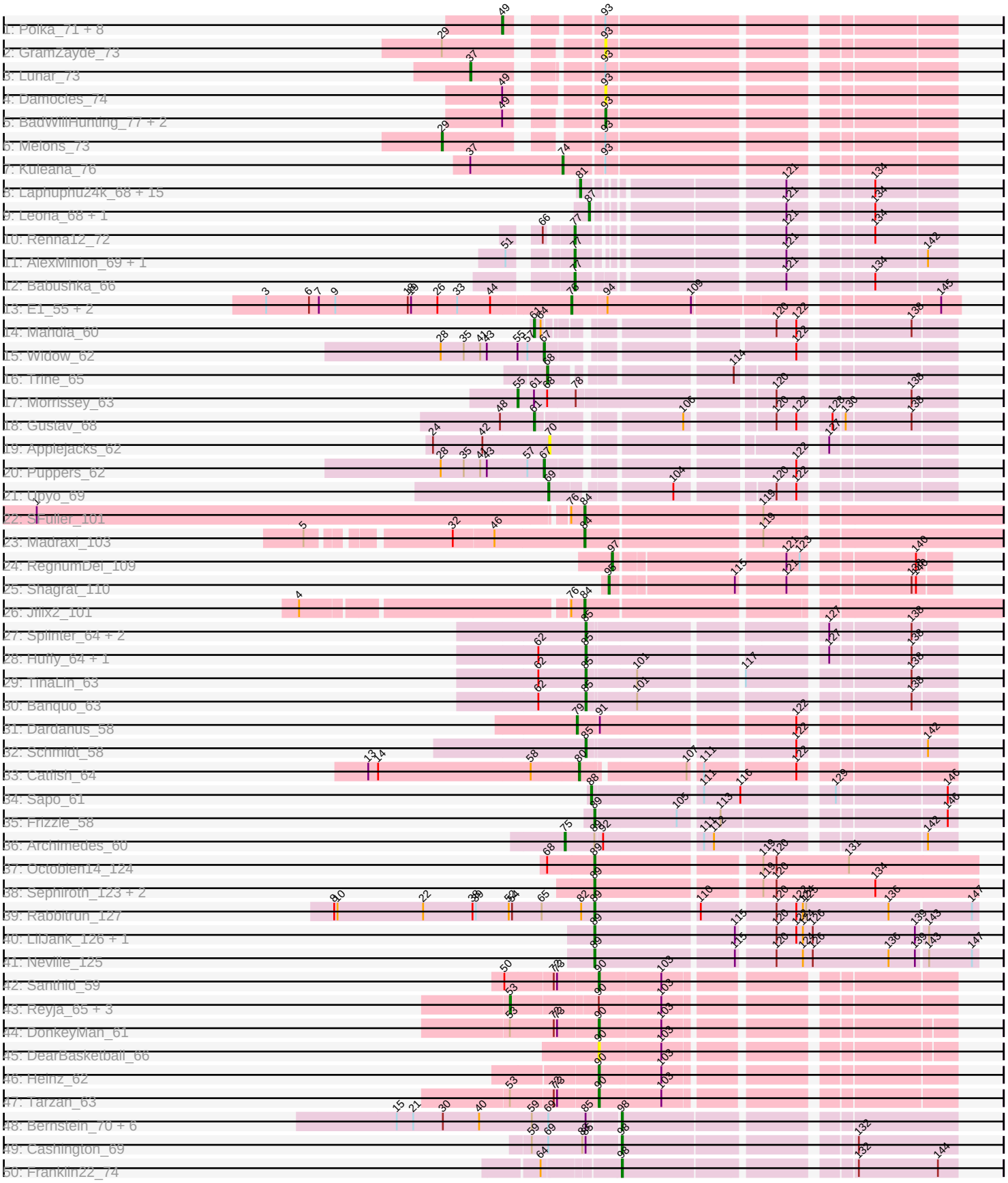
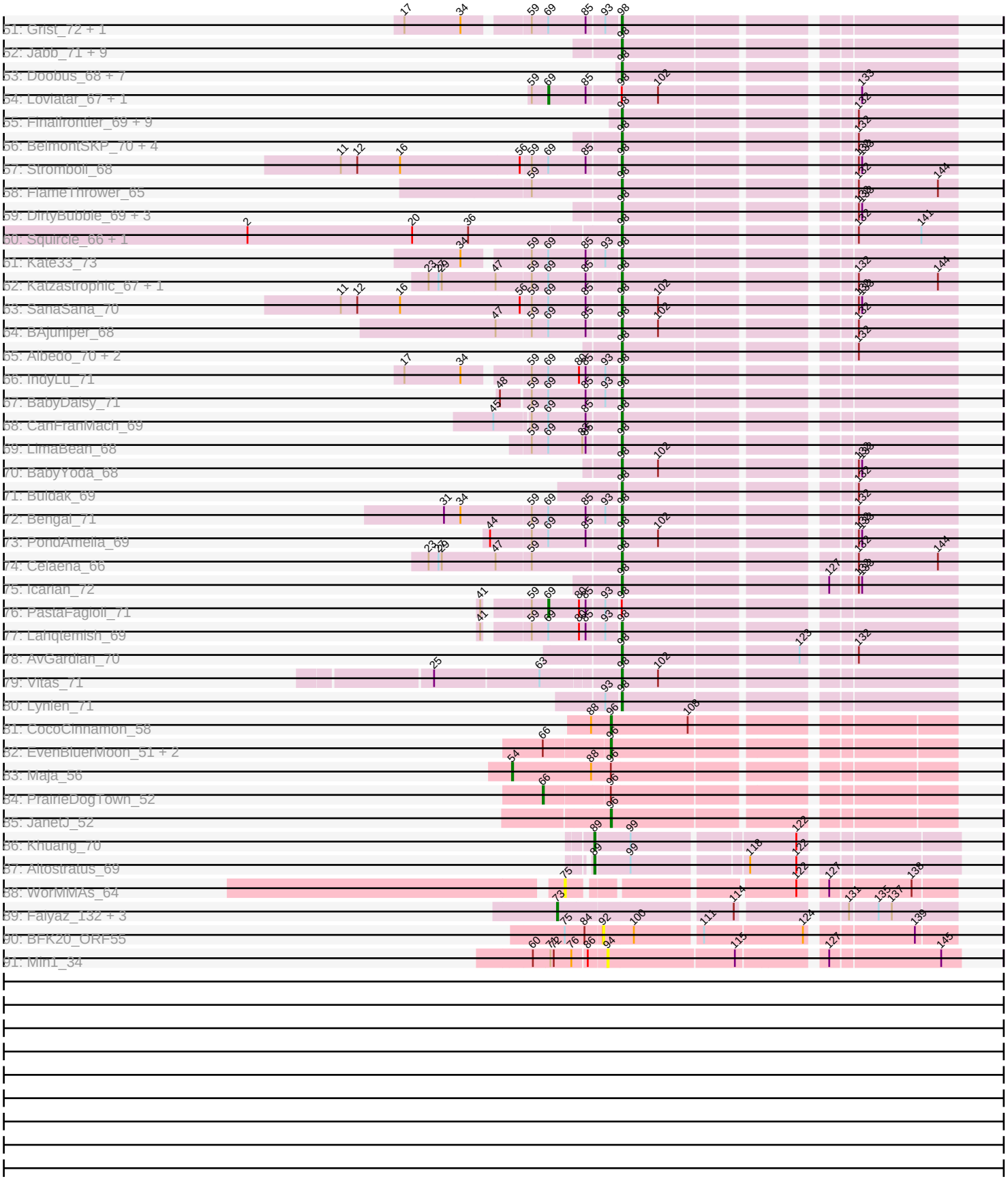
Pham 347298


1: Polka_71 + 8
2: GramZayde_73
3: Lunar_73
4: Damocles_74
5: BadWillHunting_77 + 2
6: Melons_73
7: Kuleana_76
8: Laphuphu24k_68 + 15
9: Leona_68 + 1
10: Renna12_72
11: AlexMinion_69 + 1
12: Babushka_66
13: E1_55 + 2
14: Mandia_60
15: Widow_62
16: Trine_65
17: Morrissey_63
18: Gustav_68
19: Applejacks_62
20: Puppers_62
21: Opyo_69
22: Sleuller_101
23: Madraxi_103
24: RegnumDei_109
25: Snagrat_110
26: Jflix2_101
27: Splinter_64 + 2
28: Huffy_64 + 1
29: TinaLin_63
30: Banquo_63
31: Dardanus_58
32: Schmidt_58
33: Catfish_64
34: Sapo_61
35: Frizzle_58
36: Archimedes_60
37: Octobien14_124
38: Sephiroth_123 + 2
39: Rabbitrun_127
40: LilJank_126 + 1
41: Neville_125
42: Santhid_59
43: Reyja_65 + 3
44: DonkeyMan_61
45: DearBasketball_66
46: Heinz_62
47: Tarzan_63
48: Bernstein_70 + 6
49: Cashington_69
50: Franklin22_74

Pham 347298


51: Grist_72 + 1
52: Jabb_71 + 9
53: Doobus_68 + 7
54: Loviatar_67 + 1
55: FinalFrontier_69 + 9
56: BelmontSKP_70 + 4
57: Stromboli_68
58: FlameThrower_65
59: DirtyBubble_69 + 3
60: Squircle_66 + 1
61: Kate33_73
62: Katzastrophic_67 + 1
63: SanaSana_70
64: BAjuniper_68
65: Albedo_70 + 2
66: IndyLu_71
67: BabyDaisy_71
68: CanFranMach_69
69: LimaBean_68
70: BabyYoda_68
71: Buldak_69
72: Bengal_71
73: PondAmelia_69
74: Celaena_66
75: Icarian_72
76: PastaFagioli_71
77: Lahqtemish_69
78: AvGardian_70
79: Vitas_71
80: Lynlen_71
81: CocoCinnamon_58
82: EvenBlueMoon_51 + 2
83: Maja_56
84: PrairieDogTown_52
85: JanetJ_52
86: Khuang_70
87: Altostratus_69
88: WorMMAS_64
89: Faiyaz_132 + 3
90: BFK20_ORF55
91: Mini_34

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 347298 Report

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

Pham number 347298 has 178 members, 18 are drafts.

