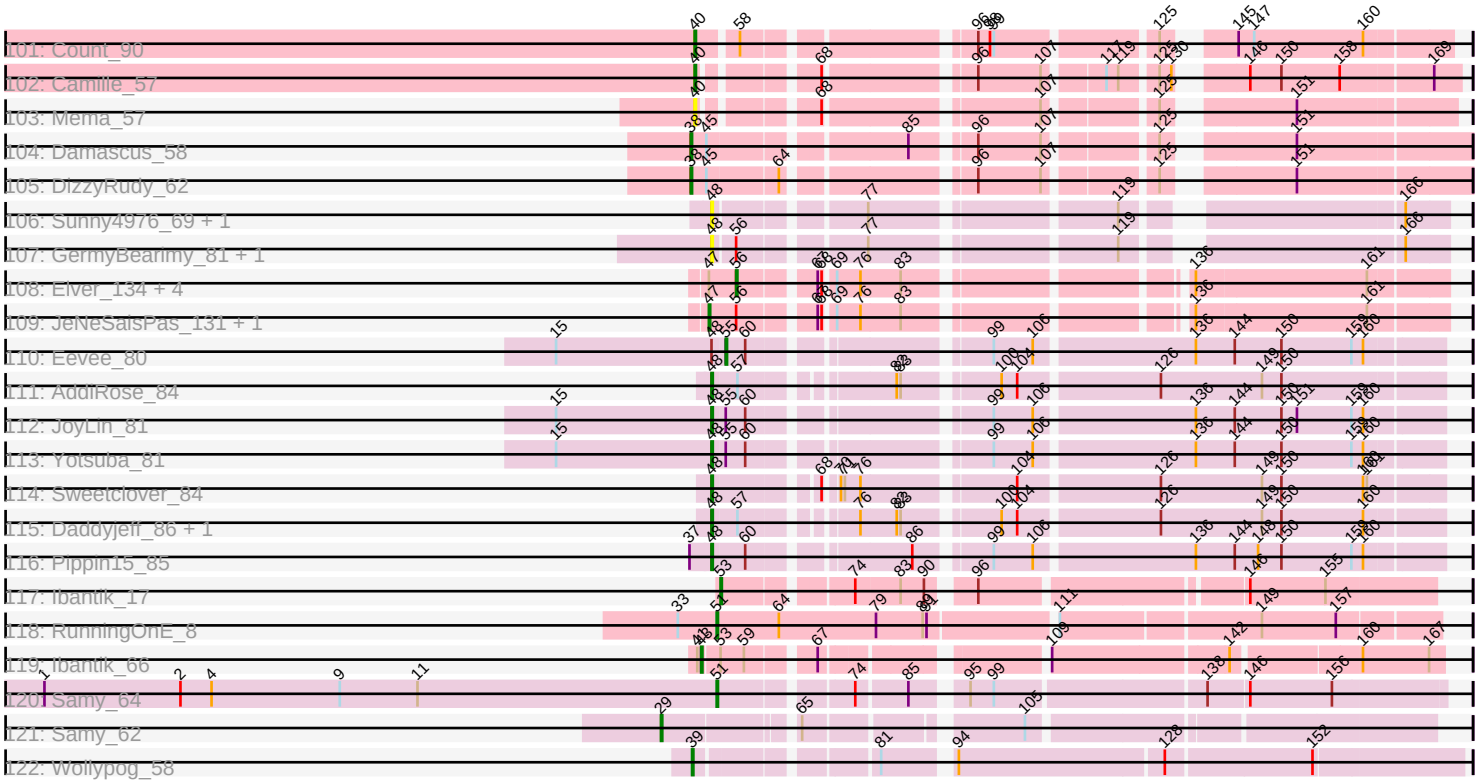
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1: Correa_75 + 1
2: Cheesy_77
3: Bowling_78 + 3
4: Nason_76 + 2
5: Kardesai_76 + 4
6: JEGGS_75 + 2
7: BenitoAntonio_75
8: Xenomorph_73
9: Stardom_76 + 1
10: Benilo_74
11: Tenno_69
12: Teacup_71 + 1
13: Trustiboi_68 + 11
14: Nivinsha_72 + 3
15: DevitoJr_69
16: MiniBagel_69
17: Westerlin_67 + 1
18: Hemma_71
19: LucySwiss_70
20: Tipton_75 + 5
21: Giantsbane_73
22: Chlochlo_74
23: Ingrid_76 + 1
24: Anandi_77
25: MediumFry_69 + 1
26: Makai_73 + 1
27: Renaldo_81 + 4
28: KevinMinion_71 + 1
29: Navi1117_76 + 5
30: Leathea_73
31: Tenney120_74 + 1
32: TrixiePhattel_74
33: Biscute_73
34: Barbonzobean_77
35: Stardrop_73
36: Navi1117_79
37: BlackHoleSun_75
38: Inked_75
39: Zippen_75
40: Powelldog_75
41: DoctorPepper_71 + 15
42: Onestar_71
43: Michelle_72 + 1
44: Sporto_71
45: Natasha_75 + 1
46: Sprinkle_73
47: Eskett_78 + 16
48: Madamato_81
49: DrGrey_78 + 3
50: GimPower_75

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51: IceWarrior_82
52: SheRa_55
53: Sangak_54 + 3
54: Annihilus_55 + 1
55: HotFries_53
56: Scap1_52
57: Monse_54
58: Bilo_54
59: Ditters_53
60: PherryCruz_54
61: RosaAsantewaa_51
62: Natsu_54
63: LibertyBell_73
64: LibertyBell_75
65: CricKo_90 + 6
66: Hajile_87 + 1
67: Bing_83
68: Kardashian_79
69: ClubPenguin_87
70: PerroGrande22_112
71: Pepy6_051
72: Poco6_050
73: Demure_86 + 9
74: Gill_90 + 9
75: Nadmeg_86 + 3
76: OlgasClover_89 + 7
77: Luthien_87
78: Mysticmoon_85
79: Mossy_86 + 1
80: Dancer_88 + 9
81: BetterYeti_86 + 4
82: Jodelle19_87 + 3
83: Talon44_91 + 2
84: Eddiemania_88
85: Petito_89
86: Kenosha_86
87: Rickmore_88
88: OhMyWard_82
89: Pherobrine_85
90: Secretariat_80
91: Citrus_86
92: Hortihabitatio_85
93: BluerMoon_86
94: Football_90
95: Conley_83
96: Schwartz33_84
97: Fazel_88
98: Glintora_90
99: ShaggyRogers_87
100: Conley_86

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101: Count_90
102: Camille_57
103: Mema_57
104: Damascus_58
105: DizzyRudy_62
106: Sunny4976_69 + 1
107: GermyBeanmy_81 + 1
108: Elver_134 + 4
109: JeNeSaisPas_131 + 1
110: Eevee_80
111: AddiRose_84
112: JoyLin_81
113: Yotsuba_81
114: Sweetclover_84
115: Daddyjeff_86 + 1
116: Pippin15_85
117: Ibantik_17
118: RunningOnE_8
119: Ibantik_66
120: Samy_64
121: Samy_62
122: Wollypog_58

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 347195 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347195 has 272 members, 41 are drafts.

Phages represented in each track:
- Track 1 : Correa_75, Tribby_80
- Track 2 : Cheesy_77
- Track 3 : Bowling_78, Dynamite_76, NapoleonB_77, Hankly_76
- Track 4 : Nason_76, Elsa_76, Arcadia_76
- Track 5 : Kardesai_76, KeaneyLin_72, Mooshroom_77, Circum_78, GoCrazy_73
- Track 6 : JEGGS_75, Heisenberger_75, Mudcat_72
- Track 7 : BenitoAntonio_75
- Track 8 : Xenomorph_73
- Track 9 : Stardom_76, YoshiYama_78
- Track 10 : Benllo_74
- Track 11 : Tenno_69
- Track 12 : Teacup_71, Acai_70
- Track 13 : Trustiboi_68, CastorTray_73, Gordon_67, Tatanka_63, Darby_67, Brunswick_71, ElephantMan_70, Dinallo_65, ScienceWizSam_71, Niktson_70, Issa_65, CapnMurica_67
- Track 14 : Nivinsha_72, AreFloNak_73, Synepsis_66, Nightmare_70
- Track 15 : DevitoJr_69
- Track 16 : MiniBagel_69
- Track 17 : Westerlin_67, Breylor17_66
- Track 18 : Hemma_71
- Track 19 : LucySwiss_70
- Track 20 : Tipton_75, LilHuddy_74, Bouchard_74, Phaby_75, Shepard_74, Tokki_79
- Track 21 : Giantsbane_73
- Track 22 : Chlochlo_74
- Track 23 : Ingrid_76, Loretta_72
- Track 24 : Anandi_77
- Track 25 : MediumFry_69, Caterpillar_69
- Track 26 : Makai_73, Truckee_71
- Track 27 : Renaldo_81, BarbieDoll_77, Muglass_74, Lewando_77, Kinny_76
- Track 28 : KevinMinion_71, Argan_70
- Track 29 : Navi1117_76, GantcherGoblin_71, Phaila_73, Zeina_76, PoeMe_73, Uzumaki_70
- Track 30 : Leathea_73
- Track 31 : Tenney120_74, Mardi_74
- Track 32 : TrixiePhattel_74
- Track 33 : Biscute_73
- Track 34 : Barbonzobean_77

• Track 35 : Stardrop_73
• Track 36 : Navi1117_79
• Track 37 : BlackHoleSun_75
• Track 38 : Inked_75
• Track 39 : Zippen_75
• Track 40 : Powelldog_75
• Track 41 : DoctorPepper_71, Raunak_72, MrAaronian_72, HerbBucket_70, Djungelskog_71, Spain_72, Egad_72, Linda_72, Jeremy4pt0_71, Sloopyjoe_72, StarLord_72, ProfFrink_72, Salk_72, Boog_71, BronxBay_72, Shiba_71
• Track 42 : Onestar_71
• Track 43 : Michelle_72, Stayer_72
• Track 44 : Sporto_71
• Track 45 : Natasha_75, RustyBoy_76
• Track 46 : Sprinkle_73
• Track 47 : Esketit_78, Indigenous_84, TaidaOne_82, Spectropatronm_81, Rima_83, OlympicHelado_84, Jaylociraptor_82, Meibysrarus_80, TieDye_78, HazuAndZazu_79, Maya_82, FidgetOrca_84, Soshi_81, TonyStarch_81, Hoshi_83, CherryBlossom_82, Namo_84
• Track 48 : Madamato_81
• Track 49 : DrGrey_78, FrodoSwaggins_80, Espio_80, Popy_80
• Track 50 : GirlPower_75
• Track 51 : IceWarrior_82
• Track 52 : SheRa_55
• Track 53 : Sangak_54, GoblinVoyage_55, RavenPuff_55, Doxi13_56
• Track 54 : Annihilus_55, Moozy_54
• Track 55 : HotFries_53
• Track 56 : Scap1_52
• Track 57 : Monse_54
• Track 58 : Bilo_54
• Track 59 : Ditters_53
• Track 60 : PherryCruz_54
• Track 61 : RosaAsantewaa_51
• Track 62 : Natsu_54
• Track 63 : LibertyBell_73
• Track 64 : LibertyBell_75
• Track 65 : CricKo_90, FromIndy_88, Regigigas_90, SendItCS_82, Miek_84, Thiqqums_90, Rainydai_87
• Track 66 : Hajile_87, Wigberry_85
• Track 67 : Bing_83
• Track 68 : Kardashian_79
• Track 69 : ClubPenguin_87
• Track 70 : PerroGrande22_112
• Track 71 : Pepy6_051
• Track 72 : Poco6_050
• Track 73 : Demure_86, Untouchable_89, Zeph_90, Arataki_87, ArtetaBall_86, Hydrus_87, CWormy_85, Dialga_88, Madvan_86, Phepper_88
• Track 74 : Gill_90, Magel_91, Roney_88, Capybara_87, Kerry_89, Tanis_89, Odesza_88, Captrips_87, Gravy_89, NoPickles_89
• Track 75 : Nadmeg_86, Vardy_86, Burley_86, Runhaar_85
• Track 76 : OlgasClover_89, Figliar_86, Duffington_88, Nithya_87, Chikenjars_88, EndAve_89, AlainaMarie_88, MajinBuu_88
• Track 77 : Luthien_87
• Track 78 : Mysticmoon_85

• Track 79 : Mossy_86, Blanky_81
• Track 80 : Dancer_88, Bugg_92, FortCran_88, JulesRay_88, Football_93, Avazak_89, Artorias_88, Trufflozitus_89, Tairn4Wing_91, ChickyNuggy_90
• Track 81 : BetterYeti_86, Crocheter_87, Aloe25_88, Gusicorn_88, PestoPenguin_88
• Track 82 : Jodelie19_87, Aflac_88, TenaciousP_89, Tonaltzin_87
• Track 83 : Talon44_91, SweetCrkHerbs_91, Perkunas_90
• Track 84 : Eddiemania_88
• Track 85 : Petito_89
• Track 86 : Kenosha_86
• Track 87 : Rickmore_88
• Track 88 : OhMyWard_82
• Track 89 : Pherobrine_85
• Track 90 : Secretariat_80
• Track 91 : Citrus_86
• Track 92 : Hortihabitatio_85
• Track 93 : BluerMoon_86
• Track 94 : Football_90
• Track 95 : Conley_83
• Track 96 : Schwartz33_84
• Track 97 : Fazel_88
• Track 98 : Glintora_90
• Track 99 : ShaggyRogers_87
• Track 100 : Conley_86
• Track 101 : Count_90
• Track 102 : Camille_57
• Track 103 : Mema_57
• Track 104 : Damascus_58
• Track 105 : DizzyRudy_62
• Track 106 : Sunny4976_69, Jazzy4900_70
• Track 107 : GermyBearimy_81, Arzan_73
• Track 108 : Elver_134, Paella_134, Kureo_131, Qui_134, Marianna39_131
• Track 109 : JeNeSaisPas_131, Gandionco_130
• Track 110 : Eevee_80
• Track 111 : AddiRose_84
• Track 112 : JoyLin_81
• Track 113 : Yotsuba_81
• Track 114 : Sweetclover_84
• Track 115 : Daddyjeff_86, Serenabean_86
• Track 116 : Pippin15_85
• Track 117 : Ibantik_17
• Track 118 : RunningOnE_8
• Track 119 : Ibantik_66
• Track 120 : Samy_64
• Track 121 : Samy_62
• Track 122 : Wollypog_58

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

The start number called the most often in the published annotations is 53, it was called in 55 of the 231 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aflac_88, AlainaMarie_88, Arataki_87, ArtetaBall_86, Artorias_88, Avazak_89, Blanky_81, BluerMoon_86, Bugg_92, Burley_86, CWormy_85, Captrips_87, Capybara_87, ChickyNuggy_90, Chikenjars_88, Citrus_86, ClubPenguin_87, Conley_86, Dancer_88, Demure_86, Dialga_88, Duffington_88, EndAve_89, Fazel_88, Figliar_86, Football_93, FortCran_88, Gill_90, Gravy_89, Hortihabitatio_85, Hydrus_87, Ibantik_17, Jodelie19_87, JulesRay_88, Kerry_89, Madvan_86, Magel_91, MajinBuu_88, Mossy_86, Mysticmoon_85, Nadmeg_86, Nithya_87, NoPickles_89, Odesza_88, OhMyWard_82, OlgasClover_89, Perkunas_90, Petito_89, Phepper_88, Pherobrine_85, Rickmore_88, Roney_88, Runhaar_85, ShaggyRogers_87, SweetCrkHerbs_91, Tairn4Wing_91, Talon44_91, Tanis_89, TenaciousP_89, Tonaltzin_87, Trufflozitus_89, Untouchable_89, Vardy_86, Zeph_90,

