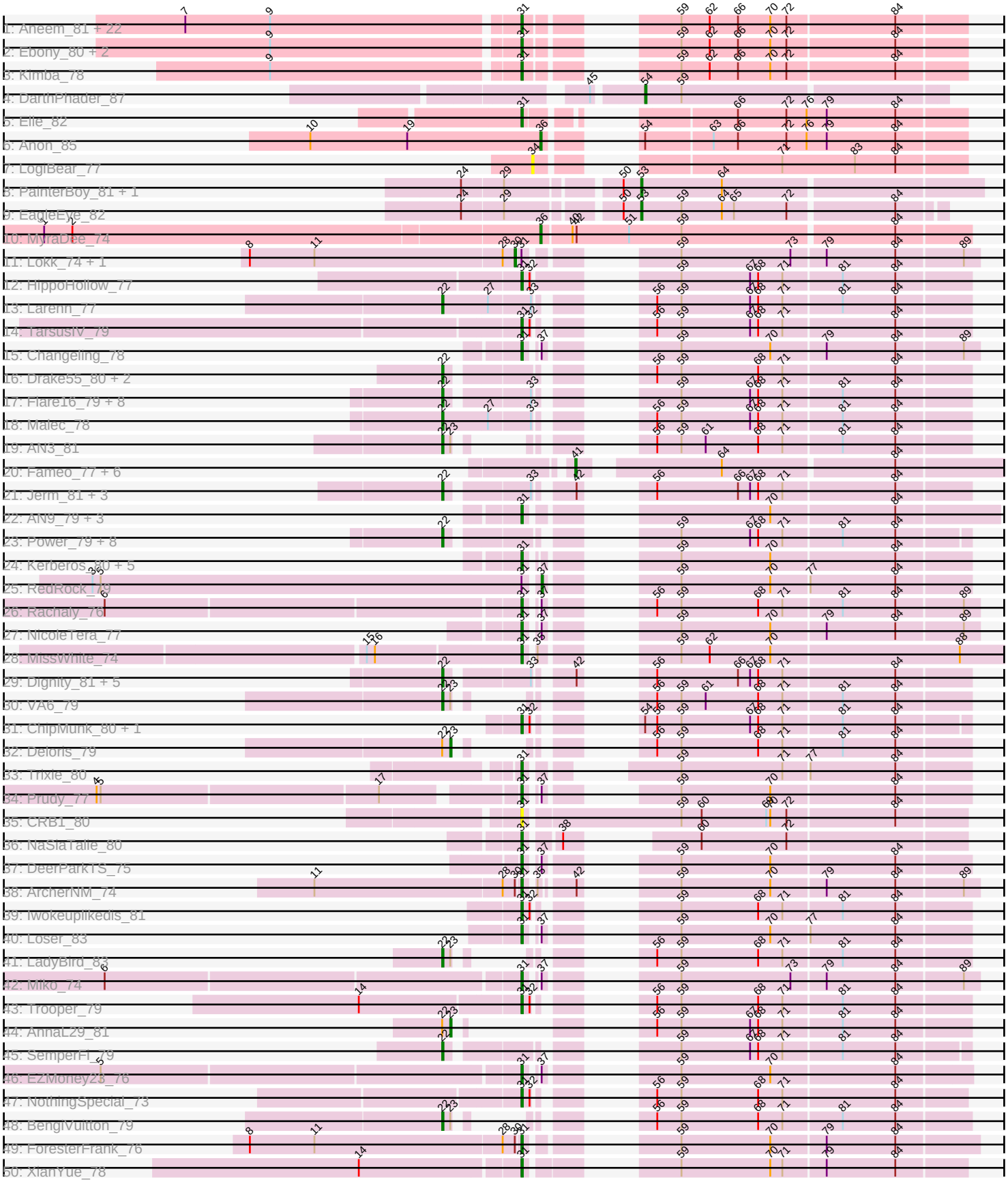
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1: Aneem_81 + 22
2: Ebony_80 + 2
3: Kimba_78
4: DarthPhader_87
5: Elle_82
6: Anon_85
7: LogiBear_77
8: PainterBoy_81 + 1
9: EagleEye_82
10: MyraDee_74
11: Lokk_74 + 1
12: HippoHollow_77
13: Larenn_77
14: TarsusIV_79
15: Changeling_78
16: Drake55_80 + 2
17: Flare16_79 + 8
18: Malec_78
19: AN3_81
20: Fameo_77 + 6
21: Jerm_81 + 3
22: AN9_79 + 3
23: Power_79 + 8
24: Kerberos_80 + 5
25: RedRock_79
26: Rachaly_78
27: NicoleTera_77
28: MissWhite_74
29: Dignity_81 + 5
30: VA6_79
31: ChipMunk_80 + 1
32: Delonis_79
33: Trixie_80
34: Prudy_77
35: CRB1_80
36: NaSlaTalle_80
37: DeerParkTS_75
38: ArcherNM_74
39: Iwokeuplikedis_81
40: Loser_83
41: LadyBird_83
42: Miko_74
43: Trooper_79
44: AnnaL29_81
45: SemperFi_79
46: EzMoney28_76
47: NothingSpecial_73
48: BengiVuitton_79
49: ForesterFrank_76
50: XianYue_78