Phages represented in each track:
• Track 1 : Polka_71, Kepler_75, Amelia_71, Cote_75, Daob_71, OtsoOtso_72, PhirstandPhine_71, Coral_72, Colusalem_71
• Track 2 : GramZayde_73
• Track 3 : Lunar_73
• Track 4 : Damocles_74
• Track 5 : BadWillHunting_77, Pineda_72, Bibble12_75
• Track 6 : Melons_73
• Track 7 : Kuleana_76
• Track 8 : Laphuphu24k_68, KHumphrey_70, Glotell_71, Rattail_71, Juno112_69, DanHam62_70, Fingolfin_71, PhluffyCoco_68, AmiCi24_68, Amphitrite_69, RedFox_71, Atlantica_70, Camara_69, AdoptaAdorbs_68, Oppalora_68, HamCheese_69
• Track 9 : Leona_68, Azaz_71
• Track 10 : Renna12_72
• Track 11 : AlexMinion_69, StuartMinion_61
• Track 12 : Babushka_66
• Track 13 : E1_55, Anatole_55, B3_57
• Track 14 : Mahdia_60
• Track 15 : Widow_62
• Track 16 : Trine_65
• Track 17 : Morrissey_63
• Track 18 : Gustav_68
• Track 19 : Applejacks_62
• Track 20 : Puppers_62
• Track 21 : Upyo_69
• Track 22 : SFuller_101
• Track 23 : Madraxi_103
• Track 24 : RegnumDei_109
• Track 25 : Shagrat_110
• Track 26 : Jflix2_101
• Track 27 : Splinter_64, TZGordon_65, Vendetta_64
• Track 28 : Huffy_64, DinoDaryn_64
• Track 29 : TinaLin_63
• Track 30 : Banquo_63
• Track 31 : Dardanus_58
• Track 32 : Schmidt_58
• Track 33 : Catfish_64

• Track 34 : Sapo_61
• Track 35 : Frizzle_58
• Track 36 : Archimedes_60
• Track 37 : Octobien14_124
• Track 38 : Sephiroth_123, Syleon_128, Kudefre_128
• Track 39 : Rabbitrun_127
• Track 40 : LilJank_126, Trax_126
• Track 41 : Neville_125
• Track 42 : Santhid_59
• Track 43 : Reyja_65, DinoNuggs_64, Hibiscus_63, Jojo24_63
• Track 44 : DonkeyMan_61
• Track 45 : DearBasketball_66
• Track 46 : Heinz_62
• Track 47 : Tarzan_63
• Track 48 : Bernstein_70, Skylord_70, Brahms_70, Clayda5_72, Armstrong_70, Coltrane_70, Rollins_70
• Track 49 : Cashington_69
• Track 50 : Franklin22_74
• Track 51 : Grist_72, Didgeridoo_75
• Track 52 : Jabb_71, CroZenni_71, MsUbiquitous_71, CupcakePrincess_71, QMacho_72, Johnathan_70, Burritobowl_72, SarBear_72, Phisb_72, Abigail_70
• Track 53 : Doobus_68, Albright_69, Milomuff_72, Softsoap_71, BubbaBear_68, DickRichards_68, Avocadoman_69, Solea_73
• Track 54 : Loviatar_67, Akino08_66
• Track 55 : Finalfrontier_69, TukTuk_70, Pecas_70, Jovita_68, Nicky22_69, Swervy_70, Lilo27_70, AylexOG_70, Eula_69, Slay_70
• Track 56 : BelmontSKP_70, PhigPhack_73, AnnaLie_70, Arroyo_71, SansAfet_72
• Track 57 : Stromboli_68
• Track 58 : FlameThrower_65
• Track 59 : DirtyBubble_69, Elva_73, Stoor_69, WalkingDead_71
• Track 60 : Squircle_66, Olliecat_66
• Track 61 : Kate33_73
• Track 62 : Katzastrophic_67, Bachaco_66
• Track 63 : SanaSana_70
• Track 64 : BAjuniper_68
• Track 65 : Albedo_70, Kenzers_69, SirBeanington_70
• Track 66 : IndyLu_71
• Track 67 : BabyDaisy_71
• Track 68 : CanFranMach_69
• Track 69 : LimaBean_68
• Track 70 : BabyYoda_68
• Track 71 : Buldak_69
• Track 72 : Bengal_71
• Track 73 : PondAmelia_69
• Track 74 : Celaena_66
• Track 75 : Icarian_72
• Track 76 : PastaFagioli_71
• Track 77 : Lahqtemish_69
• Track 78 : AvGardian_70
• Track 79 : Vitas_71
• Track 80 : Lynlen_71
• Track 81 : CocoCinnamon_58
• Track 82 : EvenBluerMoon_51, Hereford_52, Aoka_54

• Track 83 : Maja_56
• Track 84 : PrairieDogTown_52
• Track 85 : JanetJ_52
• Track 86 : Khuang_70
• Track 87 : Altostratus_69
• Track 88 : WorMMAs_64
• Track 89 : Faiyaz_132, AuntGwenStacy_130, Typha_129, Hilltopfarm_134
• Track 90 : BFK20_ORF55
• Track 91 : Min1_34

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

The start number called the most often in the published annotations is 98, it was called in 70 of the 160 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Abigail_70, Albedo_70, Albright_69, AnnaLie_70, Armstrong_70, Arroyo_71, AvGardian_70, Avocadoman_69, AylexOG_70, BAjuniper_68, BabyDaisy_71, BabyYoda_68, Bachaco_66, BelmontSKP_70, Bengal_71, Bernstein_70, Brahms_70, BubbaBear_68, Buldak_69, Burritobowl_72, CanFranMach_69, Cashington_69, Celaena_66, Clayda5_72, Coltrane_70, CroZenni_71, CupcakePrincess_71, DickRichards_68, Didgeridoo_75, DirtyBubble_69, Doobus_68, Elva_73, Eula_69, Finalfrontier_69, FlameThrower_65, Franklin22_74, Grist_72, Icarian_72, IndyLu_71, Jabb_71, Johnathan_70, Jovita_68, Kate33_73, Katzastrophic_67, Kenzers_69, Lahqtemish_69, Lilo27_70, LimaBean_68, Lynlen_71, Milomuff_72, MsUbiquitous_71, Nicky22_69, Olliecat_66, Pecas_70, PhigPhack_73, Phisb_72, PondAmelia_69, QMacho_72, Rollins_70, SanaSana_70, SansAfet_72, SarBear_72, SirBeanington_70, Skylord_70, Slay_70, Softsoap_71, Solea_73, Squircle_66, Stoor_69, Stromboli_68, Swervy_70, TukTuk_70, Vitas_71, WalkingDead_71,

Genes that have the "Most Annotated" start but do not call it:
• Akino08_66, Loviatar_67, PastaFagioli_71,

Genes that do not have the "Most Annotated" start:
• AdoptaAdorbs_68, AlexMinion_69, Altostratus_69, Amelia_71, AmiCi24_68, Amphitrite_69, Anatole_55, Aoka_54, Applejacks_62, Archimedes_60, Atlantica_70, AuntGwenStacy_130, Azaz_71, B3_57, BFK20_ORF55, Babushka_66, BadWillHunting_77, Banquo_63, Bibble12_75, Camara_69, Catfish_64, CocoCinnamon_58, Colusalem_71, Coral_72, Cote_75, Damocles_74, DanHam62_70, Daob_71, Dardanus_58, DearBasketball_66, DinoDaryn_64, DinoNuggs_64, DonkeyMan_61, E1_55, EvenBluerMoon_51, Faiyaz_132, Fingolfin_71, Frizzle_58, Glotell_71, GramZayde_73, Gustav_68, HamCheese_69, Heinz_62, Hereford_52, Hibiscus_63, Hilltopfarm_134, Huffy_64, JanetJ_52, Jflix2_101, Jojo24_63, Juno112_69, KHumphrey_70, Kepler_75, Khuang_70, Kudefre_128, Kuleana_76, Laphuphu24k_68, Leona_68, LilJank_126, Lunar_73, Madraxi_103, Mahdia_60, Maja_56, Melons_73, Min1_34, Morrissey_63, Neville_125, Octobien14_124, Oppalora_68, OtsoOtso_72, PhirstandPhine_71, PhluffyCoco_68, Pineda_72, Polka_71, PrairieDogTown_52, Puppers_62, Rabbitrun_127, Rattail_71, RedFox_71, RegnumDei_109, Renna12_72, Reyja_65, SFuller_101, Santhid_59, Sapo_61, Schmidt_58, Sephiroth_123, Shagrat_110,

Splinter_64, StuartMinion_61, Syleon_128, TZGordon_65, Tarzan_63, TinaLin_63, Trax_126, Trine_65, Typha_129, Upyo_69, Vendetta_64, Widow_62, WorMMAs_64,

Summary by start number:

Start 29:
• Found in 5 of 178 (2.8%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 20.0% of time when present
• Phage (with cluster) where this start called: Melons_73 (AS2),

Start 37:
• Found in 2 of 178 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Lunar_73 (AS2),

Start 49:
• Found in 13 of 178 (7.3%) of genes in pham
• Manual Annotations of this start: 9 of 160
• Called 69.2% of time when present
• Phage (with cluster) where this start called: Amelia_71 (AS2), Colusalem_71 (AS2), Coral_72 (AS2), Cote_75 (AS2), Daob_71 (AS2), Kepler_75 (AS2), OtsoOtso_72 (AS2), PhirstandPhine_71 (AS2), Polka_71 (AS2),

Start 53:
• Found in 6 of 178 (3.4%) of genes in pham
• Manual Annotations of this start: 3 of 160
• Called 66.7% of time when present
• Phage (with cluster) where this start called: DinoNuggs_64 (DY), Hibiscus_63 (DY), Jojo24_63 (DY), Reyja_65 (DY),

Start 54:
• Found in 2 of 178 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Maja_56 (FO),

Start 55:
• Found in 2 of 178 (1.1%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Morrissey_63 (CD),

Start 61:
• Found in 3 of 178 (1.7%) of genes in pham
• Manual Annotations of this start: 2 of 160
• Called 66.7% of time when present
• Phage (with cluster) where this start called: Gustav_68 (CD), Mahdia_60 (CD),

Start 66:
• Found in 5 of 178 (2.8%) of genes in pham
• Manual Annotations of this start: 1 of 160

• Called 20.0% of time when present
• Phage (with cluster) where this start called: PrairieDogTown_52 (FO),

Start 67:
• Found in 2 of 178 (1.1%) of genes in pham
• Manual Annotations of this start: 2 of 160
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Puppers_62 (CD), Widow_62 (CD),

Start 68:
• Found in 3 of 178 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Trine_65 (CD),

Start 69:
• Found in 27 of 178 (15.2%) of genes in pham
• Manual Annotations of this start: 4 of 160
• Called 14.8% of time when present
• Phage (with cluster) where this start called: Akino08_66 (EB), Loviatar_67 (EB), PastaFagioli_71 (EB), Upyo_69 (CD),

Start 70:
• Found in 1 of 178 (0.6%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Applejacks_62 (CD),

Start 73:
• Found in 7 of 178 (3.9%) of genes in pham
• Manual Annotations of this start: 4 of 160
• Called 57.1% of time when present
• Phage (with cluster) where this start called: AuntGwenStacy_130 (Y), Faiyaz_132 (Y), Hilltopfarm_134 (Y), Typha_129 (Y),

Start 74:
• Found in 1 of 178 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Kuleana_76 (AS2),

Start 75:
• Found in 3 of 178 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 66.7% of time when present
• Phage (with cluster) where this start called: Archimedes_60 (DA), WorMMAs_64 (UNK),

Start 76:
• Found in 6 of 178 (3.4%) of genes in pham
• Manual Annotations of this start: 3 of 160
• Called 50.0% of time when present

• Phage (with cluster) where this start called: Anatole_55 (BV), B3_57 (BV), E1_55 (BV),

Start 77:
• Found in 4 of 178 (2.2%) of genes in pham
• Manual Annotations of this start: 4 of 160
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AlexMinion_69 (AS3), Babushka_66 (AS3), Renna12_72 (AS3), StuartMinion_61 (AS3),

Start 79:
• Found in 1 of 178 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Dardanus_58 (CU3),

Start 80:
• Found in 4 of 178 (2.2%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Catfish_64 (CU5),

Start 81:
• Found in 16 of 178 (9.0%) of genes in pham
• Manual Annotations of this start: 12 of 160
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AdoptaAdorbs_68 (AS3), AmiCi24_68 (AS3), Amphitrite_69 (AS3), Atlantica_70 (AS3), Camara_69 (AS3), DanHam62_70 (AS3), Fingolfin_71 (AS3), Glotell_71 (AS3), HamCheese_69 (AS3), Juno112_69 (AS3), KHumphrey_70 (AS3), Laphuphu24k_68 (AS3), Oppalora_68 (AS3), PhluffyCoco_68 (AS3), Rattail_71 (AS3), RedFox_71 (AS3),

Start 84:
• Found in 4 of 178 (2.2%) of genes in pham
• Manual Annotations of this start: 3 of 160
• Called 75.0% of time when present
• Phage (with cluster) where this start called: Jflix2_101 (CF), Madraxi_103 (CF), SFuller_101 (CF),

Start 85:
• Found in 34 of 178 (19.1%) of genes in pham
• Manual Annotations of this start: 8 of 160
• Called 23.5% of time when present
• Phage (with cluster) where this start called: Banquo_63 (CU1), DinoDaryn_64 (CU1), Huffy_64 (CU1), Schmidt_58 (CU4), Splinter_64 (CU1), TZGordon_65 (CU1), TinaLin_63 (CU1), Vendetta_64 (CU1),

Start 87:
• Found in 2 of 178 (1.1%) of genes in pham
• Manual Annotations of this start: 2 of 160
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Azaz_71 (AS3), Leona_68 (AS3),

Start 88:
• Found in 3 of 178 (1.7%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 33.3% of time when present
• Phage (with cluster) where this start called: Sapo_61 (DA),

Start 89:
• Found in 12 of 178 (6.7%) of genes in pham
• Manual Annotations of this start: 11 of 160
• Called 91.7% of time when present
• Phage (with cluster) where this start called: Altostratus_69 (FS), Frizzle_58 (DA), Khuang_70 (FS), Kudefre_128 (DU1), LilJank_126 (DU2), Neville_125 (DU2), Octobien14_124 (DU1), Rabbitrun_127 (DU2), Sephiroth_123 (DU1), Syleon_128 (DU1), Trax_126 (DU2),

Start 90:
• Found in 9 of 178 (5.1%) of genes in pham
• Manual Annotations of this start: 4 of 160
• Called 55.6% of time when present
• Phage (with cluster) where this start called: DearBasketball_66 (DY), DonkeyMan_61 (DY), Heinz_62 (DY), Santhid_59 (DY), Tarzan_63 (DY),

Start 92:
• Found in 2 of 178 (1.1%) of genes in pham
• No Manual Annotations of this start.
• Called 50.0% of time when present
• Phage (with cluster) where this start called: BFK20_ORF55 (singleton),

Start 93:
• Found in 26 of 178 (14.6%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 19.2% of time when present
• Phage (with cluster) where this start called: BadWillHunting_77 (AS2), Bibble12_75 (AS2), Damocles_74 (AS2), GramZayde_73 (AS2), Pineda_72 (AS2),

Start 94:
• Found in 4 of 178 (2.2%) of genes in pham
• No Manual Annotations of this start.
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Min1_34 (singleton),

Start 95:
• Found in 1 of 178 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Shagrat_110 (CF),

Start 96:
• Found in 7 of 178 (3.9%) of genes in pham
• Manual Annotations of this start: 5 of 160
• Called 71.4% of time when present
• Phage (with cluster) where this start called: Aoka_54 (FO), CocoCinnamon_58 (FO), EvenBluerMoon_51 (FO), Hereford_52 (FO), JanetJ_52 (FO),

Start 97:
• Found in 1 of 178 (0.6%) of genes in pham
• Manual Annotations of this start: 1 of 160
• Called 100.0% of time when present
• Phage (with cluster) where this start called: RegnumDei_109 (CF),

Start 98:
• Found in 77 of 178 (43.3%) of genes in pham
• Manual Annotations of this start: 70 of 160
• Called 96.1% of time when present
• Phage (with cluster) where this start called: Abigail_70 (EB), Albedo_70 (EB), Albright_69 (EB), AnnaLie_70 (EB), Armstrong_70 (EB), Arroyo_71 (EB), AvGardian_70 (EB), Avocadoman_69 (EB), AylexOG_70 (EB), BAjuniper_68 (EB), BabyDaisy_71 (EB), BabyYoda_68 (EB), Bachaco_66 (EB), BelmontSKP_70 (EB), Bengal_71 (EB), Bernstein_70 (EB), Brahms_70 (EB), BubbaBear_68 (EB), Buldak_69 (EB), Burritobowl_72 (EB), CanFranMach_69 (EB), Cashington_69 (EB), Celaena_66 (EB), Clayda5_72 (EB), Coltrane_70 (EB), CroZenni_71 (EB), CupcakePrincess_71 (EB), DickRichards_68 (EB), Didgeridoo_75 (EB), DirtyBubble_69 (EB), Doobus_68 (EB), Elva_73 (EB), Eula_69 (EB), Finalfrontier_69 (EB), FlameThrower_65 (EB), Franklin22_74 (EB), Grist_72 (EB), Icarian_72 (EB), IndyLu_71 (EB), Jabb_71 (EB), Johnathan_70 (EB), Jovita_68 (EB), Kate33_73 (EB), Katzastrophic_67 (EB), Kenzers_69 (EB), Lahqtemish_69 (EB), Lilo27_70 (EB), LimaBean_68 (EB), Lynlen_71 (EB), Milomuff_72 (EB), MsUbiquitous_71 (EB), Nicky22_69 (EB), Olliecat_66 (EB), Pecas_70 (EB), PhigPhack_73 (EB), Phisb_72 (EB), PondAmelia_69 (EB), QMacho_72 (EB), Rollins_70 (EB), SanaSana_70 (EB), SansAfet_72 (EB), SarBear_72 (EB), SirBeanington_70 (EB), Skylord_70 (EB), Slay_70 (EB), Softsoap_71 (EB), Solea_73 (EB), Squircle_66 (EB), Stoor_69 (EB), Stromboli_68 (EB), Swervy_70 (EB), TukTuk_70 (EB), Vitas_71 (EB), WalkingDead_71 (EB),

Summary by clusters:

There are 19 clusters represented in this pham: AS3, AS2, CU5, FS, DA, CU1, UNK, CU3, CF, CD, BV, CU4, DY, Y, DU1, DU2, EB, singleton, FO,

Info for manual annotations of cluster AS2:
•Start number 29 was manually annotated 1 time for cluster AS2.
•Start number 37 was manually annotated 1 time for cluster AS2.
•Start number 49 was manually annotated 9 times for cluster AS2.
•Start number 74 was manually annotated 1 time for cluster AS2.
•Start number 93 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster AS3:
•Start number 77 was manually annotated 4 times for cluster AS3.
•Start number 81 was manually annotated 12 times for cluster AS3.
•Start number 87 was manually annotated 2 times for cluster AS3.