Genes that have the "Most Annotated" start but do not call it:
• Conley_83, Glintora_90, Ibantik_66, Luthien_87,

Genes that do not have the "Most Annotated" start:
• Acai_70, AddiRose_84, Aloe25_88, Anandi_77, Annihilus_55, Arcadia_76, AreFloNak_73, Argan_70, Arzan_73, BarbieDoll_77, Barbonzobean_77, BenitoAntonio_75, Benllo_74, BetterYeti_86, Bilo_54, Bing_83, Biscute_73, BlackHoleSun_75, Boog_71, Bouchard_74, Bowling_78, Breylor17_66, BronxBay_72, Brunswick_71, Camille_57, CapnMurica_67, CastorTray_73, Caterpillar_69, Cheesy_77, CherryBlossom_82, Chlochlo_74, Circum_78, Correa_75, Count_90, CricKo_90, Crocheter_87, Daddyjeff_86, Damascus_58, Darby_67, DevitoJr_69, Dinallo_65, Ditters_53, DizzyRudy_62, Djungelskog_71, DoctorPepper_71, Doxi13_56, DrGrey_78, Dynamite_76, Eddiemania_88, Eevee_80, Egad_72, ElephantMan_70, Elsa_76, Elver_134, Esketit_78, Espio_80, FidgetOrca_84, Football_90, FrodoSwaggins_80, FromIndy_88, Gandionco_130, GantcherGoblin_71, GermyBearimy_81, Giantsbane_73, GirlPower_75, GoCrazy_73, GoblinVoyage_55, Gordon_67, Gusicorn_88, Hajile_87, Hankly_76, HazuAndZazu_79, Heisenberger_75, Hemma_71, HerbBucket_70, Hoshi_83, HotFries_53, IceWarrior_82, Indigenous_84, Ingrid_76, Inked_75, Issa_65, JEGGS_75, Jaylociraptor_82, Jazzy4900_70, JeNeSaisPas_131, Jeremy4pt0_71, JoyLin_81, Kardashian_79, Kardesai_76, KeaneyLin_72, Kenosha_86, KevinMinion_71, Kinny_76, Kureo_131, Leathea_73, Lewando_77, LibertyBell_73, LibertyBell_75, LilHuddy_74, Linda_72, Loretta_72, LucySwiss_70, Madamato_81, Makai_73, Mardi_74, Marianna39_131, Maya_82, MediumFry_69, Meibysrarus_80, Mema_57, Michelle_72, Miek_84, MiniBagel_69, Monse_54, Mooshroom_77, Moozy_54, MrAaronian_72, Mudcat_72, Muglass_74, Namo_84, NapoleonB_77, Nason_76, Natasha_75, Natsu_54, Navi1117_76, Navi1117_79, Nightmare_70, Niktson_70, Nivinsha_72, OlympicHelado_84, Onestar_71, Paella_134, Pepy6_051, PerroGrande22_112, PestoPenguin_88, Phaby_75, Phaila_73, PherryCruz_54, Pippin15_85, Poco6_050, PoeMe_73, Popy_80, Powelldog_75, ProfFrink_72, Qui_134, Rainydai_87, Raunak_72, RavenPuff_55, Regigigas_90, Renaldo_81, Rima_83, RosaAsantewaa_51, RunningOnE_8, RustyBoy_76, Salk_72, Samy_62, Samy_64, Sangak_54, Scap1_52, Schwartz33_84, ScienceWizSam_71, Secretariat_80, SendItCS_82, Serenabean_86, SheRa_55, Shepard_74, Shiba_71, Sloopyjoe_72, Soshi_81, Spain_72, Spectropatronm_81, Sporto_71, Sprinkle_73, StarLord_72, Stardom_76, Stardrop_73, Stayer_72, Sunny4976_69, Sweetclover_84, Synepsis_66, TaidaOne_82, Tatanka_63, Teacup_71, Tenney120_74, Tenno_69, Thiqqums_90, TieDye_78, Tipton_75, Tokki_79, TonyStarch_81, Tribby_80, TrixiePhattel_74, Truckee_71, Trustiboi_68, Uzumaki_70, Westerlin_67,

Wigberry_85, Wollypog_58, Xenomorph_73, YoshiYama_78, Yotsuba_81, Zeina_76, Zippen_75,

Summary by start number:

Start 22:
• Found in 1 of 272 (0.4%) of genes in pham
• Manual Annotations of this start: 1 of 231
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Navi1117_79 (AU6),

Start 27:
• Found in 6 of 272 (2.2%) of genes in pham
• Manual Annotations of this start: 1 of 231
• Called 16.7% of time when present
• Phage (with cluster) where this start called: Scap1_52 (BI2),

Start 28:
• Found in 1 of 272 (0.4%) of genes in pham
• Manual Annotations of this start: 1 of 231
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Conley_83 (DJ),

Start 29:
• Found in 9 of 272 (3.3%) of genes in pham
• Manual Annotations of this start: 1 of 231
• Called 11.1% of time when present
• Phage (with cluster) where this start called: Samy_62 (singleton),

Start 31:
• Found in 20 of 272 (7.4%) of genes in pham
• Manual Annotations of this start: 2 of 231
• Called 10.0% of time when present
• Phage (with cluster) where this start called: Michelle_72 (AW), Stayer_72 (AW),

Start 38:
• Found in 20 of 272 (7.4%) of genes in pham
• Manual Annotations of this start: 2 of 231
• Called 10.0% of time when present
• Phage (with cluster) where this start called: Damascus_58 (EL), DizzyRudy_62 (EL),

Start 39:
• Found in 2 of 272 (0.7%) of genes in pham
• Manual Annotations of this start: 1 of 231
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Wollypog_58 (singleton),

Start 40:
• Found in 3 of 272 (1.1%) of genes in pham
• Manual Annotations of this start: 2 of 231
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Camille_57 (EL), Count_90 (EL), Mema_57 (EL),

Start 42:
• Found in 42 of 272 (15.4%) of genes in pham
• Manual Annotations of this start: 38 of 231
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Acai_70 (AU1), Anandi_77 (AU4), AreFloNak_73 (AU1), Bouchard_74 (AU2), Breylor17_66 (AU1), Brunswick_71 (AU1), CapnMurica_67 (AU1), CastorTray_73 (AU1), Caterpillar_69 (AU4), Chlochlo_74 (AU2), Darby_67 (AU1), DevitoJr_69 (AU1), Dinallo_65 (AU1), ElephantMan_70 (AU1), Giantsbane_73 (AU2), Gordon_67 (AU1), Hemma_71 (AU1), Ingrid_76 (AU3), Inked_75 (AU7), Issa_65 (AU1), LilHuddy_74 (AU2), Loretta_72 (AU3), LucySwiss_70 (AU1), Makai_73 (AU5), MediumFry_69 (AU4), MiniBagel_69 (AU1), Nightmare_70 (AU1), Niktson_70 (AU1), Nivinsha_72 (AU1), Phaby_75 (AU2), ScienceWizSam_71 (AU1), Shepard_74 (AU2), Synepsis_66 (AU1), Tatanka_63 (AU1), Teacup_71 (AU1), Tenno_69 (AU1), Tipton_75 (AU2), Tokki_79 (AU2), Truckee_71 (AU5), Trustiboi_68 (AU1), Westerlin_67 (AU1), Zippen_75 (AU7),

Start 43:
• Found in 5 of 272 (1.8%) of genes in pham
• Manual Annotations of this start: 1 of 231
• Called 20.0% of time when present
• Phage (with cluster) where this start called: Ibantik_66 (JN),

Start 47:
• Found in 8 of 272 (2.9%) of genes in pham
• Manual Annotations of this start: 2 of 231
• Called 37.5% of time when present
• Phage (with cluster) where this start called: Gandionco_130 (FK), JeNeSaisPas_131 (FK), LibertyBell_73 (BI3),

Start 48:
• Found in 80 of 272 (29.4%) of genes in pham
• Manual Annotations of this start: 49 of 231
• Called 72.5% of time when present
• Phage (with cluster) where this start called: AddiRose_84 (JA), Arcadia_76 (AM), Argan_70 (AU6), Arzan_73 (FI), BenitoAntonio_75 (AM), Benllo_74 (AM), Biscute_73 (AU6), BlackHoleSun_75 (AU6), Boog_71 (AW), Bowling_78 (AM), BronxBay_72 (AW), Cheesy_77 (AM), Circum_78 (AM), Correa_75 (AM), Daddyjeff_86 (JA), Djungelskog_71 (AW), DoctorPepper_71 (AW), Dynamite_76 (AM), Egad_72 (AW), Elsa_76 (AM), GermyBearimy_81 (FI), GoCrazy_73 (AM), Hankly_76 (AM), Heisenberger_75 (AM), HerbBucket_70 (AW), JEGGS_75 (AM), Jazzy4900_70 (FI), Jeremy4pt0_71 (AW), JoyLin_81 (JA), Kardesai_76 (AM), KeaneyLin_72 (AM), KevinMinion_71 (AU6), Linda_72 (AW), Mooshroom_77 (AM), MrAaronian_72 (AW), Mudcat_72 (AM), NapoleonB_77 (AM), Nason_76 (AM), Natasha_75 (AW), Onestar_71 (AW), Pippin15_85 (JA), Powelldog_75 (AW), ProfFrink_72 (AW), Raunak_72 (AW), RustyBoy_76 (AW), Salk_72 (AW), Serenabean_86 (JA), Shiba_71 (AW), Sloopyjoe_72 (AW), Spain_72 (AW), Sporto_71 (AW), Sprinkle_73 (AW), StarLord_72 (AW), Sunny4976_69 (FI), Sweetclover_84 (JA), Tribby_80 (AM), Xenomorph_73 (AM), Yotsuba_81 (JA),

Start 49:
• Found in 4 of 272 (1.5%) of genes in pham
• Manual Annotations of this start: 2 of 231

• Called 75.0% of time when present
• Phage (with cluster) where this start called: Bing_83 (BI5), Hajile_87 (BI5), Wigberry_85 (BI5),

Start 50:
• Found in 22 of 272 (8.1%) of genes in pham
• Manual Annotations of this start: 13 of 231
• Called 77.3% of time when present
• Phage (with cluster) where this start called: BarbieDoll_77 (AU6), Barbonzobean_77 (AU6), GantcherGoblin_71 (AU6), Kinny_76 (AU6), Leathea_73 (AU6), Lewando_77 (AU6), Mardi_74 (AU6), Muglass_74 (AU6), Navi1117_76 (AU6), Phaila_73 (AU6), PoeMe_73 (AU6), Renaldo_81 (AU6), Stardrop_73 (AU6), Tenney120_74 (AU6), TrixiePhattel_74 (AU6), Uzumaki_70 (AU6), Zeina_76 (AU6),

Start 51:
• Found in 55 of 272 (20.2%) of genes in pham
• Manual Annotations of this start: 46 of 231
• Called 94.5% of time when present
• Phage (with cluster) where this start called: Annihilus_55 (BI2), Bilo_54 (BI2), CherryBlossom_82 (BI1), CricKo_90 (BI4), Doxi13_56 (BI2), DrGrey_78 (BI1), Esketit_78 (BI1), Espio_80 (BI1), FidgetOrca_84 (BI1), FrodoSwaggins_80 (BI1), FromIndy_88 (BI4), GirlPower_75 (BI1), GoblinVoyage_55 (BI2), HazuAndZazu_79 (BI1), Hoshi_83 (BI1), IceWarrior_82 (BI1), Indigenous_84 (BI1), Jaylociraptor_82 (BI1), Kardashian_79 (BI6), LibertyBell_75 (BI3), Madamato_81 (BI1), Maya_82 (BI1), Meibysrarus_80 (BI1), Miek_84 (BI4), Monse_54 (BI2), Moozy_54 (BI2), Namo_84 (BI1), Natsu_54 (BI2), OlympicHelado_84 (BI1), Pepy6_051 (CC), PerroGrande22_112 (CC), PherryCruz_54 (BI2), Poco6_050 (CC), Popy_80 (BI1), Rainydai_87 (BI4), RavenPuff_55 (BI2), Regigigas_90 (BI4), Rima_83 (BI1), RosaAsantewaa_51 (BI2), RunningOnE_8 (JN), Samy_64 (singleton), Sangak_54 (BI2), Schwartz33_84 (DJ), Secretariat_80 (DJ), SendItCS_82 (BI4), SheRa_55 (BI2), Soshi_81 (BI1), Spectropatronm_81 (BI1), TaidaOne_82 (BI1), Thiqqums_90 (BI4), TieDye_78 (BI1), TonyStarch_81 (BI1),

Start 52:
• Found in 7 of 272 (2.6%) of genes in pham
• Manual Annotations of this start: 7 of 231
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aloe25_88 (DJ), BetterYeti_86 (DJ), Crocheter_87 (DJ), Eddiemania_88 (DJ), Gusicorn_88 (DJ), Kenosha_86 (DJ), PestoPenguin_88 (DJ),

Start 53:
• Found in 68 of 272 (25.0%) of genes in pham
• Manual Annotations of this start: 55 of 231
• Called 94.1% of time when present
• Phage (with cluster) where this start called: Aflac_88 (DJ), AlainaMarie_88 (DJ), Arataki_87 (DJ), ArtetaBall_86 (DJ), Artorias_88 (DJ), Avazak_89 (DJ), Blanky_81 (DJ), BluerMoon_86 (DJ), Bugg_92 (DJ), Burley_86 (DJ), CWormy_85 (DJ), Captrips_87 (DJ), Capybara_87 (DJ), ChickyNuggy_90 (DJ), Chikenjars_88 (DJ), Citrus_86 (DJ), ClubPenguin_87 (BI7), Conley_86 (DJ), Dancer_88 (DJ), Demure_86 (DJ), Dialga_88 (DJ), Duffington_88 (DJ), EndAve_89 (DJ), Fazel_88 (DJ), Figliar_86 (DJ), Football_93 (DJ), FortCran_88 (DJ), Gill_90 (DJ), Gravy_89 (DJ), Hortihabitatio_85 (DJ), Hydrus_87 (DJ), Ibantik_17 (JN), Jodelie19_87 (DJ),

JulesRay_88 (DJ), Kerry_89 (DJ), Madvan_86 (DJ), Magel_91 (DJ), MajinBuu_88 (DJ), Mossy_86 (DJ), Mysticmoon_85 (DJ), Nadmeg_86 (DJ), Nithya_87 (DJ), NoPickles_89 (DJ), Odesza_88 (DJ), OhMyWard_82 (DJ), OlgasClover_89 (DJ), Perkunas_90 (DJ), Petito_89 (DJ), Phepper_88 (DJ), Pherobrine_85 (DJ), Rickmore_88 (DJ), Roney_88 (DJ), Runhaar_85 (DJ), ShaggyRogers_87 (DJ), SweetCrkHerbs_91 (DJ), Tairn4Wing_91 (DJ), Talon44_91 (DJ), Tanis_89 (DJ), TenaciousP_89 (DJ), Tonaltzin_87 (DJ), Trufflozitus_89 (DJ), Untouchable_89 (DJ), Vardy_86 (DJ), Zeph_90 (DJ),

Start 54:
• Found in 1 of 272 (0.4%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Football_90 (DJ),

Start 55:
• Found in 3 of 272 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 231
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Eevee_80 (JA),

Start 56:
• Found in 36 of 272 (13.2%) of genes in pham
• Manual Annotations of this start: 3 of 231
• Called 13.9% of time when present
• Phage (with cluster) where this start called: Elver_134 (FK), Kureo_131 (FK), Marianna39_131 (FK), Paella_134 (FK), Qui_134 (FK),

Start 58:
• Found in 14 of 272 (5.1%) of genes in pham
• Manual Annotations of this start: 2 of 231
• Called 14.3% of time when present
• Phage (with cluster) where this start called: Ditters_53 (BI2), HotFries_53 (BI2),

Start 59:
• Found in 19 of 272 (7.0%) of genes in pham
• Manual Annotations of this start: 1 of 231
• Called 10.5% of time when present
• Phage (with cluster) where this start called: Glintora_90 (DJ), Luthien_87 (DJ),

Start 68:
• Found in 46 of 272 (16.9%) of genes in pham
• No Manual Annotations of this start.
• Called 4.3% of time when present
• Phage (with cluster) where this start called: Stardom_76 (AM), YoshiYama_78 (AM),

Summary by clusters:

There are 24 clusters represented in this pham: singleton, DJ, JN, FI, FK, JA, AU1, AU3, AU2, AU5, AU4, AU7, AU6, EL, CC, AM, AW, BI6, BI7, BI4, BI5, BI2, BI3, BI1,

Info for manual annotations of cluster AM:
•Start number 48 was manually annotated 21 times for cluster AM.