Info for manual annotations of cluster BV:
•Start number 76 was manually annotated 3 times for cluster BV.

Info for manual annotations of cluster CD:
•Start number 55 was manually annotated 1 time for cluster CD.

•Start number 61 was manually annotated 2 times for cluster CD.
•Start number 67 was manually annotated 2 times for cluster CD.
•Start number 68 was manually annotated 1 time for cluster CD.
•Start number 69 was manually annotated 1 time for cluster CD.

Info for manual annotations of cluster CF:
•Start number 84 was manually annotated 3 times for cluster CF.
•Start number 95 was manually annotated 1 time for cluster CF.
•Start number 97 was manually annotated 1 time for cluster CF.

Info for manual annotations of cluster CU1:
•Start number 85 was manually annotated 7 times for cluster CU1.

Info for manual annotations of cluster CU3:
•Start number 79 was manually annotated 1 time for cluster CU3.

Info for manual annotations of cluster CU4:
•Start number 85 was manually annotated 1 time for cluster CU4.

Info for manual annotations of cluster CU5:
•Start number 80 was manually annotated 1 time for cluster CU5.

Info for manual annotations of cluster DA:
•Start number 75 was manually annotated 1 time for cluster DA.
•Start number 88 was manually annotated 1 time for cluster DA.
•Start number 89 was manually annotated 1 time for cluster DA.

Info for manual annotations of cluster DU1:
•Start number 89 was manually annotated 4 times for cluster DU1.

Info for manual annotations of cluster DU2:
•Start number 89 was manually annotated 4 times for cluster DU2.

Info for manual annotations of cluster DY:
•Start number 53 was manually annotated 3 times for cluster DY.
•Start number 90 was manually annotated 4 times for cluster DY.

Info for manual annotations of cluster EB:
•Start number 69 was manually annotated 3 times for cluster EB.
•Start number 98 was manually annotated 70 times for cluster EB.

Info for manual annotations of cluster FO:
•Start number 54 was manually annotated 1 time for cluster FO.
•Start number 66 was manually annotated 1 time for cluster FO.
•Start number 96 was manually annotated 5 times for cluster FO.

Info for manual annotations of cluster FS:
•Start number 89 was manually annotated 2 times for cluster FS.

Info for manual annotations of cluster Y:
•Start number 73 was manually annotated 4 times for cluster Y.

Gene Information:

Gene: Abigail_70 Start: 40540, Stop: 40815, Start Num: 98
Candidate Starts for Abigail_70:
(Start: 98 @40540 has 70 MA's),

Gene: AdoptaAdorbs_68 Start: 37992, Stop: 38279, Start Num: 81
Candidate Starts for AdoptaAdorbs_68:
(Start: 81 @37992 has 12 MA's), (121, 38145), (134, 38208),

Gene: Akino08_66 Start: 42028, Stop: 42363, Start Num: 69
Candidate Starts for Akino08_66:
(59, 42013), (Start: 69 @42028 has 4 MA's), (Start: 85 @42061 has 8 MA's), (Start: 98 @42088 has 70 MA's), (102, 42121), (133, 42277),

Gene: Albedo_70 Start: 41350, Stop: 41625, Start Num: 98
Candidate Starts for Albedo_70:
(Start: 98 @41350 has 70 MA's), (132, 41536),

Gene: Albright_69 Start: 40420, Stop: 40695, Start Num: 98
Candidate Starts for Albright_69:
(Start: 98 @40420 has 70 MA's),

Gene: AlexMinion_69 Start: 37930, Stop: 38223, Start Num: 77
Candidate Starts for AlexMinion_69:
(51, 37888), (Start: 77 @37930 has 4 MA's), (121, 38089), (142, 38197),

Gene: Altostratus_69 Start: 38971, Stop: 39267, Start Num: 89
Candidate Starts for Altostratus_69:
(Start: 89 @38971 has 11 MA's), (99, 39001), (118, 39097), (122, 39139),

Gene: Amelia_71 Start: 37701, Stop: 38054, Start Num: 49
Candidate Starts for Amelia_71:
(Start: 49 @37701 has 9 MA's), (Start: 93 @37767 has 1 MA's),

Gene: AmiCi24_68 Start: 38101, Stop: 38388, Start Num: 81
Candidate Starts for AmiCi24_68:
(Start: 81 @38101 has 12 MA's), (121, 38254), (134, 38317),

Gene: Amphitrite_69 Start: 38005, Stop: 38292, Start Num: 81
Candidate Starts for Amphitrite_69:
(Start: 81 @38005 has 12 MA's), (121, 38158), (134, 38221),

Gene: Anatole_55 Start: 34869, Stop: 35189, Start Num: 76
Candidate Starts for Anatole_55:
(3, 34596), (6, 34635), (7, 34644), (9, 34659), (18, 34725), (19, 34728), (26, 34752), (33, 34770), (44, 34800), (Start: 76 @34869 has 3 MA's), (94, 34899), (109, 34974), (145, 35172),

Gene: AnnaLie_70 Start: 41202, Stop: 41477, Start Num: 98
Candidate Starts for AnnaLie_70:
(Start: 98 @41202 has 70 MA's), (132, 41388),

Gene: Aoka_54 Start: 36392, Stop: 36673, Start Num: 96
Candidate Starts for Aoka_54:
(Start: 66 @36335 has 1 MA's), (Start: 96 @36392 has 5 MA's),

Gene: Applejacks_62 Start: 41851, Stop: 42168, Start Num: 70
Candidate Starts for Applejacks_62:
(24, 41746), (42, 41791), (70, 41851), (127, 42061),

Gene: Archimedes_60 Start: 44555, Stop: 44878, Start Num: 75
Candidate Starts for Archimedes_60:
(Start: 75 @44555 has 1 MA's), (Start: 89 @44582 has 11 MA's), (92, 44588), (111, 44672), (112, 44681), (142, 44852),

Gene: Armstrong_70 Start: 39580, Stop: 39855, Start Num: 98
Candidate Starts for Armstrong_70:
(15, 39382), (21, 39397), (30, 39424), (40, 39457), (59, 39505), (Start: 69 @39520 has 4 MA's), (Start: 85 @39553 has 8 MA's), (Start: 98 @39580 has 70 MA's),

Gene: Arroyo_71 Start: 41666, Stop: 41941, Start Num: 98
Candidate Starts for Arroyo_71:
(Start: 98 @41666 has 70 MA's), (132, 41852),

Gene: Atlantica_70 Start: 38103, Stop: 38390, Start Num: 81
Candidate Starts for Atlantica_70:
(Start: 81 @38103 has 12 MA's), (121, 38256), (134, 38319),

Gene: AuntGwenStacy_130 Start: 74981, Stop: 75304, Start Num: 73
Candidate Starts for AuntGwenStacy_130:
(Start: 73 @74981 has 4 MA's), (114, 75131), (131, 75212), (135, 75236), (137, 75248),

Gene: AvGardian_70 Start: 41184, Stop: 41459, Start Num: 98
Candidate Starts for AvGardian_70:
(Start: 98 @41184 has 70 MA's), (123, 41334), (132, 41370),

Gene: Avocadoman_69 Start: 40737, Stop: 41012, Start Num: 98
Candidate Starts for Avocadoman_69:
(Start: 98 @40737 has 70 MA's),

Gene: AylexOG_70 Start: 41421, Stop: 41696, Start Num: 98
Candidate Starts for AylexOG_70:
(Start: 98 @41421 has 70 MA's), (132, 41607),

Gene: Azaz_71 Start: 38251, Stop: 38532, Start Num: 87
Candidate Starts for Azaz_71:
(Start: 87 @38251 has 2 MA's), (121, 38398), (134, 38461),

Gene: B3_57 Start: 35532, Stop: 35852, Start Num: 76
Candidate Starts for B3_57:
(3, 35259), (6, 35298), (7, 35307), (9, 35322), (18, 35388), (19, 35391), (26, 35415), (33, 35433), (44, 35463), (Start: 76 @35532 has 3 MA's), (94, 35562), (109, 35637), (145, 35835),

Gene: BAjuniper_68 Start: 41633, Stop: 41908, Start Num: 98

Candidate Starts for BAjuniper_68:
(47, 41528), (59, 41558), (Start: 69 @41573 has 4 MA's), (Start: 85 @41606 has 8 MA's), (Start: 98 @41633 has 70 MA's), (102, 41666), (132, 41819),