Info for manual annotations of cluster AU1:
•Start number 42 was manually annotated 21 times for cluster AU1.

Info for manual annotations of cluster AU2:
•Start number 42 was manually annotated 8 times for cluster AU2.

Info for manual annotations of cluster AU3:
•Start number 42 was manually annotated 2 times for cluster AU3.

Info for manual annotations of cluster AU4:
•Start number 42 was manually annotated 3 times for cluster AU4.

Info for manual annotations of cluster AU5:
•Start number 42 was manually annotated 2 times for cluster AU5.

Info for manual annotations of cluster AU6:
•Start number 22 was manually annotated 1 time for cluster AU6.
•Start number 48 was manually annotated 3 times for cluster AU6.
•Start number 50 was manually annotated 13 times for cluster AU6.

Info for manual annotations of cluster AU7:
•Start number 42 was manually annotated 2 times for cluster AU7.

Info for manual annotations of cluster AW:
•Start number 31 was manually annotated 2 times for cluster AW.
•Start number 48 was manually annotated 18 times for cluster AW.

Info for manual annotations of cluster BI1:
•Start number 51 was manually annotated 24 times for cluster BI1.

Info for manual annotations of cluster BI2:
•Start number 27 was manually annotated 1 time for cluster BI2.
•Start number 51 was manually annotated 10 times for cluster BI2.
•Start number 58 was manually annotated 2 times for cluster BI2.

Info for manual annotations of cluster BI3:
•Start number 47 was manually annotated 1 time for cluster BI3.
•Start number 51 was manually annotated 1 time for cluster BI3.

Info for manual annotations of cluster BI4:
•Start number 51 was manually annotated 5 times for cluster BI4.

Info for manual annotations of cluster BI5:
•Start number 49 was manually annotated 2 times for cluster BI5.

Info for manual annotations of cluster BI6:
•Start number 51 was manually annotated 1 time for cluster BI6.

Info for manual annotations of cluster BI7:
•Start number 53 was manually annotated 1 time for cluster BI7.

Info for manual annotations of cluster CC:

•Start number 51 was manually annotated 1 time for cluster CC.

Info for manual annotations of cluster DJ:
•Start number 28 was manually annotated 1 time for cluster DJ.
•Start number 51 was manually annotated 2 times for cluster DJ.
•Start number 52 was manually annotated 7 times for cluster DJ.
•Start number 53 was manually annotated 53 times for cluster DJ.
•Start number 59 was manually annotated 1 time for cluster DJ.

Info for manual annotations of cluster EL:
•Start number 38 was manually annotated 2 times for cluster EL.
•Start number 40 was manually annotated 2 times for cluster EL.

Info for manual annotations of cluster FK:
•Start number 47 was manually annotated 1 time for cluster FK.
•Start number 56 was manually annotated 3 times for cluster FK.

Info for manual annotations of cluster JA:
•Start number 48 was manually annotated 7 times for cluster JA.
•Start number 55 was manually annotated 1 time for cluster JA.

Info for manual annotations of cluster JN:
•Start number 43 was manually annotated 1 time for cluster JN.
•Start number 51 was manually annotated 1 time for cluster JN.
•Start number 53 was manually annotated 1 time for cluster JN.

Gene Information:

Gene: Acai_70 Start: 46762, Stop: 47265, Start Num: 42
Candidate Starts for Acai_70:
(Start: 42 @46762 has 38 MA's), (76, 46861), (116, 47020), (117, 47023), (134, 47077), (149, 47134), (151, 47161), (160, 47212),

Gene: AddiRose_84 Start: 50059, Stop: 50565, Start Num: 48
Candidate Starts for AddiRose_84:
(Start: 48 @50059 has 49 MA's), (57, 50077), (82, 50173), (83, 50176), (100, 50239), (104, 50251), (126, 50353), (149, 50431), (150, 50446),

Gene: Aflac_88 Start: 56715, Stop: 57197, Start Num: 53
Candidate Starts for Aflac_88:
(Start: 53 @56715 has 55 MA's), (62, 56748), (83, 56832), (137, 57021), (151, 57087), (153, 57102), (156, 57114),

Gene: AlainaMarie_88 Start: 56739, Stop: 57221, Start Num: 53
Candidate Starts for AlainaMarie_88:
(Start: 53 @56739 has 55 MA's), (Start: 59 @56757 has 1 MA's), (84, 56859), (96, 56901), (98, 56910), (102, 56928), (137, 57048), (139, 57054), (151, 57114), (153, 57129), (156, 57141),

Gene: Aloe25_88 Start: 55873, Stop: 56352, Start Num: 52
Candidate Starts for Aloe25_88:

(Start: 52 @55873 has 7 MA's), (66, 55930), (68, 55936), (85, 55996), (98, 56044), (102, 56062), (131, 56161), (137, 56179), (139, 56185), (151, 56245), (153, 56260), (156, 56272), (160, 56293),

Gene: Anandi_77 Start: 47524, Stop: 48027, Start Num: 42
Candidate Starts for Anandi_77:
(Start: 42 @47524 has 38 MA's), (Start: 56 @47548 has 3 MA's), (67, 47596), (73, 47617), (76, 47623), (83, 47653), (149, 47896), (160, 47974),

Gene: Annihilus_55 Start: 38912, Stop: 39421, Start Num: 51
Candidate Starts for Annihilus_55:
(17, 38804), (Start: 27 @38849 has 1 MA's), (Start: 51 @38912 has 46 MA's), (Start: 58 @38927 has 2 MA's), (64, 38954), (82, 39044), (88, 39062), (98, 39101), (118, 39176), (147, 39278), (149, 39284), (150, 39299),

Gene: Arataki_87 Start: 55860, Stop: 56339, Start Num: 53
Candidate Starts for Arataki_87:
(Start: 53 @55860 has 55 MA's), (67, 55920), (84, 55980), (98, 56031), (102, 56049), (131, 56148), (137, 56166), (139, 56172), (151, 56232), (153, 56247), (156, 56259), (160, 56280),

Gene: Arcadia_76 Start: 45700, Stop: 46212, Start Num: 48
Candidate Starts for Arcadia_76:
(Start: 48 @45700 has 49 MA's), (67, 45766), (68, 45769), (83, 45823), (119, 45967), (120, 45973), (127, 45994), (129, 45997),

Gene: AreFloNak_73 Start: 46808, Stop: 47311, Start Num: 42
Candidate Starts for AreFloNak_73:
(Start: 42 @46808 has 38 MA's), (76, 46907), (117, 47069), (134, 47123), (149, 47180), (160, 47258),

Gene: Argan_70 Start: 44513, Stop: 45007, Start Num: 48
Candidate Starts for Argan_70:
(Start: 48 @44513 has 49 MA's), (Start: 50 @44516 has 13 MA's), (63, 44558), (64, 44561), (107, 44729), (129, 44810), (150, 44888),

Gene: ArtetaBall_86 Start: 55817, Stop: 56296, Start Num: 53
Candidate Starts for ArtetaBall_86:
(Start: 53 @55817 has 55 MA's), (67, 55877), (84, 55937), (98, 55988), (102, 56006), (131, 56105), (137, 56123), (139, 56129), (151, 56189), (153, 56204), (156, 56216), (160, 56237),

Gene: Artorias_88 Start: 55253, Stop: 55735, Start Num: 53
Candidate Starts for Artorias_88:
(Start: 53 @55253 has 55 MA's), (80, 55352), (85, 55376), (102, 55442), (113, 55475), (137, 55562), (153, 55643), (156, 55655), (157, 55658), (160, 55676),

Gene: Arzan_73 Start: 46217, Stop: 46693, Start Num: 48
Candidate Starts for Arzan_73:
(Start: 48 @46217 has 49 MA's), (Start: 56 @46232 has 3 MA's), (77, 46313), (119, 46481), (166, 46661),

Gene: Avazak_89 Start: 55682, Stop: 56164, Start Num: 53
Candidate Starts for Avazak_89:
(Start: 53 @55682 has 55 MA's), (80, 55781), (85, 55805), (102, 55871), (113, 55904), (137, 55991), (153, 56072), (156, 56084), (157, 56087), (160, 56105),

Gene: BarbieDoll_77 Start: 46222, Stop: 46713, Start Num: 50
Candidate Starts for BarbieDoll_77:
(Start: 48 @46219 has 49 MA's), (Start: 50 @46222 has 13 MA's), (63, 46264), (64, 46267), (100, 46405), (107, 46435), (112, 46450), (129, 46516), (159, 46648), (161, 46660),

Gene: Barbonzobean_77 Start: 46618, Stop: 47109, Start Num: 50
Candidate Starts for Barbonzobean_77:
(Start: 48 @46615 has 49 MA's), (Start: 50 @46618 has 13 MA's), (63, 46660), (64, 46663), (100, 46801), (107, 46831), (112, 46846), (129, 46912), (161, 47056),

Gene: BenitoAntonio_75 Start: 45340, Stop: 45852, Start Num: 48
Candidate Starts for BenitoAntonio_75:
(24, 45268), (Start: 48 @45340 has 49 MA's), (67, 45406), (68, 45409), (83, 45463), (119, 45607), (120, 45613), (127, 45634), (129, 45637), (161, 45781),

Gene: Benllo_74 Start: 46018, Stop: 46530, Start Num: 48
Candidate Starts for Benllo_74:
(Start: 48 @46018 has 49 MA's), (68, 46087), (83, 46141), (119, 46285), (120, 46291), (127, 46312), (129, 46315),

Gene: BetterYeti_86 Start: 55872, Stop: 56351, Start Num: 52
Candidate Starts for BetterYeti_86:
(Start: 52 @55872 has 7 MA's), (66, 55929), (68, 55935), (85, 55995), (98, 56043), (102, 56061), (131, 56160), (137, 56178), (139, 56184), (151, 56244), (153, 56259), (156, 56271), (160, 56292),

Gene: Bilo_54 Start: 39203, Stop: 39715, Start Num: 51
Candidate Starts for Bilo_54:
(44, 39194), (Start: 51 @39203 has 46 MA's), (Start: 58 @39221 has 2 MA's), (64, 39248), (82, 39338), (87, 39353), (88, 39356), (98, 39395), (118, 39470), (147, 39572), (149, 39578), (150, 39593),

Gene: Bing_83 Start: 51639, Stop: 52142, Start Num: 49
Candidate Starts for Bing_83:
(21, 51558), (Start: 43 @51630 has 1 MA's), (Start: 49 @51639 has 2 MA's), (64, 51684), (76, 51729), (78, 51738), (82, 51756), (98, 51813), (99, 51816), (111, 51858), (123, 51921), (156, 52059), (163, 52089), (165, 52104), (168, 52134),

Gene: Biscute_73 Start: 45871, Stop: 46365, Start Num: 48
Candidate Starts for Biscute_73:
(Start: 48 @45871 has 49 MA's), (Start: 50 @45874 has 13 MA's), (63, 45916), (64, 45919), (100, 46057), (107, 46087), (112, 46102), (129, 46168), (159, 46300), (161, 46312),

Gene: BlackHoleSun_75 Start: 44631, Stop: 45125, Start Num: 48
Candidate Starts for BlackHoleSun_75:
(Start: 48 @44631 has 49 MA's), (Start: 50 @44634 has 13 MA's), (63, 44676), (64, 44679), (107, 44847), (129, 44928),

Gene: Blanky_81 Start: 56507, Stop: 56989, Start Num: 53
Candidate Starts for Blanky_81:
(Start: 53 @56507 has 55 MA's), (63, 56546), (83, 56624), (85, 56630), (98, 56678), (99, 56681), (102, 56696), (137, 56816), (151, 56882), (166, 56963),

Gene: BluerMoon_86 Start: 56545, Stop: 57027, Start Num: 53
Candidate Starts for BluerMoon_86:

(Start: 53 @56545 has 55 MA's), (62, 56578), (83, 56662), (102, 56734), (137, 56851), (151, 56917), (153, 56932),

Gene: Boog_71 Start: 44933, Stop: 45430, Start Num: 48
Candidate Starts for Boog_71:
(Start: 31 @44900 has 2 MA's), (35, 44912), (Start: 38 @44918 has 2 MA's), (Start: 48 @44933 has 49 MA's), (Start: 56 @44948 has 3 MA's), (99, 45113), (125, 45221), (150, 45314),

Gene: Bouchard_74 Start: 47398, Stop: 47901, Start Num: 42
Candidate Starts for Bouchard_74:
(Start: 42 @47398 has 38 MA's), (Start: 59 @47428 has 1 MA's), (63, 47449), (67, 47470), (76, 47497), (85, 47533), (117, 47659), (134, 47713), (149, 47770), (151, 47797),

Gene: Bowling_78 Start: 46295, Stop: 46807, Start Num: 48
Candidate Starts for Bowling_78:
(Start: 48 @46295 has 49 MA's), (68, 46364), (83, 46418), (119, 46562), (120, 46568), (127, 46589),

Gene: Breylor17_66 Start: 47201, Stop: 47704, Start Num: 42
Candidate Starts for Breylor17_66:
(Start: 42 @47201 has 38 MA's), (76, 47300), (117, 47462), (134, 47516), (146, 47564), (149, 47573), (151, 47600), (160, 47651),

Gene: BronxBay_72 Start: 45205, Stop: 45702, Start Num: 48
Candidate Starts for BronxBay_72:
(Start: 31 @45172 has 2 MA's), (35, 45184), (Start: 38 @45190 has 2 MA's), (Start: 48 @45205 has 49 MA's), (Start: 56 @45220 has 3 MA's), (99, 45385), (125, 45493), (150, 45586),

Gene: Brunswick_71 Start: 46642, Stop: 47145, Start Num: 42
Candidate Starts for Brunswick_71:
(Start: 42 @46642 has 38 MA's), (76, 46741), (117, 46903), (134, 46957), (149, 47014), (151, 47041), (160, 47092),

Gene: Bugg_92 Start: 55298, Stop: 55780, Start Num: 53
Candidate Starts for Bugg_92:
(Start: 53 @55298 has 55 MA's), (80, 55397), (85, 55421), (102, 55487), (113, 55520), (137, 55607), (153, 55688), (156, 55700), (157, 55703), (160, 55721),

Gene: Burley_86 Start: 55548, Stop: 56027, Start Num: 53
Candidate Starts for Burley_86:
(Start: 53 @55548 has 55 MA's), (84, 55668), (102, 55737), (137, 55854), (139, 55860), (151, 55920), (153, 55935), (156, 55947), (160, 55968),

Gene: CWormy_85 Start: 55500, Stop: 55979, Start Num: 53
Candidate Starts for CWormy_85:
(Start: 53 @55500 has 55 MA's), (67, 55560), (84, 55620), (98, 55671), (102, 55689), (131, 55788), (137, 55806), (139, 55812), (151, 55872), (153, 55887), (156, 55899), (160, 55920),