Gene: BFK20_ORF55 Start: 42590, Stop: 42880, Start Num: 92
Candidate Starts for BFK20_ORF55:
(Start: 75 @42557 has 1 MA's), (Start: 84 @42575 has 3 MA's), (92, 42590), (100, 42617), (111, 42674), (124, 42761), (139, 42845),

Gene: Babushka_66 Start: 38003, Stop: 38302, Start Num: 77
Candidate Starts for Babushka_66:
(Start: 77 @38003 has 4 MA's), (121, 38168), (134, 38231),

Gene: BabyDaisy_71 Start: 41763, Stop: 42038, Start Num: 98
Candidate Starts for BabyDaisy_71:
(48, 41664), (59, 41688), (Start: 69 @41703 has 4 MA's), (Start: 85 @41736 has 8 MA's), (Start: 93 @41751 has 1 MA's), (Start: 98 @41763 has 70 MA's),

Gene: BabyYoda_68 Start: 41093, Stop: 41368, Start Num: 98
Candidate Starts for BabyYoda_68:
(Start: 98 @41093 has 70 MA's), (102, 41126), (132, 41279), (133, 41282),

Gene: Bachaco_66 Start: 42043, Stop: 42318, Start Num: 98
Candidate Starts for Bachaco_66:
(23, 41878), (27, 41887), (Start: 29 @41890 has 1 MA's), (47, 41938), (59, 41968), (Start: 69 @41983 has 4 MA's), (Start: 85 @42016 has 8 MA's), (Start: 98 @42043 has 70 MA's), (132, 42229), (144, 42301),

Gene: BadWillHunting_77 Start: 38368, Stop: 38655, Start Num: 93
Candidate Starts for BadWillHunting_77:
(Start: 49 @38305 has 9 MA's), (Start: 93 @38368 has 1 MA's),

Gene: Banquo_63 Start: 39126, Stop: 39422, Start Num: 85
Candidate Starts for Banquo_63:
(62, 39084), (Start: 85 @39126 has 8 MA's), (101, 39168), (138, 39384),

Gene: BelmontSKP_70 Start: 41202, Stop: 41477, Start Num: 98
Candidate Starts for BelmontSKP_70:
(Start: 98 @41202 has 70 MA's), (132, 41388),

Gene: Bengal_71 Start: 41208, Stop: 41483, Start Num: 98
Candidate Starts for Bengal_71:
(31, 41055), (34, 41070), (59, 41133), (Start: 69 @41148 has 4 MA's), (Start: 85 @41181 has 8 MA's), (Start: 93 @41196 has 1 MA's), (Start: 98 @41208 has 70 MA's), (132, 41394),

Gene: Bernstein_70 Start: 39578, Stop: 39853, Start Num: 98
Candidate Starts for Bernstein_70:
(15, 39380), (21, 39395), (30, 39422), (40, 39455), (59, 39503), (Start: 69 @39518 has 4 MA's), (Start: 85 @39551 has 8 MA's), (Start: 98 @39578 has 70 MA's),

Gene: Bibble12_75 Start: 38337, Stop: 38624, Start Num: 93
Candidate Starts for Bibble12_75:
(Start: 49 @38274 has 9 MA's), (Start: 93 @38337 has 1 MA's),

Gene: Brahms_70 Start: 39480, Stop: 39755, Start Num: 98
Candidate Starts for Brahms_70:
(15, 39282), (21, 39297), (30, 39324), (40, 39357), (59, 39405), (Start: 69 @39420 has 4 MA's), (Start: 85 @39453 has 8 MA's), (Start: 98 @39480 has 70 MA's),

Gene: BubbaBear_68 Start: 41351, Stop: 41626, Start Num: 98
Candidate Starts for BubbaBear_68:
(Start: 98 @41351 has 70 MA's),

Gene: Buldak_69 Start: 39158, Stop: 39433, Start Num: 98
Candidate Starts for Buldak_69:
(Start: 98 @39158 has 70 MA's), (132, 39344),

Gene: Burritobowl_72 Start: 40954, Stop: 41229, Start Num: 98
Candidate Starts for Burritobowl_72:
(Start: 98 @40954 has 70 MA's),

Gene: Camara_69 Start: 37993, Stop: 38280, Start Num: 81
Candidate Starts for Camara_69:
(Start: 81 @37993 has 12 MA's), (121, 38146), (134, 38209),

Gene: CanFranMach_69 Start: 41004, Stop: 41279, Start Num: 98
Candidate Starts for CanFranMach_69:
(45, 40899), (59, 40929), (Start: 69 @40944 has 4 MA's), (Start: 85 @40977 has 8 MA's), (Start: 98 @41004 has 70 MA's),

Gene: Cashington_69 Start: 41137, Stop: 41412, Start Num: 98
Candidate Starts for Cashington_69:
(59, 41062), (Start: 69 @41077 has 4 MA's), (83, 41107), (Start: 85 @41110 has 8 MA's), (Start: 98 @41137 has 70 MA's), (132, 41323),

Gene: Catfish_64 Start: 41148, Stop: 41444, Start Num: 80
Candidate Starts for Catfish_64:
(13, 40959), (14, 40968), (58, 41106), (Start: 80 @41148 has 1 MA's), (107, 41235), (111, 41244), (122, 41319),

Gene: Celaena_66 Start: 41809, Stop: 42084, Start Num: 98
Candidate Starts for Celaena_66:
(23, 41641), (27, 41650), (Start: 29 @41653 has 1 MA's), (47, 41701), (59, 41731), (Start: 98 @41809 has 70 MA's), (132, 41995), (144, 42067),

Gene: Clayda5_72 Start: 39546, Stop: 39821, Start Num: 98
Candidate Starts for Clayda5_72:
(15, 39348), (21, 39363), (30, 39390), (40, 39423), (59, 39471), (Start: 69 @39486 has 4 MA's), (Start: 85 @39519 has 8 MA's), (Start: 98 @39546 has 70 MA's),

Gene: CocoCinnamon_58 Start: 36037, Stop: 36318, Start Num: 96
Candidate Starts for CocoCinnamon_58:
(Start: 88 @36019 has 1 MA's), (Start: 96 @36037 has 5 MA's), (108, 36106),

Gene: Coltrane_70 Start: 39480, Stop: 39755, Start Num: 98
Candidate Starts for Coltrane_70:

(15, 39282), (21, 39297), (30, 39324), (40, 39357), (59, 39405), (Start: 69 @39420 has 4 MA's), (Start: 85 @39453 has 8 MA's), (Start: 98 @39480 has 70 MA's),

Gene: Colusalem_71 Start: 37678, Stop: 38028, Start Num: 49
Candidate Starts for Colusalem_71:
(Start: 49 @37678 has 9 MA's), (Start: 93 @37741 has 1 MA's),

Gene: Coral_72 Start: 37893, Stop: 38243, Start Num: 49
Candidate Starts for Coral_72:
(Start: 49 @37893 has 9 MA's), (Start: 93 @37956 has 1 MA's),

Gene: Cote_75 Start: 38617, Stop: 38970, Start Num: 49
Candidate Starts for Cote_75:
(Start: 49 @38617 has 9 MA's), (Start: 93 @38683 has 1 MA's),

Gene: CroZenni_71 Start: 41008, Stop: 41283, Start Num: 98
Candidate Starts for CroZenni_71:
(Start: 98 @41008 has 70 MA's),

Gene: CupcakePrincess_71 Start: 41251, Stop: 41526, Start Num: 98
Candidate Starts for CupcakePrincess_71:
(Start: 98 @41251 has 70 MA's),

Gene: Damocles_74 Start: 37903, Stop: 38190, Start Num: 93
Candidate Starts for Damocles_74:
(Start: 49 @37837 has 9 MA's), (Start: 93 @37903 has 1 MA's),

Gene: DanHam62_70 Start: 38102, Stop: 38389, Start Num: 81
Candidate Starts for DanHam62_70:
(Start: 81 @38102 has 12 MA's), (121, 38255), (134, 38318),

Gene: Daob_71 Start: 37543, Stop: 37893, Start Num: 49
Candidate Starts for Daob_71:
(Start: 49 @37543 has 9 MA's), (Start: 93 @37606 has 1 MA's),

Gene: Dardanus_58 Start: 37373, Stop: 37678, Start Num: 79
Candidate Starts for Dardanus_58:
(Start: 79 @37373 has 1 MA's), (91, 37391), (122, 37553),

Gene: DearBasketball_66 Start: 41514, Stop: 41795, Start Num: 90
Candidate Starts for DearBasketball_66:
(Start: 90 @41514 has 4 MA's), (103, 41568),

Gene: DickRichards_68 Start: 40877, Stop: 41152, Start Num: 98
Candidate Starts for DickRichards_68:
(Start: 98 @40877 has 70 MA's),

Gene: Didgeridoo_75 Start: 42192, Stop: 42467, Start Num: 98
Candidate Starts for Didgeridoo_75:
(17, 42015), (34, 42066), (59, 42117), (Start: 69 @42132 has 4 MA's), (Start: 85 @42165 has 8 MA's), (Start: 93 @42180 has 1 MA's), (Start: 98 @42192 has 70 MA's),

Gene: DinoDaryn_64 Start: 39227, Stop: 39523, Start Num: 85

Candidate Starts for DinoDaryn_64:
(62, 39185), (Start: 85 @39227 has 8 MA's), (127, 39416), (138, 39485),

Gene: DinoNuggs_64 Start: 41077, Stop: 41433, Start Num: 53
Candidate Starts for DinoNuggs_64:
(Start: 53 @41077 has 3 MA's), (Start: 90 @41149 has 4 MA's), (103, 41203),