Gene: Camille_57 Start: 40747, Stop: 41235, Start Num: 40
Candidate Starts for Camille_57:
(Start: 40 @40747 has 2 MA's), (68, 40816), (96, 40915), (107, 40963), (117, 41002), (119, 41011), (125, 41035), (130, 41044), (146, 41080), (150, 41104), (158, 41149), (169, 41215),

Gene: CapnMurica_67 Start: 47359, Stop: 47862, Start Num: 42

Candidate Starts for CapnMurica_67:
(Start: 42 @47359 has 38 MA's), (76, 47458), (117, 47620), (134, 47674), (149, 47731), (151, 47758), (160, 47809),

Gene: Captrips_87 Start: 55033, Stop: 55515, Start Num: 53
Candidate Starts for Captrips_87:
(Start: 53 @55033 has 55 MA's), (85, 55156), (96, 55195), (102, 55222), (132, 55327), (137, 55342), (153, 55423), (156, 55435), (160, 55456),

Gene: Capybara_87 Start: 55256, Stop: 55738, Start Num: 53
Candidate Starts for Capybara_87:
(Start: 53 @55256 has 55 MA's), (85, 55379), (96, 55418), (102, 55445), (132, 55550), (137, 55565), (153, 55646), (156, 55658), (160, 55679),

Gene: CastorTray_73 Start: 47393, Stop: 47896, Start Num: 42
Candidate Starts for CastorTray_73:
(Start: 42 @47393 has 38 MA's), (76, 47492), (117, 47654), (134, 47708), (149, 47765), (151, 47792), (160, 47843),

Gene: Caterpillar_69 Start: 46228, Stop: 46731, Start Num: 42
Candidate Starts for Caterpillar_69:
(Start: 42 @46228 has 38 MA's), (67, 46300), (85, 46363), (96, 46402), (117, 46489), (149, 46600),

Gene: Cheesy_77 Start: 45492, Stop: 46004, Start Num: 48
Candidate Starts for Cheesy_77:
(Start: 48 @45492 has 49 MA's), (68, 45561), (83, 45615), (119, 45759), (120, 45765), (127, 45786), (129, 45789),

Gene: CherryBlossom_82 Start: 50872, Stop: 51381, Start Num: 51
Candidate Starts for CherryBlossom_82:
(Start: 51 @50872 has 46 MA's), (64, 50917), (76, 50962), (92, 51031), (120, 51145), (147, 51235), (150, 51256), (160, 51316), (163, 51325), (167, 51367),

Gene: ChickyNuggy_90 Start: 55424, Stop: 55906, Start Num: 53
Candidate Starts for ChickyNuggy_90:
(Start: 53 @55424 has 55 MA's), (80, 55523), (85, 55547), (102, 55613), (113, 55646), (137, 55733), (153, 55814), (156, 55826), (157, 55829), (160, 55847),

Gene: Chikenjars_88 Start: 56967, Stop: 57449, Start Num: 53
Candidate Starts for Chikenjars_88:
(Start: 53 @56967 has 55 MA's), (Start: 59 @56985 has 1 MA's), (84, 57087), (96, 57129), (98, 57138), (102, 57156), (137, 57276), (139, 57282), (151, 57342), (153, 57357), (156, 57369),

Gene: Chlochlo_74 Start: 46925, Stop: 47428, Start Num: 42
Candidate Starts for Chlochlo_74:
(Start: 42 @46925 has 38 MA's), (Start: 59 @46955 has 1 MA's), (63, 46976), (67, 46997), (76, 47024), (85, 47060), (117, 47186), (134, 47240), (149, 47297), (151, 47324), (160, 47375),

Gene: Circum_78 Start: 46108, Stop: 46620, Start Num: 48
Candidate Starts for Circum_78:
(24, 46036), (Start: 48 @46108 has 49 MA's), (68, 46177), (83, 46231), (119, 46375), (120, 46381), (127, 46402), (129, 46405), (161, 46549),

Gene: Citrus_86 Start: 56560, Stop: 57042, Start Num: 53
Candidate Starts for Citrus_86:
(Start: 53 @56560 has 55 MA's), (84, 56680), (96, 56722), (98, 56731), (102, 56749), (137, 56869), (139, 56875), (151, 56935), (153, 56950), (156, 56962),

Gene: ClubPenguin_87 Start: 51570, Stop: 52061, Start Num: 53
Candidate Starts for ClubPenguin_87:
(Start: 53 @51570 has 55 MA's), (64, 51612), (75, 51657), (88, 51702), (93, 51714), (97, 51738), (98, 51741), (99, 51744), (120, 51828), (126, 51852), (156, 51978), (160, 51999),

Gene: Conley_83 Start: 53384, Stop: 53935, Start Num: 28
Candidate Starts for Conley_83:
(Start: 28 @53384 has 1 MA's), (Start: 50 @53444 has 13 MA's), (Start: 53 @53447 has 55 MA's), (76, 53534), (80, 53546), (88, 53579), (103, 53636), (127, 53735), (140, 53759), (154, 53840), (170, 53924),

Gene: Conley_86 Start: 55548, Stop: 56030, Start Num: 53
Candidate Starts for Conley_86:
(Start: 53 @55548 has 55 MA's), (85, 55671), (96, 55710), (102, 55737), (113, 55770), (120, 55806), (133, 55845), (137, 55857), (166, 56004),

Gene: Correa_75 Start: 45066, Stop: 45578, Start Num: 48
Candidate Starts for Correa_75:
(Start: 48 @45066 has 49 MA's), (68, 45135), (83, 45189), (119, 45333), (127, 45360),

Gene: Count_90 Start: 59071, Stop: 59562, Start Num: 40
Candidate Starts for Count_90:
(Start: 40 @59071 has 2 MA's), (Start: 58 @59098 has 2 MA's), (96, 59245), (98, 59254), (99, 59257), (125, 59368), (145, 59404), (147, 59416), (160, 59500),

Gene: CricKo_90 Start: 53073, Stop: 53564, Start Num: 51
Candidate Starts for CricKo_90:
(14, 52932), (15, 52950), (16, 52959), (Start: 29 @53031 has 1 MA's), (32, 53040), (Start: 51 @53073 has 46 MA's), (64, 53118), (76, 53163), (80, 53175), (120, 53331), (131, 53364), (166, 53535),

Gene: Crocheter_87 Start: 55966, Stop: 56445, Start Num: 52
Candidate Starts for Crocheter_87:
(Start: 52 @55966 has 7 MA's), (66, 56023), (68, 56029), (85, 56089), (98, 56137), (102, 56155), (131, 56254), (137, 56272), (139, 56278), (151, 56338), (153, 56353), (156, 56365), (160, 56386),

Gene: Daddyjeff_86 Start: 50407, Stop: 50913, Start Num: 48
Candidate Starts for Daddyjeff_86:
(Start: 48 @50407 has 49 MA's), (57, 50425), (76, 50494), (82, 50521), (83, 50524), (100, 50587), (104, 50599), (126, 50701), (149, 50779), (150, 50794), (160, 50857),

Gene: Damascus_58 Start: 42170, Stop: 42682, Start Num: 38
Candidate Starts for Damascus_58:
(Start: 38 @42170 has 2 MA's), (45, 42182), (85, 42314), (96, 42353), (107, 42401), (125, 42473), (151, 42554),

Gene: Dancer_88 Start: 54990, Stop: 55472, Start Num: 53
Candidate Starts for Dancer_88:

(Start: 53 @54990 has 55 MA's), (80, 55089), (85, 55113), (102, 55179), (113, 55212), (137, 55299), (153, 55380), (156, 55392), (157, 55395), (160, 55413),

Gene: Darby_67 Start: 46386, Stop: 46889, Start Num: 42
Candidate Starts for Darby_67:
(Start: 42 @46386 has 38 MA's), (76, 46485), (117, 46647), (134, 46701), (149, 46758), (151, 46785), (160, 46836),

Gene: Demure_86 Start: 55994, Stop: 56473, Start Num: 53
Candidate Starts for Demure_86:
(Start: 53 @55994 has 55 MA's), (67, 56054), (84, 56114), (98, 56165), (102, 56183), (131, 56282), (137, 56300), (139, 56306), (151, 56366), (153, 56381), (156, 56393), (160, 56414),

Gene: DevitoJr_69 Start: 46771, Stop: 47274, Start Num: 42
Candidate Starts for DevitoJr_69:
(Start: 42 @46771 has 38 MA's), (76, 46870), (134, 47086), (149, 47143), (151, 47170), (160, 47221),

Gene: Dialga_88 Start: 55833, Stop: 56312, Start Num: 53
Candidate Starts for Dialga_88:
(Start: 53 @55833 has 55 MA's), (67, 55893), (84, 55953), (98, 56004), (102, 56022), (131, 56121), (137, 56139), (139, 56145), (151, 56205), (153, 56220), (156, 56232), (160, 56253),

Gene: Dinallo_65 Start: 47651, Stop: 48154, Start Num: 42
Candidate Starts for Dinallo_65:
(Start: 42 @47651 has 38 MA's), (76, 47750), (117, 47912), (134, 47966), (149, 48023), (151, 48050), (160, 48101),

Gene: Ditters_53 Start: 39401, Stop: 39895, Start Num: 58
Candidate Starts for Ditters_53:
(Start: 51 @39386 has 46 MA's), (Start: 58 @39401 has 2 MA's), (64, 39428), (65, 39446), (82, 39518), (87, 39533), (88, 39536), (96, 39566), (98, 39575), (147, 39752), (149, 39758),

Gene: DizzyRudy_62 Start: 42057, Stop: 42569, Start Num: 38
Candidate Starts for DizzyRudy_62:
(Start: 38 @42057 has 2 MA's), (45, 42069), (64, 42120), (96, 42240), (107, 42288), (125, 42360), (151, 42441),

Gene: Djungelskog_71 Start: 45207, Stop: 45704, Start Num: 48
Candidate Starts for Djungelskog_71:
(Start: 31 @45174 has 2 MA's), (35, 45186), (Start: 38 @45192 has 2 MA's), (Start: 48 @45207 has 49 MA's), (Start: 56 @45222 has 3 MA's), (99, 45387), (125, 45495), (150, 45588),

Gene: DoctorPepper_71 Start: 44909, Stop: 45406, Start Num: 48
Candidate Starts for DoctorPepper_71:
(Start: 31 @44876 has 2 MA's), (35, 44888), (Start: 38 @44894 has 2 MA's), (Start: 48 @44909 has 49 MA's), (Start: 56 @44924 has 3 MA's), (99, 45089), (125, 45197), (150, 45290),

Gene: Doxi13_56 Start: 39042, Stop: 39551, Start Num: 51
Candidate Starts for Doxi13_56:
(Start: 51 @39042 has 46 MA's), (Start: 58 @39057 has 2 MA's), (64, 39084), (82, 39174), (88, 39192), (98, 39231), (118, 39306), (147, 39408), (149, 39414), (150, 39429),

Gene: DrGrey_78 Start: 51385, Stop: 51894, Start Num: 51

Candidate Starts for DrGrey_78:
(Start: 51 @51385 has 46 MA's), (64, 51430), (76, 51475), (92, 51544), (120, 51658), (147, 51748), (148, 51751), (150, 51769), (160, 51829), (163, 51838), (167, 51880),

Gene: Duffington_88 Start: 56767, Stop: 57249, Start Num: 53
Candidate Starts for Duffington_88:
(Start: 53 @56767 has 55 MA's), (Start: 59 @56785 has 1 MA's), (84, 56887), (96, 56929), (98, 56938), (102, 56956), (137, 57076), (139, 57082), (151, 57142), (153, 57157), (156, 57169),

Gene: Dynamite_76 Start: 45552, Stop: 46064, Start Num: 48
Candidate Starts for Dynamite_76:
(Start: 48 @45552 has 49 MA's), (68, 45621), (83, 45675), (119, 45819), (120, 45825), (127, 45846),

Gene: Eddiemania_88 Start: 56862, Stop: 57341, Start Num: 52
Candidate Starts for Eddiemania_88:
(Start: 52 @56862 has 7 MA's), (66, 56919), (67, 56922), (68, 56925), (85, 56985), (96, 57024), (98, 57033), (102, 57051), (113, 57081), (137, 57168), (139, 57174), (143, 57192), (151, 57234), (153, 57249), (156, 57261), (160, 57282),

Gene: Eevee_80 Start: 51716, Stop: 52216, Start Num: 55
Candidate Starts for Eevee_80:
(15, 51587), (Start: 48 @51707 has 49 MA's), (Start: 55 @51716 has 1 MA's), (60, 51731), (99, 51884), (106, 51914), (136, 52031), (144, 52061), (150, 52097), (159, 52151), (160, 52160),

Gene: Egad_72 Start: 45183, Stop: 45680, Start Num: 48
Candidate Starts for Egad_72:
(Start: 31 @45150 has 2 MA's), (35, 45162), (Start: 38 @45168 has 2 MA's), (Start: 48 @45183 has 49 MA's), (Start: 56 @45198 has 3 MA's), (99, 45363), (125, 45471), (150, 45564),

Gene: ElephantMan_70 Start: 47272, Stop: 47775, Start Num: 42
Candidate Starts for ElephantMan_70:
(Start: 42 @47272 has 38 MA's), (76, 47371), (117, 47533), (134, 47587), (149, 47644), (151, 47671), (160, 47722),

Gene: Elsa_76 Start: 45700, Stop: 46212, Start Num: 48
Candidate Starts for Elsa_76:
(Start: 48 @45700 has 49 MA's), (67, 45766), (68, 45769), (83, 45823), (119, 45967), (120, 45973), (127, 45994), (129, 45997),

Gene: Elver_134 Start: 71317, Stop: 71790, Start Num: 56
Candidate Starts for Elver_134:
(Start: 47 @71296 has 2 MA's), (Start: 56 @71317 has 3 MA's), (67, 71365), (68, 71368), (69, 71374), (76, 71392), (83, 71422), (136, 71605), (161, 71734),

Gene: EndAve_89 Start: 56677, Stop: 57159, Start Num: 53
Candidate Starts for EndAve_89:
(Start: 53 @56677 has 55 MA's), (Start: 59 @56695 has 1 MA's), (84, 56797), (96, 56839), (98, 56848), (102, 56866), (137, 56986), (139, 56992), (151, 57052), (153, 57067), (156, 57079),

Gene: Esketit_78 Start: 49973, Stop: 50482, Start Num: 51
Candidate Starts for Esketit_78:
(Start: 51 @49973 has 46 MA's), (64, 50018), (76, 50063), (92, 50132), (120, 50246), (147, 50336), (150, 50357), (160, 50417), (163, 50426), (167, 50468),

Gene: Espio_80 Start: 51756, Stop: 52265, Start Num: 51
Candidate Starts for Espio_80:
(Start: 51 @51756 has 46 MA's), (64, 51801), (76, 51846), (92, 51915), (120, 52029), (147, 52119), (148, 52122), (150, 52140), (160, 52200), (163, 52209), (167, 52251),

Gene: Fazel_88 Start: 55520, Stop: 56002, Start Num: 53
Candidate Starts for Fazel_88:
(Start: 53 @55520 has 55 MA's), (63, 55559), (64, 55562), (66, 55577), (83, 55637), (85, 55643), (87, 55649), (98, 55691), (102, 55709), (121, 55781), (137, 55829), (166, 55976), (167, 55994),

Gene: FidgetOrca_84 Start: 51423, Stop: 51932, Start Num: 51
Candidate Starts for FidgetOrca_84:
(Start: 51 @51423 has 46 MA's), (64, 51468), (76, 51513), (92, 51582), (120, 51696), (147, 51786), (150, 51807), (160, 51867), (163, 51876), (167, 51918),

Gene: Figliar_86 Start: 56571, Stop: 57053, Start Num: 53
Candidate Starts for Figliar_86:
(Start: 53 @56571 has 55 MA's), (Start: 59 @56589 has 1 MA's), (84, 56691), (96, 56733), (98, 56742), (102, 56760), (137, 56880), (139, 56886), (151, 56946), (153, 56961), (156, 56973),