Gene: DirtyBubble_69 Start: 41228, Stop: 41503, Start Num: 98
Candidate Starts for DirtyBubble_69:
(Start: 98 @41228 has 70 MA's), (132, 41414), (133, 41417),

Gene: DonkeyMan_61 Start: 39766, Stop: 40047, Start Num: 90
Candidate Starts for DonkeyMan_61:
(Start: 53 @39688 has 3 MA's), (72, 39727), (Start: 73 @39730 has 4 MA's), (Start: 90 @39766 has 4 MA's), (103, 39820),

Gene: Doobus_68 Start: 40732, Stop: 41007, Start Num: 98
Candidate Starts for Doobus_68:
(Start: 98 @40732 has 70 MA's),

Gene: E1_55 Start: 34794, Stop: 35114, Start Num: 76
Candidate Starts for E1_55:
(3, 34521), (6, 34560), (7, 34569), (9, 34584), (18, 34650), (19, 34653), (26, 34677), (33, 34695), (44, 34725), (Start: 76 @34794 has 3 MA's), (94, 34824), (109, 34899), (145, 35097),

Gene: Elva_73 Start: 41675, Stop: 41950, Start Num: 98
Candidate Starts for Elva_73:
(Start: 98 @41675 has 70 MA's), (132, 41861), (133, 41864),

Gene: Eula_69 Start: 40916, Stop: 41191, Start Num: 98
Candidate Starts for Eula_69:
(Start: 98 @40916 has 70 MA's), (132, 41102),

Gene: EvenBluerMoon_51 Start: 35879, Stop: 36160, Start Num: 96
Candidate Starts for EvenBluerMoon_51:
(Start: 66 @35822 has 1 MA's), (Start: 96 @35879 has 5 MA's),

Gene: Faiyaz_132 Start: 75303, Stop: 75626, Start Num: 73
Candidate Starts for Faiyaz_132:
(Start: 73 @75303 has 4 MA's), (114, 75453), (131, 75534), (135, 75558), (137, 75570),

Gene: Finalfrontier_69 Start: 41583, Stop: 41858, Start Num: 98
Candidate Starts for Finalfrontier_69:
(Start: 98 @41583 has 70 MA's), (132, 41769),

Gene: Fingolfin_71 Start: 38104, Stop: 38391, Start Num: 81
Candidate Starts for Fingolfin_71:
(Start: 81 @38104 has 12 MA's), (121, 38257), (134, 38320),

Gene: FlameThrower_65 Start: 40846, Stop: 41121, Start Num: 98
Candidate Starts for FlameThrower_65:
(59, 40768), (Start: 98 @40846 has 70 MA's), (132, 41032), (144, 41104),

Gene: Franklin22_74 Start: 40216, Stop: 40491, Start Num: 98
Candidate Starts for Franklin22_74:
(64, 40156), (Start: 98 @40216 has 70 MA's), (132, 40402), (144, 40474),

Gene: Frizzle_58 Start: 45018, Stop: 45314, Start Num: 89
Candidate Starts for Frizzle_58:
(Start: 89 @45018 has 11 MA's), (105, 45090), (113, 45123), (146, 45306),

Gene: Glotell_71 Start: 38150, Stop: 38437, Start Num: 81
Candidate Starts for Glotell_71:
(Start: 81 @38150 has 12 MA's), (121, 38303), (134, 38366),

Gene: GramZayde_73 Start: 38451, Stop: 38738, Start Num: 93
Candidate Starts for GramZayde_73:
(Start: 29 @38334 has 1 MA's), (Start: 93 @38451 has 1 MA's),

Gene: Grist_72 Start: 41525, Stop: 41800, Start Num: 98
Candidate Starts for Grist_72:
(17, 41348), (34, 41399), (59, 41450), (Start: 69 @41465 has 4 MA's), (Start: 85 @41498 has 8 MA's),
(Start: 93 @41513 has 1 MA's), (Start: 98 @41525 has 70 MA's),

Gene: Gustav_68 Start: 43674, Stop: 44000, Start Num: 61
Candidate Starts for Gustav_68:
(48, 43644), (Start: 61 @43674 has 2 MA's), (106, 43788), (120, 43857), (122, 43875), (128, 43896),
(130, 43905), (138, 43962),

Gene: HamCheese_69 Start: 38089, Stop: 38376, Start Num: 81
Candidate Starts for HamCheese_69:
(Start: 81 @38089 has 12 MA's), (121, 38242), (134, 38305),

Gene: Heinz_62 Start: 39746, Stop: 40030, Start Num: 90
Candidate Starts for Heinz_62:
(Start: 90 @39746 has 4 MA's), (103, 39800),

Gene: Hereford_52 Start: 35583, Stop: 35864, Start Num: 96
Candidate Starts for Hereford_52:
(Start: 66 @35526 has 1 MA's), (Start: 96 @35583 has 5 MA's),

Gene: Hibiscus_63 Start: 39480, Stop: 39836, Start Num: 53
Candidate Starts for Hibiscus_63:
(Start: 53 @39480 has 3 MA's), (Start: 90 @39552 has 4 MA's), (103, 39606),

Gene: Hilltopfarm_134 Start: 76128, Stop: 76451, Start Num: 73
Candidate Starts for Hilltopfarm_134:
(Start: 73 @76128 has 4 MA's), (114, 76278), (131, 76359), (135, 76383), (137, 76395),

Gene: Huffy_64 Start: 39227, Stop: 39523, Start Num: 85
Candidate Starts for Huffy_64:
(62, 39185), (Start: 85 @39227 has 8 MA's), (127, 39416), (138, 39485),

Gene: Icarian_72 Start: 41856, Stop: 42131, Start Num: 98
Candidate Starts for Icarian_72:
(Start: 98 @41856 has 70 MA's), (127, 42021), (132, 42042), (133, 42045),

Gene: IndyLu_71 Start: 41495, Stop: 41770, Start Num: 98
Candidate Starts for IndyLu_71:
(17, 41318), (34, 41369), (59, 41420), (Start: 69 @41435 has 4 MA's), (Start: 80 @41462 has 1 MA's), (Start: 85 @41468 has 8 MA's), (Start: 93 @41483 has 1 MA's), (Start: 98 @41495 has 70 MA's),

Gene: Jabb_71 Start: 41251, Stop: 41526, Start Num: 98
Candidate Starts for Jabb_71:
(Start: 98 @41251 has 70 MA's),

Gene: JanetJ_52 Start: 36634, Stop: 36915, Start Num: 96
Candidate Starts for JanetJ_52:
(Start: 96 @36634 has 5 MA's),

Gene: Jflix2_101 Start: 58160, Stop: 58510, Start Num: 84
Candidate Starts for Jflix2_101:
(4, 57923), (Start: 76 @58148 has 3 MA's), (Start: 84 @58160 has 3 MA's),

Gene: Johnathan_70 Start: 40508, Stop: 40783, Start Num: 98
Candidate Starts for Johnathan_70:
(Start: 98 @40508 has 70 MA's),

Gene: Jojo24_63 Start: 40163, Stop: 40516, Start Num: 53
Candidate Starts for Jojo24_63:
(Start: 53 @40163 has 3 MA's), (Start: 90 @40235 has 4 MA's), (103, 40289),

Gene: Jovita_68 Start: 40684, Stop: 40959, Start Num: 98
Candidate Starts for Jovita_68:
(Start: 98 @40684 has 70 MA's), (132, 40870),

Gene: Juno112_69 Start: 38104, Stop: 38391, Start Num: 81
Candidate Starts for Juno112_69:
(Start: 81 @38104 has 12 MA's), (121, 38257), (134, 38320),

Gene: KHumphrey_70 Start: 37978, Stop: 38265, Start Num: 81
Candidate Starts for KHumphrey_70:
(Start: 81 @37978 has 12 MA's), (121, 38131), (134, 38194),

Gene: Kate33_73 Start: 41226, Stop: 41501, Start Num: 98
Candidate Starts for Kate33_73:
(34, 41100), (59, 41151), (Start: 69 @41166 has 4 MA's), (Start: 85 @41199 has 8 MA's), (Start: 93 @41214 has 1 MA's), (Start: 98 @41226 has 70 MA's),

Gene: Katzastrophic_67 Start: 41352, Stop: 41627, Start Num: 98
Candidate Starts for Katzastrophic_67:
(23, 41187), (27, 41196), (Start: 29 @41199 has 1 MA's), (47, 41247), (59, 41277), (Start: 69 @41292 has 4 MA's), (Start: 85 @41325 has 8 MA's), (Start: 98 @41352 has 70 MA's), (132, 41538), (144, 41610),

Gene: Kenzers_69 Start: 40798, Stop: 41073, Start Num: 98
Candidate Starts for Kenzers_69:
(Start: 98 @40798 has 70 MA's), (132, 40984),

Gene: Kepler_75 Start: 38025, Stop: 38375, Start Num: 49
Candidate Starts for Kepler_75:
(Start: 49 @38025 has 9 MA's), (Start: 93 @38088 has 1 MA's),

Gene: Khuang_70 Start: 39192, Stop: 39488, Start Num: 89
Candidate Starts for Khuang_70:
(Start: 89 @39192 has 11 MA's), (99, 39222), (122, 39360),

Gene: Kudefre_128 Start: 69247, Stop: 69579, Start Num: 89
Candidate Starts for Kudefre_128:
(Start: 89 @69247 has 11 MA's), (119, 69385), (120, 69397), (134, 69487),