Gene: Football_93 Start: 55333, Stop: 55815, Start Num: 53
Candidate Starts for Football_93:
(Start: 53 @55333 has 55 MA's), (80, 55432), (85, 55456), (102, 55522), (113, 55555), (137, 55642), (153, 55723), (156, 55735), (157, 55738), (160, 55756),

Gene: Football_90 Start: 53214, Stop: 53690, Start Num: 54
Candidate Starts for Football_90:
(54, 53214), (64, 53253), (68, 53274), (75, 53295), (76, 53298), (99, 53385), (101, 53394), (108, 53421), (119, 53472), (139, 53517), (160, 53634), (161, 53637),

Gene: FortCran_88 Start: 55254, Stop: 55736, Start Num: 53
Candidate Starts for FortCran_88:
(Start: 53 @55254 has 55 MA's), (80, 55353), (85, 55377), (102, 55443), (113, 55476), (137, 55563), (153, 55644), (156, 55656), (157, 55659), (160, 55677),

Gene: FrodoSwaggins_80 Start: 51780, Stop: 52289, Start Num: 51
Candidate Starts for FrodoSwaggins_80:
(Start: 51 @51780 has 46 MA's), (64, 51825), (76, 51870), (92, 51939), (120, 52053), (147, 52143), (148, 52146), (150, 52164), (160, 52224), (163, 52233), (167, 52275),

Gene: FromIndy_88 Start: 52273, Stop: 52764, Start Num: 51
Candidate Starts for FromIndy_88:
(14, 52132), (15, 52150), (16, 52159), (Start: 29 @52231 has 1 MA's), (32, 52240), (Start: 51 @52273 has 46 MA's), (64, 52318), (76, 52363), (80, 52375), (120, 52531), (131, 52564), (166, 52735),

Gene: Gandionco_130 Start: 70114, Stop: 70608, Start Num: 47
Candidate Starts for Gandionco_130:
(Start: 47 @70114 has 2 MA's), (Start: 56 @70135 has 3 MA's), (67, 70183), (68, 70186), (69, 70192), (76, 70210), (83, 70240), (136, 70423), (161, 70552),

Gene: GantcherGoblin_71 Start: 44575, Stop: 45066, Start Num: 50
Candidate Starts for GantcherGoblin_71:

(Start: 48 @44572 has 49 MA's), (Start: 50 @44575 has 13 MA's), (63, 44617), (64, 44620), (107, 44788), (129, 44869), (150, 44947),

Gene: GermyBearimy_81 Start: 47778, Stop: 48254, Start Num: 48
Candidate Starts for GermyBearimy_81:
(Start: 48 @47778 has 49 MA's), (Start: 56 @47793 has 3 MA's), (77, 47874), (119, 48042), (166, 48222),

Gene: Giantsbane_73 Start: 45925, Stop: 46428, Start Num: 42
Candidate Starts for Giantsbane_73:
(Start: 42 @45925 has 38 MA's), (Start: 56 @45949 has 3 MA's), (Start: 59 @45955 has 1 MA's), (63, 45976), (67, 45997), (76, 46024), (85, 46060), (117, 46186), (149, 46297), (151, 46324),

Gene: Gill_90 Start: 55283, Stop: 55765, Start Num: 53
Candidate Starts for Gill_90:
(Start: 53 @55283 has 55 MA's), (85, 55406), (96, 55445), (102, 55472), (132, 55577), (137, 55592), (153, 55673), (156, 55685), (160, 55706),

Gene: GirlPower_75 Start: 50852, Stop: 51361, Start Num: 51
Candidate Starts for GirlPower_75:
(Start: 51 @50852 has 46 MA's), (64, 50897), (76, 50942), (83, 50972), (92, 51011), (96, 51032), (120, 51125), (160, 51296), (162, 51302), (163, 51305), (165, 51320),

Gene: Glintora_90 Start: 56976, Stop: 57440, Start Num: 59
Candidate Starts for Glintora_90:
(Start: 53 @56958 has 55 MA's), (Start: 59 @56976 has 1 MA's), (84, 57078), (96, 57120), (98, 57129), (102, 57147), (137, 57267), (139, 57273), (141, 57285), (151, 57333), (153, 57348), (156, 57360),

Gene: GoCrazy_73 Start: 44995, Stop: 45507, Start Num: 48
Candidate Starts for GoCrazy_73:
(24, 44923), (Start: 48 @44995 has 49 MA's), (68, 45064), (83, 45118), (119, 45262), (120, 45268), (127, 45289), (129, 45292), (161, 45436),

Gene: GoblinVoyage_55 Start: 38886, Stop: 39395, Start Num: 51
Candidate Starts for GoblinVoyage_55:
(Start: 51 @38886 has 46 MA's), (Start: 58 @38901 has 2 MA's), (64, 38928), (82, 39018), (88, 39036), (98, 39075), (118, 39150), (147, 39252), (149, 39258), (150, 39273),

Gene: Gordon_67 Start: 47259, Stop: 47762, Start Num: 42
Candidate Starts for Gordon_67:
(Start: 42 @47259 has 38 MA's), (76, 47358), (117, 47520), (134, 47574), (149, 47631), (151, 47658), (160, 47709),

Gene: Gravy_89 Start: 54946, Stop: 55428, Start Num: 53
Candidate Starts for Gravy_89:
(Start: 53 @54946 has 55 MA's), (85, 55069), (96, 55108), (102, 55135), (132, 55240), (137, 55255), (153, 55336), (156, 55348), (160, 55369),

Gene: Gusicorn_88 Start: 55873, Stop: 56352, Start Num: 52
Candidate Starts for Gusicorn_88:
(Start: 52 @55873 has 7 MA's), (66, 55930), (68, 55936), (85, 55996), (98, 56044), (102, 56062), (131, 56161), (137, 56179), (139, 56185), (151, 56245), (153, 56260), (156, 56272), (160, 56293),

Gene: Hajile_87 Start: 52195, Stop: 52698, Start Num: 49
Candidate Starts for Hajile_87:
(3, 51799), (5, 51811), (6, 51850), (7, 51859), (8, 51901), (Start: 43 @52186 has 1 MA's), (Start: 49 @52195 has 2 MA's), (64, 52240), (76, 52285), (82, 52312), (98, 52369), (99, 52372), (123, 52477), (156, 52615), (163, 52645), (165, 52660), (168, 52690),

Gene: Hankly_76 Start: 45190, Stop: 45702, Start Num: 48
Candidate Starts for Hankly_76:
(Start: 48 @45190 has 49 MA's), (68, 45259), (83, 45313), (119, 45457), (120, 45463), (127, 45484),

Gene: HazuAndZazu_79 Start: 51132, Stop: 51641, Start Num: 51
Candidate Starts for HazuAndZazu_79:
(Start: 51 @51132 has 46 MA's), (64, 51177), (76, 51222), (92, 51291), (120, 51405), (147, 51495), (150, 51516), (160, 51576), (163, 51585), (167, 51627),

Gene: Heisenberger_75 Start: 44957, Stop: 45469, Start Num: 48
Candidate Starts for Heisenberger_75:
(24, 44885), (Start: 48 @44957 has 49 MA's), (68, 45026), (83, 45080), (119, 45224), (120, 45230), (127, 45251), (129, 45254),

Gene: Hemma_71 Start: 44675, Stop: 45178, Start Num: 42
Candidate Starts for Hemma_71:
(Start: 42 @44675 has 38 MA's), (67, 44747), (87, 44816), (96, 44849), (106, 44888), (111, 44900), (134, 44990), (160, 45125),

Gene: HerbBucket_70 Start: 44915, Stop: 45412, Start Num: 48
Candidate Starts for HerbBucket_70:
(Start: 31 @44882 has 2 MA's), (35, 44894), (Start: 38 @44900 has 2 MA's), (Start: 48 @44915 has 49 MA's), (Start: 56 @44930 has 3 MA's), (99, 45095), (125, 45203), (150, 45296),

Gene: Hortihabitatio_85 Start: 55292, Stop: 55774, Start Num: 53
Candidate Starts for Hortihabitatio_85:
(Start: 53 @55292 has 55 MA's), (64, 55334), (66, 55349), (98, 55463), (99, 55466), (102, 55481), (137, 55601), (146, 55631), (166, 55748), (167, 55766),

Gene: Hoshi_83 Start: 51036, Stop: 51545, Start Num: 51
Candidate Starts for Hoshi_83:
(Start: 51 @51036 has 46 MA's), (64, 51081), (76, 51126), (92, 51195), (120, 51309), (147, 51399), (150, 51420), (160, 51480), (163, 51489), (167, 51531),

Gene: HotFries_53 Start: 39084, Stop: 39578, Start Num: 58
Candidate Starts for HotFries_53:
(17, 38961), (Start: 27 @39006 has 1 MA's), (Start: 51 @39069 has 46 MA's), (Start: 58 @39084 has 2 MA's), (64, 39111), (82, 39201), (88, 39219), (98, 39258), (118, 39333), (147, 39435), (149, 39441), (150, 39456),

Gene: Hydrus_87 Start: 56277, Stop: 56756, Start Num: 53
Candidate Starts for Hydrus_87:
(Start: 53 @56277 has 55 MA's), (67, 56337), (84, 56397), (98, 56448), (102, 56466), (131, 56565), (137, 56583), (139, 56589), (151, 56649), (153, 56664), (156, 56676), (160, 56697),

Gene: Ibantik_17 Start: 6683, Stop: 6195, Start Num: 53
Candidate Starts for Ibantik_17:

(Start: 53 @6683 has 55 MA's), (74, 6599), (83, 6566), (90, 6548), (96, 6521), (146, 6335), (155, 6278),

Gene: Ibantik_66 Start: 28032, Stop: 28526, Start Num: 43
Candidate Starts for Ibantik_66:
(41, 28029), (Start: 43 @28032 has 1 MA's), (Start: 53 @28044 has 55 MA's), (Start: 59 @28062 has 1 MA's), (67, 28104), (109, 28245), (142, 28374), (160, 28464), (167, 28515),

Gene: IceWarrior_82 Start: 50842, Stop: 51351, Start Num: 51
Candidate Starts for IceWarrior_82:
(Start: 51 @50842 has 46 MA's), (64, 50887), (76, 50932), (92, 51001), (120, 51115), (147, 51205), (160, 51286), (163, 51295), (167, 51337),

Gene: Indigenous_84 Start: 51428, Stop: 51937, Start Num: 51
Candidate Starts for Indigenous_84:
(Start: 51 @51428 has 46 MA's), (64, 51473), (76, 51518), (92, 51587), (120, 51701), (147, 51791), (150, 51812), (160, 51872), (163, 51881), (167, 51923),

Gene: Ingrid_76 Start: 47223, Stop: 47726, Start Num: 42
Candidate Starts for Ingrid_76:
(Start: 42 @47223 has 38 MA's), (67, 47295), (85, 47358), (96, 47397), (114, 47469), (117, 47484),

Gene: Inked_75 Start: 47849, Stop: 48352, Start Num: 42
Candidate Starts for Inked_75:
(Start: 42 @47849 has 38 MA's), (67, 47921), (85, 47984), (96, 48023), (114, 48095), (117, 48110),

Gene: Issa_65 Start: 46433, Stop: 46936, Start Num: 42
Candidate Starts for Issa_65:
(Start: 42 @46433 has 38 MA's), (76, 46532), (117, 46694), (134, 46748), (149, 46805), (151, 46832), (160, 46883),

Gene: JEGGS_75 Start: 45036, Stop: 45548, Start Num: 48
Candidate Starts for JEGGS_75:
(24, 44964), (Start: 48 @45036 has 49 MA's), (68, 45105), (83, 45159), (119, 45303), (120, 45309), (127, 45330), (129, 45333),

Gene: Jaylociraptor_82 Start: 51008, Stop: 51517, Start Num: 51
Candidate Starts for Jaylociraptor_82:
(Start: 51 @51008 has 46 MA's), (64, 51053), (76, 51098), (92, 51167), (120, 51281), (147, 51371), (150, 51392), (160, 51452), (163, 51461), (167, 51503),

Gene: Jazzy4900_70 Start: 47081, Stop: 47557, Start Num: 48
Candidate Starts for Jazzy4900_70:
(Start: 48 @47081 has 49 MA's), (77, 47177), (119, 47345), (166, 47525),

Gene: JeNeSaisPas_131 Start: 70710, Stop: 71204, Start Num: 47
Candidate Starts for JeNeSaisPas_131:
(Start: 47 @70710 has 2 MA's), (Start: 56 @70731 has 3 MA's), (67, 70779), (68, 70782), (69, 70788), (76, 70806), (83, 70836), (136, 71019), (161, 71148),

Gene: Jeremy4pt0_71 Start: 44904, Stop: 45401, Start Num: 48
Candidate Starts for Jeremy4pt0_71:
(Start: 31 @44871 has 2 MA's), (35, 44883), (Start: 38 @44889 has 2 MA's), (Start: 48 @44904 has 49 MA's), (Start: 56 @44919 has 3 MA's), (99, 45084), (125, 45192), (150, 45285),

Gene: Jodelie19_87 Start: 57758, Stop: 58240, Start Num: 53
Candidate Starts for Jodelie19_87:
(Start: 53 @57758 has 55 MA's), (62, 57791), (83, 57875), (137, 58064), (151, 58130), (153, 58145), (156, 58157),

Gene: JoyLin_81 Start: 52459, Stop: 52968, Start Num: 48
Candidate Starts for JoyLin_81:
(15, 52339), (Start: 48 @52459 has 49 MA's), (Start: 55 @52468 has 1 MA's), (60, 52483), (99, 52636), (106, 52666), (136, 52783), (144, 52813), (150, 52849), (151, 52861), (159, 52903), (160, 52912),

Gene: JulesRay_88 Start: 55349, Stop: 55831, Start Num: 53
Candidate Starts for JulesRay_88:
(Start: 53 @55349 has 55 MA's), (80, 55448), (85, 55472), (102, 55538), (113, 55571), (137, 55658), (153, 55739), (156, 55751), (157, 55754), (160, 55772),

Gene: Kardashian_79 Start: 51398, Stop: 51889, Start Num: 51
Candidate Starts for Kardashian_79:
(Start: 43 @51386 has 1 MA's), (Start: 51 @51398 has 46 MA's), (61, 51425), (64, 51443), (67, 51461), (80, 51500), (87, 51530), (99, 51575), (123, 51668), (163, 51836), (167, 51878),

Gene: Kardesai_76 Start: 45309, Stop: 45821, Start Num: 48
Candidate Starts for Kardesai_76:
(24, 45237), (Start: 48 @45309 has 49 MA's), (68, 45378), (83, 45432), (119, 45576), (120, 45582), (127, 45603), (129, 45606), (161, 45750),

Gene: KeaneyLin_72 Start: 44995, Stop: 45507, Start Num: 48
Candidate Starts for KeaneyLin_72:
(24, 44923), (Start: 48 @44995 has 49 MA's), (68, 45064), (83, 45118), (119, 45262), (120, 45268), (127, 45289), (129, 45292), (161, 45436),

Gene: Kenosha_86 Start: 56334, Stop: 56813, Start Num: 52
Candidate Starts for Kenosha_86:
(Start: 52 @56334 has 7 MA's), (66, 56391), (67, 56394), (68, 56397), (85, 56457), (98, 56505), (102, 56523), (137, 56640), (139, 56646), (143, 56664), (151, 56706), (153, 56721), (156, 56733), (160, 56754),

Gene: Kerry_89 Start: 55009, Stop: 55491, Start Num: 53
Candidate Starts for Kerry_89:
(Start: 53 @55009 has 55 MA's), (85, 55132), (96, 55171), (102, 55198), (132, 55303), (137, 55318), (153, 55399), (156, 55411), (160, 55432),

Gene: KevinMinion_71 Start: 45464, Stop: 45958, Start Num: 48
Candidate Starts for KevinMinion_71:
(Start: 48 @45464 has 49 MA's), (Start: 50 @45467 has 13 MA's), (63, 45509), (64, 45512), (107, 45680), (129, 45761), (150, 45839),

Gene: Kinny_76 Start: 46701, Stop: 47192, Start Num: 50
Candidate Starts for Kinny_76:
(Start: 48 @46698 has 49 MA's), (Start: 50 @46701 has 13 MA's), (63, 46743), (64, 46746), (100, 46884), (107, 46914), (112, 46929), (129, 46995), (159, 47127), (161, 47139),

Gene: Kureo_131 Start: 70331, Stop: 70804, Start Num: 56

Candidate Starts for Kureo_131:
(Start: 47 @70310 has 2 MA's), (Start: 56 @70331 has 3 MA's), (67, 70379), (68, 70382), (69, 70388), (76, 70406), (83, 70436), (136, 70619), (161, 70748),

Gene: Leathea_73 Start: 44483, Stop: 44992, Start Num: 50
Candidate Starts for Leathea_73:
(36, 44459), (Start: 39 @44465 has 1 MA's), (Start: 48 @44480 has 49 MA's), (Start: 50 @44483 has 13 MA's), (64, 44528), (95, 44642), (107, 44696), (129, 44777), (139, 44801), (146, 44831),

Gene: Lewando_77 Start: 46439, Stop: 46930, Start Num: 50
Candidate Starts for Lewando_77:
(Start: 48 @46436 has 49 MA's), (Start: 50 @46439 has 13 MA's), (63, 46481), (64, 46484), (100, 46622), (107, 46652), (112, 46667), (129, 46733), (159, 46865), (161, 46877),

Gene: LibertyBell_73 Start: 45969, Stop: 46457, Start Num: 47
Candidate Starts for LibertyBell_73:
(Start: 47 @45969 has 2 MA's), (68, 46038), (99, 46152), (117, 46227), (146, 46308), (156, 46371),

Gene: LibertyBell_75 Start: 48093, Stop: 48605, Start Num: 51
Candidate Starts for LibertyBell_75:
(12, 47907), (13, 47940), (20, 48006), (46, 48087), (Start: 51 @48093 has 46 MA's), (76, 48183), (83, 48213), (85, 48219), (88, 48228), (102, 48285), (110, 48318), (153, 48510), (163, 48552), (167, 48594), (168, 48597),

Gene: LilHuddy_74 Start: 47051, Stop: 47554, Start Num: 42
Candidate Starts for LilHuddy_74:
(Start: 42 @47051 has 38 MA's), (Start: 59 @47081 has 1 MA's), (63, 47102), (67, 47123), (76, 47150), (85, 47186), (117, 47312), (134, 47366), (149, 47423), (151, 47450),

Gene: Linda_72 Start: 45202, Stop: 45699, Start Num: 48
Candidate Starts for Linda_72:
(Start: 31 @45169 has 2 MA's), (35, 45181), (Start: 38 @45187 has 2 MA's), (Start: 48 @45202 has 49 MA's), (Start: 56 @45217 has 3 MA's), (99, 45382), (125, 45490), (150, 45583),

Gene: Loretta_72 Start: 47223, Stop: 47726, Start Num: 42
Candidate Starts for Loretta_72:
(Start: 42 @47223 has 38 MA's), (67, 47295), (85, 47358), (96, 47397), (114, 47469), (117, 47484),

Gene: LucySwiss_70 Start: 46378, Stop: 46881, Start Num: 42
Candidate Starts for LucySwiss_70:
(Start: 42 @46378 has 38 MA's), (76, 46477), (117, 46639), (134, 46693), (151, 46777), (160, 46828),

Gene: Luthien_87 Start: 56700, Stop: 57164, Start Num: 59
Candidate Starts for Luthien_87:
(Start: 53 @56682 has 55 MA's), (Start: 59 @56700 has 1 MA's), (84, 56802), (96, 56844), (98, 56853), (102, 56871), (137, 56991), (139, 56997), (151, 57057), (153, 57072), (156, 57084),

Gene: Madamato_81 Start: 50680, Stop: 51192, Start Num: 51
Candidate Starts for Madamato_81:
(Start: 51 @50680 has 46 MA's), (64, 50725), (76, 50770), (92, 50839), (96, 50860), (150, 51064), (156, 51103), (160, 51124), (163, 51133),

Gene: Madvan_86 Start: 55589, Stop: 56068, Start Num: 53

Candidate Starts for Madvan_86:
(Start: 53 @55589 has 55 MA's), (67, 55649), (84, 55709), (98, 55760), (102, 55778), (131, 55877), (137, 55895), (139, 55901), (151, 55961), (153, 55976), (156, 55988), (160, 56009),

Gene: Magel_91 Start: 55198, Stop: 55680, Start Num: 53
Candidate Starts for Magel_91:
(Start: 53 @55198 has 55 MA's), (85, 55321), (96, 55360), (102, 55387), (132, 55492), (137, 55507), (153, 55588), (156, 55600), (160, 55621),

Gene: MajinBuu_88 Start: 56949, Stop: 57431, Start Num: 53
Candidate Starts for MajinBuu_88:
(Start: 53 @56949 has 55 MA's), (Start: 59 @56967 has 1 MA's), (84, 57069), (96, 57111), (98, 57120), (102, 57138), (137, 57258), (139, 57264), (151, 57324), (153, 57339), (156, 57351),

Gene: Makai_73 Start: 47336, Stop: 47839, Start Num: 42
Candidate Starts for Makai_73:
(Start: 42 @47336 has 38 MA's), (Start: 56 @47360 has 3 MA's), (63, 47387), (76, 47435), (85, 47471), (117, 47597), (134, 47651), (149, 47708), (151, 47735), (160, 47786),

Gene: Mardi_74 Start: 45219, Stop: 45710, Start Num: 50
Candidate Starts for Mardi_74:
(Start: 48 @45216 has 49 MA's), (Start: 50 @45219 has 13 MA's), (63, 45261), (64, 45264), (107, 45432), (129, 45513),

Gene: Marianna39_131 Start: 70740, Stop: 71213, Start Num: 56
Candidate Starts for Marianna39_131:
(Start: 47 @70719 has 2 MA's), (Start: 56 @70740 has 3 MA's), (67, 70788), (68, 70791), (69, 70797), (76, 70815), (83, 70845), (136, 71028), (161, 71157),

Gene: Maya_82 Start: 51022, Stop: 51531, Start Num: 51
Candidate Starts for Maya_82:
(Start: 51 @51022 has 46 MA's), (64, 51067), (76, 51112), (92, 51181), (120, 51295), (147, 51385), (150, 51406), (160, 51466), (163, 51475), (167, 51517),

Gene: MediumFry_69 Start: 46566, Stop: 47069, Start Num: 42
Candidate Starts for MediumFry_69:
(Start: 42 @46566 has 38 MA's), (67, 46638), (85, 46701), (96, 46740), (117, 46827), (149, 46938),

Gene: Meibysrarus_80 Start: 50406, Stop: 50915, Start Num: 51
Candidate Starts for Meibysrarus_80:
(Start: 51 @50406 has 46 MA's), (64, 50451), (76, 50496), (92, 50565), (120, 50679), (147, 50769), (150, 50790), (160, 50850), (163, 50859), (167, 50901),

Gene: Mema_57 Start: 44587, Stop: 45072, Start Num: 40
Candidate Starts for Mema_57:
(Start: 40 @44587 has 2 MA's), (68, 44656), (107, 44803), (125, 44875), (151, 44956),

Gene: Michelle_72 Start: 45171, Stop: 45701, Start Num: 31
Candidate Starts for Michelle_72:
(Start: 31 @45171 has 2 MA's), (35, 45183), (Start: 38 @45189 has 2 MA's), (Start: 48 @45204 has 49 MA's), (Start: 56 @45219 has 3 MA's), (99, 45384), (125, 45492), (150, 45585),

Gene: Miek_84 Start: 51455, Stop: 51946, Start Num: 51

Candidate Starts for Miek_84:
(14, 51314), (15, 51332), (16, 51341), (Start: 29 @51413 has 1 MA's), (32, 51422), (Start: 51 @51455 has 46 MA's), (64, 51500), (76, 51545), (80, 51557), (120, 51713), (131, 51746), (166, 51917),

Gene: MiniBagel_69 Start: 47363, Stop: 47866, Start Num: 42
Candidate Starts for MiniBagel_69:
(Start: 42 @47363 has 38 MA's), (67, 47435), (76, 47462), (117, 47624), (134, 47678), (149, 47735), (151, 47762), (160, 47813),

Gene: Monse_54 Start: 38889, Stop: 39401, Start Num: 51
Candidate Starts for Monse_54:
(19, 38796), (30, 38847), (44, 38880), (Start: 51 @38889 has 46 MA's), (Start: 58 @38907 has 2 MA's), (64, 38934), (65, 38952), (87, 39039), (88, 39042), (99, 39084), (147, 39258), (149, 39264),

Gene: Mooshroom_77 Start: 45309, Stop: 45821, Start Num: 48
Candidate Starts for Mooshroom_77:
(24, 45237), (Start: 48 @45309 has 49 MA's), (68, 45378), (83, 45432), (119, 45576), (120, 45582), (127, 45603), (129, 45606), (161, 45750),

Gene: Moozy_54 Start: 38896, Stop: 39405, Start Num: 51
Candidate Starts for Moozy_54:
(17, 38788), (Start: 27 @38833 has 1 MA's), (Start: 51 @38896 has 46 MA's), (Start: 58 @38911 has 2 MA's), (64, 38938), (82, 39028), (88, 39046), (98, 39085), (118, 39160), (147, 39262), (149, 39268), (150, 39283),

Gene: Mossy_86 Start: 56611, Stop: 57093, Start Num: 53
Candidate Starts for Mossy_86:
(Start: 53 @56611 has 55 MA's), (63, 56650), (83, 56728), (85, 56734), (98, 56782), (99, 56785), (102, 56800), (137, 56920), (151, 56986), (166, 57067),

Gene: MrAaronian_72 Start: 45204, Stop: 45701, Start Num: 48
Candidate Starts for MrAaronian_72:
(Start: 31 @45171 has 2 MA's), (35, 45183), (Start: 38 @45189 has 2 MA's), (Start: 48 @45204 has 49 MA's), (Start: 56 @45219 has 3 MA's), (99, 45384), (125, 45492), (150, 45585),

Gene: Mudcat_72 Start: 46394, Stop: 46906, Start Num: 48
Candidate Starts for Mudcat_72:
(24, 46322), (Start: 48 @46394 has 49 MA's), (68, 46463), (83, 46517), (119, 46661), (120, 46667), (127, 46688), (129, 46691),

Gene: Muglass_74 Start: 45778, Stop: 46269, Start Num: 50
Candidate Starts for Muglass_74:
(Start: 48 @45775 has 49 MA's), (Start: 50 @45778 has 13 MA's), (63, 45820), (64, 45823), (100, 45961), (107, 45991), (112, 46006), (129, 46072), (159, 46204), (161, 46216),

Gene: Mysticmoon_85 Start: 55708, Stop: 56190, Start Num: 53
Candidate Starts for Mysticmoon_85:
(34, 55678), (Start: 53 @55708 has 55 MA's), (63, 55747), (77, 55801), (83, 55825), (98, 55879), (102, 55897), (137, 56017), (146, 56047), (166, 56164),

Gene: Nadmeg_86 Start: 56574, Stop: 57053, Start Num: 53
Candidate Starts for Nadmeg_86:

(Start: 53 @56574 has 55 MA's), (84, 56694), (102, 56763), (137, 56880), (139, 56886), (151, 56946), (153, 56961), (156, 56973), (160, 56994),

Gene: Namo_84 Start: 51477, Stop: 51986, Start Num: 51
Candidate Starts for Namo_84:
(Start: 51 @51477 has 46 MA's), (64, 51522), (76, 51567), (92, 51636), (120, 51750), (147, 51840), (150, 51861), (160, 51921), (163, 51930), (167, 51972),

Gene: NapoleonB_77 Start: 45552, Stop: 46064, Start Num: 48
Candidate Starts for NapoleonB_77:
(Start: 48 @45552 has 49 MA's), (68, 45621), (83, 45675), (119, 45819), (120, 45825), (127, 45846),

Gene: Nason_76 Start: 45700, Stop: 46212, Start Num: 48
Candidate Starts for Nason_76:
(Start: 48 @45700 has 49 MA's), (67, 45766), (68, 45769), (83, 45823), (119, 45967), (120, 45973), (127, 45994), (129, 45997),

Gene: Natasha_75 Start: 45514, Stop: 46011, Start Num: 48
Candidate Starts for Natasha_75:
(Start: 48 @45514 has 49 MA's), (68, 45580), (99, 45694), (106, 45721), (124, 45796), (135, 45826), (150, 45895),

Gene: Natsu_54 Start: 38501, Stop: 38992, Start Num: 51
Candidate Starts for Natsu_54:
(Start: 51 @38501 has 46 MA's), (64, 38543), (76, 38588), (85, 38624), (102, 38690), (120, 38759), (123, 38771), (149, 38855), (162, 38936),

Gene: Navi1117_76 Start: 45655, Stop: 46146, Start Num: 50
Candidate Starts for Navi1117_76:
(Start: 48 @45652 has 49 MA's), (Start: 50 @45655 has 13 MA's), (63, 45697), (64, 45700), (107, 45868), (129, 45949), (150, 46027),

Gene: Navi1117_79 Start: 46821, Stop: 47384, Start Num: 22
Candidate Starts for Navi1117_79:
(18, 46803), (Start: 22 @46821 has 1 MA's), (Start: 49 @46899 has 2 MA's), (169, 47376),

Gene: Nightmare_70 Start: 47676, Stop: 48179, Start Num: 42
Candidate Starts for Nightmare_70:
(Start: 42 @47676 has 38 MA's), (76, 47775), (117, 47937), (134, 47991), (149, 48048), (160, 48126),

Gene: Niktson_70 Start: 47272, Stop: 47775, Start Num: 42
Candidate Starts for Niktson_70:
(Start: 42 @47272 has 38 MA's), (76, 47371), (117, 47533), (134, 47587), (149, 47644), (151, 47671), (160, 47722),

Gene: Nithya_87 Start: 56516, Stop: 56998, Start Num: 53
Candidate Starts for Nithya_87:
(Start: 53 @56516 has 55 MA's), (Start: 59 @56534 has 1 MA's), (84, 56636), (96, 56678), (98, 56687), (102, 56705), (137, 56825), (139, 56831), (151, 56891), (153, 56906), (156, 56918),

Gene: Nivinsha_72 Start: 46808, Stop: 47311, Start Num: 42
Candidate Starts for Nivinsha_72:
(Start: 42 @46808 has 38 MA's), (76, 46907), (117, 47069), (134, 47123), (149, 47180), (160, 47258),

Gene: NoPickles_89 Start: 55105, Stop: 55587, Start Num: 53
Candidate Starts for NoPickles_89:
(Start: 53 @55105 has 55 MA's), (85, 55228), (96, 55267), (102, 55294), (132, 55399), (137, 55414), (153, 55495), (156, 55507), (160, 55528),

Gene: Odesza_88 Start: 55145, Stop: 55627, Start Num: 53
Candidate Starts for Odesza_88:
(Start: 53 @55145 has 55 MA's), (85, 55268), (96, 55307), (102, 55334), (132, 55439), (137, 55454), (153, 55535), (156, 55547), (160, 55568),

Gene: OhMyWard_82 Start: 56405, Stop: 56887, Start Num: 53
Candidate Starts for OhMyWard_82:
(Start: 53 @56405 has 55 MA's), (63, 56444), (83, 56522), (85, 56528), (98, 56576), (99, 56579), (102, 56594), (121, 56666), (137, 56714), (166, 56861),