Gene: Kuleana_76 Start: 38455, Stop: 38775, Start Num: 74
Candidate Starts for Kuleana_76:
(Start: 37 @38371 has 1 MA's), (Start: 74 @38455 has 1 MA's), (Start: 93 @38488 has 1 MA's),

Gene: Lahqtemish_69 Start: 41710, Stop: 41985, Start Num: 98
Candidate Starts for Lahqtemish_69:
(41, 41602), (59, 41635), (Start: 69 @41650 has 4 MA's), (Start: 80 @41677 has 1 MA's), (Start: 85 @41683 has 8 MA's), (Start: 93 @41698 has 1 MA's), (Start: 98 @41710 has 70 MA's),

Gene: Laphuphu24k_68 Start: 38089, Stop: 38376, Start Num: 81
Candidate Starts for Laphuphu24k_68:
(Start: 81 @38089 has 12 MA's), (121, 38242), (134, 38305),

Gene: Leona_68 Start: 38237, Stop: 38518, Start Num: 87
Candidate Starts for Leona_68:
(Start: 87 @38237 has 2 MA's), (121, 38384), (134, 38447),

Gene: LilJank_126 Start: 71012, Stop: 71341, Start Num: 89
Candidate Starts for LilJank_126:
(Start: 89 @71012 has 11 MA's), (115, 71132), (120, 71162), (122, 71180), (124, 71186), (126, 71195), (139, 71288), (143, 71297),

Gene: Lilo27_70 Start: 41100, Stop: 41375, Start Num: 98
Candidate Starts for Lilo27_70:
(Start: 98 @41100 has 70 MA's), (132, 41286),

Gene: LimaBean_68 Start: 40790, Stop: 41065, Start Num: 98
Candidate Starts for LimaBean_68:
(59, 40715), (Start: 69 @40730 has 4 MA's), (83, 40760), (Start: 85 @40763 has 8 MA's), (Start: 98 @40790 has 70 MA's),

Gene: Loviatar_67 Start: 42044, Stop: 42379, Start Num: 69
Candidate Starts for Loviatar_67:
(59, 42029), (Start: 69 @42044 has 4 MA's), (Start: 85 @42077 has 8 MA's), (Start: 98 @42104 has 70 MA's), (102, 42137), (133, 42293),

Gene: Lunar_73 Start: 37996, Stop: 38376, Start Num: 37
Candidate Starts for Lunar_73:
(Start: 37 @37996 has 1 MA's), (Start: 93 @38089 has 1 MA's),

Gene: Lynlen_71 Start: 40984, Stop: 41259, Start Num: 98

Candidate Starts for Lynlen_71:
(Start: 93 @40972 has 1 MA's), (Start: 98 @40984 has 70 MA's),

Gene: Madraxi_103 Start: 60318, Stop: 60668, Start Num: 84
Candidate Starts for Madraxi_103:
(5, 60090), (32, 60201), (46, 60237), (Start: 84 @60318 has 3 MA's), (119, 60468),

Gene: Mahdia_60 Start: 41790, Stop: 42113, Start Num: 61
Candidate Starts for Mahdia_60:
(Start: 61 @41790 has 2 MA's), (64, 41796), (120, 41970), (122, 41988), (138, 42075),

Gene: Maja_56 Start: 36343, Stop: 36714, Start Num: 54
Candidate Starts for Maja_56:
(Start: 54 @36343 has 1 MA's), (Start: 88 @36415 has 1 MA's), (Start: 96 @36433 has 5 MA's),

Gene: Melons_73 Start: 37979, Stop: 38383, Start Num: 29
Candidate Starts for Melons_73:
(Start: 29 @37979 has 1 MA's), (Start: 93 @38096 has 1 MA's),

Gene: Milomuff_72 Start: 41357, Stop: 41632, Start Num: 98
Candidate Starts for Milomuff_72:
(Start: 98 @41357 has 70 MA's),

Gene: Min1_34 Start: 16506, Stop: 16799, Start Num: 94
Candidate Starts for Min1_34:
(60, 16446), (71, 16461), (72, 16464), (Start: 76 @16479 has 3 MA's), (86, 16491), (94, 16506), (115, 16617), (127, 16686), (145, 16782),

Gene: Morrissey_63 Start: 43651, Stop: 44007, Start Num: 55
Candidate Starts for Morrissey_63:
(Start: 55 @43651 has 1 MA's), (Start: 61 @43666 has 2 MA's), (Start: 68 @43678 has 1 MA's), (78, 43702), (120, 43864), (138, 43969),

Gene: MsUbiquitous_71 Start: 41251, Stop: 41526, Start Num: 98
Candidate Starts for MsUbiquitous_71:
(Start: 98 @41251 has 70 MA's),

Gene: Neville_125 Start: 70232, Stop: 70561, Start Num: 89
Candidate Starts for Neville_125:
(Start: 89 @70232 has 11 MA's), (115, 70352), (120, 70382), (124, 70406), (126, 70415), (136, 70484), (139, 70508), (143, 70517), (147, 70556),

Gene: Nicky22_69 Start: 41321, Stop: 41596, Start Num: 98
Candidate Starts for Nicky22_69:
(Start: 98 @41321 has 70 MA's), (132, 41507),

Gene: Octobien14_124 Start: 67781, Stop: 68113, Start Num: 89
Candidate Starts for Octobien14_124:
(Start: 68 @67739 has 1 MA's), (Start: 89 @67781 has 11 MA's), (119, 67919), (120, 67931), (131, 67997),

Gene: Olliecat_66 Start: 38762, Stop: 39037, Start Num: 98
Candidate Starts for Olliecat_66:

(2, 38429), (20, 38579), (36, 38630), (Start: 98 @38762 has 70 MA's), (132, 38948), (141, 39005),

Gene: Oppalora_68 Start: 38103, Stop: 38390, Start Num: 81
Candidate Starts for Oppalora_68:
(Start: 81 @38103 has 12 MA's), (121, 38256), (134, 38319),

Gene: OtsoOtso_72 Start: 37650, Stop: 38003, Start Num: 49
Candidate Starts for OtsoOtso_72:
(Start: 49 @37650 has 9 MA's), (Start: 93 @37716 has 1 MA's),

Gene: PastaFagioli_71 Start: 41718, Stop: 42053, Start Num: 69
Candidate Starts for PastaFagioli_71:
(41, 41670), (59, 41703), (Start: 69 @41718 has 4 MA's), (Start: 80 @41745 has 1 MA's), (Start: 85 @41751 has 8 MA's), (Start: 93 @41766 has 1 MA's), (Start: 98 @41778 has 70 MA's),

Gene: Pecas_70 Start: 41217, Stop: 41492, Start Num: 98
Candidate Starts for Pecas_70:
(Start: 98 @41217 has 70 MA's), (132, 41403),

Gene: PhigPhack_73 Start: 41119, Stop: 41394, Start Num: 98
Candidate Starts for PhigPhack_73:
(Start: 98 @41119 has 70 MA's), (132, 41305),

Gene: PhirstandPhine_71 Start: 37839, Stop: 38192, Start Num: 49
Candidate Starts for PhirstandPhine_71:
(Start: 49 @37839 has 9 MA's), (Start: 93 @37905 has 1 MA's),

Gene: Phisb_72 Start: 41092, Stop: 41367, Start Num: 98
Candidate Starts for Phisb_72:
(Start: 98 @41092 has 70 MA's),

Gene: PhluffyCoco_68 Start: 38203, Stop: 38490, Start Num: 81
Candidate Starts for PhluffyCoco_68:
(Start: 81 @38203 has 12 MA's), (121, 38356), (134, 38419),

Gene: Pineda_72 Start: 38058, Stop: 38345, Start Num: 93
Candidate Starts for Pineda_72:
(Start: 49 @37995 has 9 MA's), (Start: 93 @38058 has 1 MA's),

Gene: Polka_71 Start: 37650, Stop: 38003, Start Num: 49
Candidate Starts for Polka_71:
(Start: 49 @37650 has 9 MA's), (Start: 93 @37716 has 1 MA's),

Gene: PondAmelia_69 Start: 41025, Stop: 41300, Start Num: 98
Candidate Starts for PondAmelia_69:
(44, 40914), (59, 40950), (Start: 69 @40965 has 4 MA's), (Start: 85 @40998 has 8 MA's), (Start: 98 @41025 has 70 MA's), (102, 41058), (132, 41211), (133, 41214),

Gene: PrairieDogTown_52 Start: 35824, Stop: 36162, Start Num: 66
Candidate Starts for PrairieDogTown_52:
(Start: 66 @35824 has 1 MA's), (Start: 96 @35881 has 5 MA's),

Gene: Puppers_62 Start: 41790, Stop: 42113, Start Num: 67

Candidate Starts for Puppers_62:
(28, 41697), (35, 41718), (41, 41733), (43, 41739), (57, 41775), (Start: 67 @41790 has 2 MA's), (122, 41988),

Gene: QMacho_72 Start: 41222, Stop: 41497, Start Num: 98
Candidate Starts for QMacho_72:
(Start: 98 @41222 has 70 MA's),

Gene: Rabbitrun_127 Start: 71852, Stop: 72181, Start Num: 89
Candidate Starts for Rabbitrun_127:
(8, 71615), (10, 71618), (22, 71696), (38, 71741), (39, 71744), (52, 71774), (Start: 54 @71777 has 1 MA's), (65, 71804), (82, 71840), (Start: 89 @71852 has 11 MA's), (110, 71942), (120, 72002), (122, 72020), (124, 72026), (125, 72029), (136, 72104), (147, 72176),

Gene: Rattail_71 Start: 38499, Stop: 38786, Start Num: 81
Candidate Starts for Rattail_71:
(Start: 81 @38499 has 12 MA's), (121, 38652), (134, 38715),