Gene: OlgasClover_89 Start: 57350, Stop: 57832, Start Num: 53
Candidate Starts for OlgasClover_89:
(Start: 53 @57350 has 55 MA's), (Start: 59 @57368 has 1 MA's), (84, 57470), (96, 57512), (98, 57521), (102, 57539), (137, 57659), (139, 57665), (151, 57725), (153, 57740), (156, 57752),

Gene: OlympicHelado_84 Start: 51498, Stop: 52007, Start Num: 51
Candidate Starts for OlympicHelado_84:
(Start: 51 @51498 has 46 MA's), (64, 51543), (76, 51588), (92, 51657), (120, 51771), (147, 51861), (150, 51882), (160, 51942), (163, 51951), (167, 51993),

Gene: Onestar_71 Start: 45345, Stop: 45842, Start Num: 48
Candidate Starts for Onestar_71:
(Start: 48 @45345 has 49 MA's), (99, 45525), (101, 45534), (125, 45633), (134, 45654), (150, 45726),

Gene: Paella_134 Start: 71880, Stop: 72353, Start Num: 56
Candidate Starts for Paella_134:
(Start: 47 @71859 has 2 MA's), (Start: 56 @71880 has 3 MA's), (67, 71928), (68, 71931), (69, 71937), (76, 71955), (83, 71985), (136, 72168), (161, 72297),

Gene: Pepy6_051 Start: 72091, Stop: 72582, Start Num: 51
Candidate Starts for Pepy6_051:
(Start: 51 @72091 has 46 MA's), (Start: 56 @72106 has 3 MA's), (73, 72175), (84, 72214), (85, 72217), (88, 72226), (115, 72325), (122, 72361), (123, 72364), (137, 72403), (141, 72421), (146, 72433), (147, 72436), (153, 72484), (162, 72523),

Gene: Perkunas_90 Start: 55043, Stop: 55525, Start Num: 53
Candidate Starts for Perkunas_90:
(Start: 53 @55043 has 55 MA's), (85, 55166), (102, 55232), (113, 55265), (137, 55352), (156, 55445), (163, 55475), (166, 55499),

Gene: PerroGrande22_112 Start: 74744, Stop: 75235, Start Num: 51
Candidate Starts for PerroGrande22_112:
(Start: 51 @74744 has 46 MA's), (Start: 56 @74759 has 3 MA's), (84, 74867), (85, 74870), (88, 74879), (115, 74978), (121, 75008), (137, 75056), (141, 75074), (147, 75089), (153, 75137), (162, 75176),

Gene: PestoPenguin_88 Start: 55873, Stop: 56352, Start Num: 52
Candidate Starts for PestoPenguin_88:

(Start: 52 @55873 has 7 MA's), (66, 55930), (68, 55936), (85, 55996), (98, 56044), (102, 56062), (131, 56161), (137, 56179), (139, 56185), (151, 56245), (153, 56260), (156, 56272), (160, 56293),

Gene: Petito_89 Start: 55917, Stop: 56399, Start Num: 53
Candidate Starts for Petito_89:
(Start: 53 @55917 has 55 MA's), (85, 56040), (102, 56106), (113, 56139), (137, 56226), (156, 56319), (160, 56340),

Gene: Phaby_75 Start: 47582, Stop: 48085, Start Num: 42
Candidate Starts for Phaby_75:
(Start: 42 @47582 has 38 MA's), (Start: 59 @47612 has 1 MA's), (63, 47633), (67, 47654), (76, 47681), (85, 47717), (117, 47843), (134, 47897), (149, 47954), (151, 47981),

Gene: Phaila_73 Start: 44697, Stop: 45188, Start Num: 50
Candidate Starts for Phaila_73:
(Start: 48 @44694 has 49 MA's), (Start: 50 @44697 has 13 MA's), (63, 44739), (64, 44742), (107, 44910), (129, 44991), (150, 45069),

Gene: Phepper_88 Start: 56061, Stop: 56540, Start Num: 53
Candidate Starts for Phepper_88:
(Start: 53 @56061 has 55 MA's), (67, 56121), (84, 56181), (98, 56232), (102, 56250), (131, 56349), (137, 56367), (139, 56373), (151, 56433), (153, 56448), (156, 56460), (160, 56481),

Gene: Pherobrine_85 Start: 55751, Stop: 56233, Start Num: 53
Candidate Starts for Pherobrine_85:
(34, 55721), (Start: 53 @55751 has 55 MA's), (63, 55790), (66, 55808), (72, 55829), (83, 55868), (98, 55922), (102, 55940), (137, 56060), (146, 56090), (166, 56207),

Gene: PherryCruz_54 Start: 39085, Stop: 39594, Start Num: 51
Candidate Starts for PherryCruz_54:
(10, 38812), (17, 38977), (Start: 27 @39022 has 1 MA's), (Start: 51 @39085 has 46 MA's), (Start: 58 @39100 has 2 MA's), (64, 39127), (88, 39235), (98, 39274), (118, 39349), (147, 39451), (149, 39457), (150, 39472),

Gene: Pippin15_85 Start: 49798, Stop: 50307, Start Num: 48
Candidate Starts for Pippin15_85:
(37, 49786), (Start: 48 @49798 has 49 MA's), (60, 49822), (86, 49927), (99, 49975), (106, 50005), (136, 50122), (144, 50152), (148, 50170), (150, 50188), (159, 50242), (160, 50251),

Gene: Poco6_050 Start: 73353, Stop: 73844, Start Num: 51
Candidate Starts for Poco6_050:
(Start: 51 @73353 has 46 MA's), (Start: 56 @73368 has 3 MA's), (84, 73476), (85, 73479), (88, 73488), (115, 73587), (137, 73665), (141, 73683), (146, 73695), (147, 73698), (150, 73719), (153, 73746), (162, 73785),

Gene: PoeMe_73 Start: 45187, Stop: 45678, Start Num: 50
Candidate Starts for PoeMe_73:
(Start: 48 @45184 has 49 MA's), (Start: 50 @45187 has 13 MA's), (63, 45229), (64, 45232), (107, 45400), (129, 45481), (150, 45559),

Gene: Popy_80 Start: 51779, Stop: 52288, Start Num: 51
Candidate Starts for Popy_80:

(Start: 51 @51779 has 46 MA's), (64, 51824), (76, 51869), (92, 51938), (120, 52052), (147, 52142), (148, 52145), (150, 52163), (160, 52223), (163, 52232), (167, 52274),

Gene: Powelldog_75 Start: 45923, Stop: 46420, Start Num: 48
Candidate Starts for Powelldog_75:
(26, 45860), (Start: 31 @45890 has 2 MA's), (35, 45902), (Start: 48 @45923 has 49 MA's), (68, 45989), (75, 46010), (76, 46013), (99, 46103), (106, 46130), (149, 46289),

Gene: ProfFrink_72 Start: 45182, Stop: 45679, Start Num: 48
Candidate Starts for ProfFrink_72:
(Start: 31 @45149 has 2 MA's), (35, 45161), (Start: 38 @45167 has 2 MA's), (Start: 48 @45182 has 49 MA's), (Start: 56 @45197 has 3 MA's), (99, 45362), (125, 45470), (150, 45563),

Gene: Qui_134 Start: 71880, Stop: 72353, Start Num: 56
Candidate Starts for Qui_134:
(Start: 47 @71859 has 2 MA's), (Start: 56 @71880 has 3 MA's), (67, 71928), (68, 71931), (69, 71937), (76, 71955), (83, 71985), (136, 72168), (161, 72297),

Gene: Rainydai_87 Start: 53073, Stop: 53564, Start Num: 51
Candidate Starts for Rainydai_87:
(14, 52932), (15, 52950), (16, 52959), (Start: 29 @53031 has 1 MA's), (32, 53040), (Start: 51 @53073 has 46 MA's), (64, 53118), (76, 53163), (80, 53175), (120, 53331), (131, 53364), (166, 53535),

Gene: Raunak_72 Start: 44844, Stop: 45341, Start Num: 48
Candidate Starts for Raunak_72:
(Start: 31 @44811 has 2 MA's), (35, 44823), (Start: 38 @44829 has 2 MA's), (Start: 48 @44844 has 49 MA's), (Start: 56 @44859 has 3 MA's), (99, 45024), (125, 45132), (150, 45225),

Gene: RavenPuff_55 Start: 39055, Stop: 39564, Start Num: 51
Candidate Starts for RavenPuff_55:
(Start: 51 @39055 has 46 MA's), (Start: 58 @39070 has 2 MA's), (64, 39097), (82, 39187), (88, 39205), (98, 39244), (118, 39319), (147, 39421), (149, 39427), (150, 39442),

Gene: Regigigas_90 Start: 52685, Stop: 53176, Start Num: 51
Candidate Starts for Regigigas_90:
(14, 52544), (15, 52562), (16, 52571), (Start: 29 @52643 has 1 MA's), (32, 52652), (Start: 51 @52685 has 46 MA's), (64, 52730), (76, 52775), (80, 52787), (120, 52943), (131, 52976), (166, 53147),

Gene: Renaldo_81 Start: 46660, Stop: 47151, Start Num: 50
Candidate Starts for Renaldo_81:
(Start: 48 @46657 has 49 MA's), (Start: 50 @46660 has 13 MA's), (63, 46702), (64, 46705), (100, 46843), (107, 46873), (112, 46888), (129, 46954), (159, 47086), (161, 47098),

Gene: Rickmore_88 Start: 55645, Stop: 56139, Start Num: 53
Candidate Starts for Rickmore_88:
(Start: 53 @55645 has 55 MA's), (84, 55765), (96, 55807), (98, 55816), (102, 55834), (137, 55951), (141, 55969), (142, 55972), (151, 56017), (156, 56044),

Gene: Rima_83 Start: 51477, Stop: 51986, Start Num: 51
Candidate Starts for Rima_83:
(Start: 51 @51477 has 46 MA's), (64, 51522), (76, 51567), (92, 51636), (120, 51750), (147, 51840), (150, 51861), (160, 51921), (163, 51930), (167, 51972),

Gene: Roney_88 Start: 55308, Stop: 55790, Start Num: 53
Candidate Starts for Roney_88:
(Start: 53 @55308 has 55 MA's), (85, 55431), (96, 55470), (102, 55497), (132, 55602), (137, 55617), (153, 55698), (156, 55710), (160, 55731),

Gene: RosaAsantewaa_51 Start: 38179, Stop: 38670, Start Num: 51
Candidate Starts for RosaAsantewaa_51:
(25, 38107), (Start: 51 @38179 has 46 MA's), (76, 38266), (83, 38296), (85, 38302), (88, 38311), (98, 38350), (102, 38368), (120, 38437), (162, 38617), (164, 38629),

Gene: Runhaar_85 Start: 55666, Stop: 56145, Start Num: 53
Candidate Starts for Runhaar_85:
(Start: 53 @55666 has 55 MA's), (84, 55786), (102, 55855), (137, 55972), (139, 55978), (151, 56038), (153, 56053), (156, 56065), (160, 56086),

Gene: RunningOnE_8 Start: 3940, Stop: 3410, Start Num: 51
Candidate Starts for RunningOnE_8:
(33, 3970), (Start: 51 @3940 has 46 MA's), (64, 3892), (79, 3817), (89, 3781), (91, 3778), (111, 3688), (149, 3541), (157, 3484),

Gene: RustyBoy_76 Start: 45713, Stop: 46210, Start Num: 48
Candidate Starts for RustyBoy_76:
(Start: 48 @45713 has 49 MA's), (68, 45779), (99, 45893), (106, 45920), (124, 45995), (135, 46025), (150, 46094),

Gene: Salk_72 Start: 45202, Stop: 45699, Start Num: 48
Candidate Starts for Salk_72:
(Start: 31 @45169 has 2 MA's), (35, 45181), (Start: 38 @45187 has 2 MA's), (Start: 48 @45202 has 49 MA's), (Start: 56 @45217 has 3 MA's), (99, 45382), (125, 45490), (150, 45583),

Gene: Samy_64 Start: 40970, Stop: 41473, Start Num: 51
Candidate Starts for Samy_64:
(1, 40451), (2, 40556), (4, 40580), (9, 40679), (11, 40739), (Start: 51 @40970 has 46 MA's), (74, 41057), (85, 41093), (95, 41126), (99, 41144), (138, 41297), (146, 41327), (156, 41390),

Gene: Samy_62 Start: 37969, Stop: 38490, Start Num: 29
Candidate Starts for Samy_62:
(Start: 29 @37969 has 1 MA's), (65, 38059), (105, 38200),

Gene: Sangak_54 Start: 38595, Stop: 39104, Start Num: 51
Candidate Starts for Sangak_54:
(Start: 51 @38595 has 46 MA's), (Start: 58 @38610 has 2 MA's), (64, 38637), (82, 38727), (88, 38745), (98, 38784), (118, 38859), (147, 38961), (149, 38967), (150, 38982),

Gene: Scap1_52 Start: 38365, Stop: 38937, Start Num: 27
Candidate Starts for Scap1_52:
(Start: 27 @38365 has 1 MA's), (Start: 51 @38428 has 46 MA's), (Start: 58 @38443 has 2 MA's), (64, 38470), (65, 38488), (82, 38560), (87, 38575), (88, 38578), (98, 38617), (147, 38794), (149, 38800),

Gene: Schwartz33_84 Start: 54940, Stop: 55425, Start Num: 51
Candidate Starts for Schwartz33_84:
(Start: 51 @54940 has 46 MA's), (64, 54982), (66, 54997), (98, 55111), (102, 55129), (131, 55231), (137, 55249), (143, 55273), (151, 55315), (153, 55330), (162, 55369),

Gene: ScienceWizSam_71 Start: 46973, Stop: 47476, Start Num: 42
Candidate Starts for ScienceWizSam_71:
(Start: 42 @46973 has 38 MA's), (76, 47072), (117, 47234), (134, 47288), (149, 47345), (151, 47372), (160, 47423),

Gene: Secretariat_80 Start: 53208, Stop: 53693, Start Num: 51
Candidate Starts for Secretariat_80:
(Start: 51 @53208 has 46 MA's), (64, 53250), (66, 53265), (98, 53379), (102, 53397), (131, 53499), (137, 53517), (143, 53541), (151, 53583), (153, 53598), (162, 53637), (163, 53640), (167, 53682),

Gene: SendItCS_82 Start: 51443, Stop: 51934, Start Num: 51
Candidate Starts for SendItCS_82:
(14, 51302), (15, 51320), (16, 51329), (Start: 29 @51401 has 1 MA's), (32, 51410), (Start: 51 @51443 has 46 MA's), (64, 51488), (76, 51533), (80, 51545), (120, 51701), (131, 51734), (166, 51905),

Gene: Serenabean_86 Start: 50568, Stop: 51074, Start Num: 48
Candidate Starts for Serenabean_86:
(Start: 48 @50568 has 49 MA's), (57, 50586), (76, 50655), (82, 50682), (83, 50685), (100, 50748), (104, 50760), (126, 50862), (149, 50940), (150, 50955), (160, 51018),

Gene: ShaggyRogers_87 Start: 55632, Stop: 56111, Start Num: 53
Candidate Starts for ShaggyRogers_87:
(Start: 53 @55632 has 55 MA's), (84, 55752), (98, 55803), (99, 55806), (102, 55821), (137, 55938), (143, 55962), (151, 56004), (153, 56019), (156, 56031), (160, 56052),

Gene: SheRa_55 Start: 38965, Stop: 39474, Start Num: 51
Candidate Starts for SheRa_55:
(17, 38857), (Start: 27 @38902 has 1 MA's), (Start: 51 @38965 has 46 MA's), (Start: 58 @38980 has 2 MA's), (64, 39007), (82, 39097), (88, 39115), (98, 39154), (118, 39229), (147, 39331), (149, 39337), (150, 39352),