Gene: RedFox_71 Start: 38363, Stop: 38650, Start Num: 81
Candidate Starts for RedFox_71:
(Start: 81 @38363 has 12 MA's), (121, 38516), (134, 38579),

Gene: RegnumDei_109 Start: 60267, Stop: 60536, Start Num: 97
Candidate Starts for RegnumDei_109:
(Start: 97 @60267 has 1 MA's), (121, 60408), (123, 60420), (140, 60507),

Gene: Renna12_72 Start: 38798, Stop: 39091, Start Num: 77
Candidate Starts for Renna12_72:
(Start: 66 @38777 has 1 MA's), (Start: 77 @38798 has 4 MA's), (121, 38957), (134, 39020),

Gene: Reyja_65 Start: 41077, Stop: 41433, Start Num: 53
Candidate Starts for Reyja_65:
(Start: 53 @41077 has 3 MA's), (Start: 90 @41149 has 4 MA's), (103, 41203),

Gene: Rollins_70 Start: 39578, Stop: 39853, Start Num: 98
Candidate Starts for Rollins_70:
(15, 39380), (21, 39395), (30, 39422), (40, 39455), (59, 39503), (Start: 69 @39518 has 4 MA's), (Start: 85 @39551 has 8 MA's), (Start: 98 @39578 has 70 MA's),

Gene: SFuller_101 Start: 58710, Stop: 59060, Start Num: 84
Candidate Starts for SFuller_101:
(1, 58224), (Start: 76 @58698 has 3 MA's), (Start: 84 @58710 has 3 MA's), (119, 58860),

Gene: SanaSana_70 Start: 41542, Stop: 41817, Start Num: 98
Candidate Starts for SanaSana_70:
(11, 41296), (12, 41311), (16, 41350), (56, 41458), (59, 41467), (Start: 69 @41482 has 4 MA's), (Start: 85 @41515 has 8 MA's), (Start: 98 @41542 has 70 MA's), (102, 41575), (132, 41728), (133, 41731),

Gene: SansAfet_72 Start: 41068, Stop: 41343, Start Num: 98
Candidate Starts for SansAfet_72:
(Start: 98 @41068 has 70 MA's), (132, 41254),

Gene: Santhid_59 Start: 38581, Stop: 38865, Start Num: 90

Candidate Starts for Santhid_59:
(50, 38500), (72, 38542), (Start: 73 @38545 has 4 MA's), (Start: 90 @38581 has 4 MA's), (103, 38635),

Gene: Sapo_61 Start: 45211, Stop: 45513, Start Num: 88
Candidate Starts for Sapo_61:
(Start: 88 @45211 has 1 MA's), (111, 45304), (116, 45337), (129, 45412), (146, 45505),

Gene: SarBear_72 Start: 41148, Stop: 41423, Start Num: 98
Candidate Starts for SarBear_72:
(Start: 98 @41148 has 70 MA's),

Gene: Schmidt_58 Start: 36837, Stop: 37133, Start Num: 85
Candidate Starts for Schmidt_58:
(Start: 85 @36837 has 8 MA's), (122, 37008), (142, 37107),

Gene: Sephiroth_123 Start: 69017, Stop: 69349, Start Num: 89
Candidate Starts for Sephiroth_123:
(Start: 89 @69017 has 11 MA's), (119, 69155), (120, 69167), (134, 69257),

Gene: Shagrat_110 Start: 58151, Stop: 58423, Start Num: 95
Candidate Starts for Shagrat_110:
(Start: 95 @58151 has 1 MA's), (115, 58256), (121, 58295), (138, 58391), (140, 58394),

Gene: SirBeanington_70 Start: 41335, Stop: 41610, Start Num: 98
Candidate Starts for SirBeanington_70:
(Start: 98 @41335 has 70 MA's), (132, 41521),

Gene: Skylord_70 Start: 39495, Stop: 39770, Start Num: 98
Candidate Starts for Skylord_70:
(15, 39297), (21, 39312), (30, 39339), (40, 39372), (59, 39420), (Start: 69 @39435 has 4 MA's), (Start: 85 @39468 has 8 MA's), (Start: 98 @39495 has 70 MA's),

Gene: Slay_70 Start: 41458, Stop: 41733, Start Num: 98
Candidate Starts for Slay_70:
(Start: 98 @41458 has 70 MA's), (132, 41644),

Gene: Softsoap_71 Start: 41189, Stop: 41464, Start Num: 98
Candidate Starts for Softsoap_71:
(Start: 98 @41189 has 70 MA's),

Gene: Solea_73 Start: 41356, Stop: 41631, Start Num: 98
Candidate Starts for Solea_73:
(Start: 98 @41356 has 70 MA's),

Gene: Splinter_64 Start: 40315, Stop: 40611, Start Num: 85
Candidate Starts for Splinter_64:
(Start: 85 @40315 has 8 MA's), (127, 40504), (138, 40573),

Gene: Squircle_66 Start: 38761, Stop: 39036, Start Num: 98
Candidate Starts for Squircle_66:
(2, 38428), (20, 38578), (36, 38629), (Start: 98 @38761 has 70 MA's), (132, 38947), (141, 39004),

Gene: Stoor_69 Start: 41350, Stop: 41625, Start Num: 98

Candidate Starts for Stoor_69:
(Start: 98 @41350 has 70 MA's), (132, 41536), (133, 41539),

Gene: Stromboli_68 Start: 41130, Stop: 41405, Start Num: 98
Candidate Starts for Stromboli_68:
(11, 40884), (12, 40899), (16, 40938), (56, 41046), (59, 41055), (Start: 69 @41070 has 4 MA's), (Start: 85 @41103 has 8 MA's), (Start: 98 @41130 has 70 MA's), (132, 41316), (133, 41319),

Gene: StuartMinion_61 Start: 34829, Stop: 35122, Start Num: 77
Candidate Starts for StuartMinion_61:
(51, 34787), (Start: 77 @34829 has 4 MA's), (121, 34988), (142, 35096),

Gene: Swervy_70 Start: 41047, Stop: 41322, Start Num: 98
Candidate Starts for Swervy_70:
(Start: 98 @41047 has 70 MA's), (132, 41233),

Gene: Syleon_128 Start: 69768, Stop: 70100, Start Num: 89
Candidate Starts for Syleon_128:
(Start: 89 @69768 has 11 MA's), (119, 69906), (120, 69918), (134, 70008),

Gene: TZGordon_65 Start: 39203, Stop: 39499, Start Num: 85
Candidate Starts for TZGordon_65:
(Start: 85 @39203 has 8 MA's), (127, 39392), (138, 39461),

Gene: Tarzan_63 Start: 39834, Stop: 40118, Start Num: 90
Candidate Starts for Tarzan_63:
(Start: 53 @39759 has 3 MA's), (72, 39795), (Start: 73 @39798 has 4 MA's), (Start: 90 @39834 has 4 MA's), (103, 39888),

Gene: TinaLin_63 Start: 39046, Stop: 39342, Start Num: 85
Candidate Starts for TinaLin_63:
(62, 39004), (Start: 85 @39046 has 8 MA's), (101, 39088), (117, 39172), (138, 39304),

Gene: Trax_126 Start: 71052, Stop: 71381, Start Num: 89
Candidate Starts for Trax_126:
(Start: 89 @71052 has 11 MA's), (115, 71172), (120, 71202), (122, 71220), (124, 71226), (126, 71235), (139, 71328), (143, 71337),

Gene: Trine_65 Start: 43058, Stop: 43372, Start Num: 68
Candidate Starts for Trine_65:
(Start: 68 @43058 has 1 MA's), (114, 43199),

Gene: TukTuk_70 Start: 41237, Stop: 41512, Start Num: 98
Candidate Starts for TukTuk_70:
(Start: 98 @41237 has 70 MA's), (132, 41423),

Gene: Typha_129 Start: 74982, Stop: 75305, Start Num: 73
Candidate Starts for Typha_129:
(Start: 73 @74982 has 4 MA's), (114, 75132), (131, 75213), (135, 75237), (137, 75249),

Gene: Upyo_69 Start: 44979, Stop: 45296, Start Num: 69
Candidate Starts for Upyo_69:
(Start: 69 @44979 has 4 MA's), (104, 45075), (120, 45153), (122, 45171),

Gene: Vendetta_64 Start: 40315, Stop: 40611, Start Num: 85
Candidate Starts for Vendetta_64:
(Start: 85 @40315 has 8 MA's), (127, 40504), (138, 40573),

Gene: Vitas_71 Start: 39646, Stop: 39921, Start Num: 98
Candidate Starts for Vitas_71:
(25, 39487), (63, 39580), (Start: 98 @39646 has 70 MA's), (102, 39679),

Gene: WalkingDead_71 Start: 42012, Stop: 42287, Start Num: 98
Candidate Starts for WalkingDead_71:
(Start: 98 @42012 has 70 MA's), (132, 42198), (133, 42201),

Gene: Widow_62 Start: 42336, Stop: 42659, Start Num: 67
Candidate Starts for Widow_62:
(28, 42243), (35, 42264), (41, 42279), (43, 42285), (Start: 55 @42312 has 1 MA's), (57, 42321), (Start: 67 @42336 has 2 MA's), (122, 42534),

Gene: WorMMAs_64 Start: 42032, Stop: 42340, Start Num: 75
Candidate Starts for WorMMAs_64:
(Start: 75 @42032 has 1 MA's), (122, 42215), (127, 42233), (138, 42302),