Gene: Shepard_74 Start: 46904, Stop: 47407, Start Num: 42
Candidate Starts for Shepard_74:
(Start: 42 @46904 has 38 MA's), (Start: 59 @46934 has 1 MA's), (63, 46955), (67, 46976), (76, 47003), (85, 47039), (117, 47165), (134, 47219), (149, 47276), (151, 47303),

Gene: Shiba_71 Start: 44860, Stop: 45357, Start Num: 48
Candidate Starts for Shiba_71:
(Start: 31 @44827 has 2 MA's), (35, 44839), (Start: 38 @44845 has 2 MA's), (Start: 48 @44860 has 49 MA's), (Start: 56 @44875 has 3 MA's), (99, 45040), (125, 45148), (150, 45241),

Gene: Sloopyjoe_72 Start: 45206, Stop: 45703, Start Num: 48
Candidate Starts for Sloopyjoe_72:
(Start: 31 @45173 has 2 MA's), (35, 45185), (Start: 38 @45191 has 2 MA's), (Start: 48 @45206 has 49 MA's), (Start: 56 @45221 has 3 MA's), (99, 45386), (125, 45494), (150, 45587),

Gene: Soshi_81 Start: 51620, Stop: 52129, Start Num: 51
Candidate Starts for Soshi_81:
(Start: 51 @51620 has 46 MA's), (64, 51665), (76, 51710), (92, 51779), (120, 51893), (147, 51983), (150, 52004), (160, 52064), (163, 52073), (167, 52115),

Gene: Spain_72 Start: 45204, Stop: 45701, Start Num: 48

Candidate Starts for Spain_72:
(Start: 31 @45171 has 2 MA's), (35, 45183), (Start: 38 @45189 has 2 MA's), (Start: 48 @45204 has 49 MA's), (Start: 56 @45219 has 3 MA's), (99, 45384), (125, 45492), (150, 45585),

Gene: Spectropatronm_81 Start: 51016, Stop: 51525, Start Num: 51
Candidate Starts for Spectropatronm_81:
(Start: 51 @51016 has 46 MA's), (64, 51061), (76, 51106), (92, 51175), (120, 51289), (147, 51379), (150, 51400), (160, 51460), (163, 51469), (167, 51511),

Gene: Sporto_71 Start: 46287, Stop: 46784, Start Num: 48
Candidate Starts for Sporto_71:
(Start: 29 @46248 has 1 MA's), (Start: 48 @46287 has 49 MA's), (67, 46350), (76, 46377), (94, 46440), (106, 46494), (124, 46569), (135, 46599), (149, 46653),

Gene: Sprinkle_73 Start: 45895, Stop: 46392, Start Num: 48
Candidate Starts for Sprinkle_73:
(23, 45820), (25, 45829), (Start: 31 @45862 has 2 MA's), (35, 45874), (Start: 48 @45895 has 49 MA's), (68, 45961), (76, 45985), (99, 46075), (106, 46102), (125, 46183), (149, 46261),

Gene: StarLord_72 Start: 45199, Stop: 45696, Start Num: 48
Candidate Starts for StarLord_72:
(Start: 31 @45166 has 2 MA's), (35, 45178), (Start: 38 @45184 has 2 MA's), (Start: 48 @45199 has 49 MA's), (Start: 56 @45214 has 3 MA's), (99, 45379), (125, 45487), (150, 45580),

Gene: Stardom_76 Start: 44971, Stop: 45414, Start Num: 68
Candidate Starts for Stardom_76:
(24, 44830), (Start: 48 @44902 has 49 MA's), (68, 44971), (83, 45025), (119, 45169), (120, 45175), (127, 45196), (129, 45199),

Gene: Stardrop_73 Start: 45289, Stop: 45780, Start Num: 50
Candidate Starts for Stardrop_73:
(Start: 48 @45286 has 49 MA's), (Start: 50 @45289 has 13 MA's), (63, 45331), (64, 45334), (107, 45502), (150, 45661),

Gene: Stayer_72 Start: 45169, Stop: 45699, Start Num: 31
Candidate Starts for Stayer_72:
(Start: 31 @45169 has 2 MA's), (35, 45181), (Start: 38 @45187 has 2 MA's), (Start: 48 @45202 has 49 MA's), (Start: 56 @45217 has 3 MA's), (99, 45382), (125, 45490), (150, 45583),

Gene: Sunny4976_69 Start: 47081, Stop: 47557, Start Num: 48
Candidate Starts for Sunny4976_69:
(Start: 48 @47081 has 49 MA's), (77, 47177), (119, 47345), (166, 47525),

Gene: SweetCrkHerbs_91 Start: 55056, Stop: 55538, Start Num: 53
Candidate Starts for SweetCrkHerbs_91:
(Start: 53 @55056 has 55 MA's), (85, 55179), (102, 55245), (113, 55278), (137, 55365), (156, 55458), (163, 55488), (166, 55512),

Gene: Sweetclover_84 Start: 49276, Stop: 49782, Start Num: 48
Candidate Starts for Sweetclover_84:
(Start: 48 @49276 has 49 MA's), (68, 49342), (70, 49348), (71, 49351), (76, 49363), (104, 49468), (126, 49570), (149, 49648), (150, 49663), (160, 49726), (161, 49729),

Gene: Synepsis_66 Start: 46738, Stop: 47241, Start Num: 42
Candidate Starts for Synepsis_66:
(Start: 42 @46738 has 38 MA's), (76, 46837), (117, 46999), (134, 47053), (149, 47110), (160, 47188),

Gene: TaidaOne_82 Start: 51492, Stop: 52001, Start Num: 51
Candidate Starts for TaidaOne_82:
(Start: 51 @51492 has 46 MA's), (64, 51537), (76, 51582), (92, 51651), (120, 51765), (147, 51855), (150, 51876), (160, 51936), (163, 51945), (167, 51987),

Gene: Tairn4Wing_91 Start: 55091, Stop: 55573, Start Num: 53
Candidate Starts for Tairn4Wing_91:
(Start: 53 @55091 has 55 MA's), (80, 55190), (85, 55214), (102, 55280), (113, 55313), (137, 55400), (153, 55481), (156, 55493), (157, 55496), (160, 55514),

Gene: Talon44_91 Start: 55653, Stop: 56135, Start Num: 53
Candidate Starts for Talon44_91:
(Start: 53 @55653 has 55 MA's), (85, 55776), (102, 55842), (113, 55875), (137, 55962), (156, 56055), (163, 56085), (166, 56109),

Gene: Tanis_89 Start: 55128, Stop: 55610, Start Num: 53
Candidate Starts for Tanis_89:
(Start: 53 @55128 has 55 MA's), (85, 55251), (96, 55290), (102, 55317), (132, 55422), (137, 55437), (153, 55518), (156, 55530), (160, 55551),

Gene: Tatanka_63 Start: 46880, Stop: 47383, Start Num: 42
Candidate Starts for Tatanka_63:
(Start: 42 @46880 has 38 MA's), (76, 46979), (117, 47141), (134, 47195), (149, 47252), (151, 47279), (160, 47330),

Gene: Teacup_71 Start: 47312, Stop: 47815, Start Num: 42
Candidate Starts for Teacup_71:
(Start: 42 @47312 has 38 MA's), (76, 47411), (116, 47570), (117, 47573), (134, 47627), (149, 47684), (151, 47711), (160, 47762),

Gene: TenaciousP_89 Start: 57721, Stop: 58203, Start Num: 53
Candidate Starts for TenaciousP_89:
(Start: 53 @57721 has 55 MA's), (62, 57754), (83, 57838), (137, 58027), (151, 58093), (153, 58108), (156, 58120),

Gene: Tenney120_74 Start: 45235, Stop: 45726, Start Num: 50
Candidate Starts for Tenney120_74:
(Start: 48 @45232 has 49 MA's), (Start: 50 @45235 has 13 MA's), (63, 45277), (64, 45280), (107, 45448), (129, 45529),

Gene: Tenno_69 Start: 47396, Stop: 47899, Start Num: 42
Candidate Starts for Tenno_69:
(Start: 42 @47396 has 38 MA's), (Start: 56 @47420 has 3 MA's), (76, 47495), (117, 47657), (134, 47711), (149, 47768), (151, 47795), (160, 47846),

Gene: Thiqqums_90 Start: 53073, Stop: 53564, Start Num: 51
Candidate Starts for Thiqqums_90:
(14, 52932), (15, 52950), (16, 52959), (Start: 29 @53031 has 1 MA's), (32, 53040), (Start: 51 @53073 has 46 MA's), (64, 53118), (76, 53163), (80, 53175), (120, 53331), (131, 53364), (166, 53535),

Gene: TieDye_78 Start: 50340, Stop: 50849, Start Num: 51
Candidate Starts for TieDye_78:
(Start: 51 @50340 has 46 MA's), (64, 50385), (76, 50430), (92, 50499), (120, 50613), (147, 50703), (150, 50724), (160, 50784), (163, 50793), (167, 50835),

Gene: Tipton_75 Start: 47419, Stop: 47922, Start Num: 42
Candidate Starts for Tipton_75:
(Start: 42 @47419 has 38 MA's), (Start: 59 @47449 has 1 MA's), (63, 47470), (67, 47491), (76, 47518), (85, 47554), (117, 47680), (134, 47734), (149, 47791), (151, 47818),

Gene: Tokki_79 Start: 47450, Stop: 47953, Start Num: 42
Candidate Starts for Tokki_79:
(Start: 42 @47450 has 38 MA's), (Start: 59 @47480 has 1 MA's), (63, 47501), (67, 47522), (76, 47549), (85, 47585), (117, 47711), (134, 47765), (149, 47822), (151, 47849),

Gene: Tonaltzin_87 Start: 56460, Stop: 56942, Start Num: 53
Candidate Starts for Tonaltzin_87:
(Start: 53 @56460 has 55 MA's), (62, 56493), (83, 56577), (137, 56766), (151, 56832), (153, 56847), (156, 56859),

Gene: TonyStarch_81 Start: 50778, Stop: 51287, Start Num: 51
Candidate Starts for TonyStarch_81:
(Start: 51 @50778 has 46 MA's), (64, 50823), (76, 50868), (92, 50937), (120, 51051), (147, 51141), (150, 51162), (160, 51222), (163, 51231), (167, 51273),

Gene: Tribby_80 Start: 46452, Stop: 46964, Start Num: 48
Candidate Starts for Tribby_80:
(Start: 48 @46452 has 49 MA's), (68, 46521), (83, 46575), (119, 46719), (127, 46746),

Gene: TrixiePhattel_74 Start: 44870, Stop: 45361, Start Num: 50
Candidate Starts for TrixiePhattel_74:
(36, 44846), (Start: 48 @44867 has 49 MA's), (Start: 50 @44870 has 13 MA's), (Start: 56 @44885 has 3 MA's), (64, 44915), (100, 45053), (107, 45083), (129, 45164), (139, 45188), (146, 45218), (150, 45242), (161, 45308),

Gene: Truckee_71 Start: 47121, Stop: 47624, Start Num: 42
Candidate Starts for Truckee_71:
(Start: 42 @47121 has 38 MA's), (Start: 56 @47145 has 3 MA's), (63, 47172), (76, 47220), (85, 47256), (117, 47382), (134, 47436), (149, 47493), (151, 47520), (160, 47571),

Gene: Trufflozitus_89 Start: 55606, Stop: 56088, Start Num: 53
Candidate Starts for Trufflozitus_89:
(Start: 53 @55606 has 55 MA's), (80, 55705), (85, 55729), (102, 55795), (113, 55828), (137, 55915), (153, 55996), (156, 56008), (157, 56011), (160, 56029),

Gene: Trustiboi_68 Start: 46995, Stop: 47498, Start Num: 42
Candidate Starts for Trustiboi_68:
(Start: 42 @46995 has 38 MA's), (76, 47094), (117, 47256), (134, 47310), (149, 47367), (151, 47394), (160, 47445),

Gene: Untouchable_89 Start: 57058, Stop: 57537, Start Num: 53
Candidate Starts for Untouchable_89:

(Start: 53 @57058 has 55 MA's), (67, 57118), (84, 57178), (98, 57229), (102, 57247), (131, 57346), (137, 57364), (139, 57370), (151, 57430), (153, 57445), (156, 57457), (160, 57478),

Gene: Uzumaki_70 Start: 44675, Stop: 45166, Start Num: 50
Candidate Starts for Uzumaki_70:
(Start: 48 @44672 has 49 MA's), (Start: 50 @44675 has 13 MA's), (63, 44717), (64, 44720), (107, 44888), (129, 44969), (150, 45047),

Gene: Vardy_86 Start: 55581, Stop: 56060, Start Num: 53
Candidate Starts for Vardy_86:
(Start: 53 @55581 has 55 MA's), (84, 55701), (102, 55770), (137, 55887), (139, 55893), (151, 55953), (153, 55968), (156, 55980), (160, 56001),

Gene: Westerlin_67 Start: 48082, Stop: 48585, Start Num: 42
Candidate Starts for Westerlin_67:
(Start: 42 @48082 has 38 MA's), (76, 48181), (117, 48343), (134, 48397), (146, 48445), (149, 48454), (151, 48481), (160, 48532),

Gene: Wigberry_85 Start: 52198, Stop: 52701, Start Num: 49
Candidate Starts for Wigberry_85:
(3, 51802), (5, 51814), (6, 51853), (7, 51862), (8, 51904), (Start: 43 @52189 has 1 MA's), (Start: 49 @52198 has 2 MA's), (64, 52243), (76, 52288), (82, 52315), (98, 52372), (99, 52375), (123, 52480), (156, 52618), (163, 52648), (165, 52663), (168, 52693),

Gene: Wollypog_58 Start: 43704, Stop: 44234, Start Num: 39
Candidate Starts for Wollypog_58:
(Start: 39 @43704 has 1 MA's), (81, 43818), (94, 43863), (128, 44016), (152, 44124),

Gene: Xenomorph_73 Start: 45979, Stop: 46491, Start Num: 48
Candidate Starts for Xenomorph_73:
(Start: 48 @45979 has 49 MA's), (68, 46048), (83, 46102), (119, 46246), (120, 46252), (127, 46273), (129, 46276), (161, 46420),

Gene: YoshiYama_78 Start: 46617, Stop: 47060, Start Num: 68
Candidate Starts for YoshiYama_78:
(24, 46476), (Start: 48 @46548 has 49 MA's), (68, 46617), (83, 46671), (119, 46815), (120, 46821), (127, 46842), (129, 46845),

Gene: Yotsuba_81 Start: 52477, Stop: 52986, Start Num: 48
Candidate Starts for Yotsuba_81:
(15, 52357), (Start: 48 @52477 has 49 MA's), (Start: 55 @52486 has 1 MA's), (60, 52501), (99, 52654), (106, 52684), (136, 52801), (144, 52831), (150, 52867), (159, 52921), (160, 52930),

Gene: Zeina_76 Start: 45531, Stop: 46022, Start Num: 50
Candidate Starts for Zeina_76:
(Start: 48 @45528 has 49 MA's), (Start: 50 @45531 has 13 MA's), (63, 45573), (64, 45576), (107, 45744), (129, 45825), (150, 45903),

Gene: Zeph_90 Start: 56862, Stop: 57341, Start Num: 53
Candidate Starts for Zeph_90:
(Start: 53 @56862 has 55 MA's), (67, 56922), (84, 56982), (98, 57033), (102, 57051), (131, 57150), (137, 57168), (139, 57174), (151, 57234), (153, 57249), (156, 57261), (160, 57282),

Gene: Zippen_75 Start: 47714, Stop: 48217, Start Num: 42
Candidate Starts for Zippen_75:
(Start: 42 @47714 has 38 MA's), (67, 47786), (85, 47849), (96, 47888), (117, 47975),