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51: KingCyrus_78
52: Colin_80
53: JoshKayV_81
54: Acolyte_74
55: BiancaTM92_76
56: LionsBait_77
57: MiculOcigas_79
58: Anthony_75
59: FatCactus_74
60: Kinmap_82
61: Chargerpower_77
62: JHC117_78 + 56
63: Rolmos_82 + 6
64: Louie6_82 + 5
65: Gemma_80 + 11
66: Pistachio_83 + 5
67: HelDan_83
68: BabyRay_82
69: Cat_69
70: Kalb97_83
71: OlanP_81
72: SoilDragon_83
73: JeppiNRM_83
74: Vix_79 + 1
75: Soshan_85 + 1
76: Jobu08_79
77: Idleandcover1_83 + 1
78: Thela_70 + 5
79: PetterN_79 + 5
80: Elfiger69_77
81: Bonamassa_71 + 1
82: Midas2_68 + 2
83: Tiger_70 + 11
84: Swirley_71
85: Mlicery_71 + 5
86: Zolita_70 + 2
87: UnionJack_75 + 1
88: SuperCallie99_78 + 13
89: Cookiedough_81 + 7
90: CloudWang3_81 + 4
91: Jordennis_79
92: Phamo_82 + 1
93: GreedyLawyer_76
94: NearlyHeadless_87
95: Groundhog_84 + 6
96: Saintus_82 + 2
97: Phillis_83

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 347160 Report

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

Pham number 347160 has 315 members, 14 are drafts.

Phages represented in each track:
• Track 1 : Aneem_81, Wolpertinger_78, Mabel_80, Lucivia_81, Orange_80, Sham4_76, MaCh_80, Fibonacci_79, Bud_75, Et2Brutus_79, Gilberta_77, Timothy_80, Snape_80, TinyTimmy_79, Joselito_79, Salz_75, Insomnia_79, Flaverint_81, Munch_80, Mulciber_78, Hutc2_76, Jabith_79, Petersenfast_76
• Track 2 : Ebony_80, Saskia_78, Bachome_78
• Track 3 : Kimba_78
• Track 4 : DarthPhader_87
• Track 5 : Elle_82
• Track 6 : Anon_85
• Track 7 : LogiBear_77
• Track 8 : PainterBoy_81, Lucyedi_81
• Track 9 : EagleEye_82
• Track 10 : MyraDee_74
• Track 11 : Lokk_74, BobSwaget_73
• Track 12 : HippoHollow_77
• Track 13 : Larenn_77
• Track 14 : TarsusIV_79
• Track 15 : Changeling_78
• Track 16 : Drake55_80, Piro94_78, HarryHoudini_79
• Track 17 : Flare16_79, Centaur_79, Equemioh13_79, Baehexic_78, WideWale_80, Updawg_80, Gratitude_79, Terrific_80, Sknot_79
• Track 18 : Malec_78
• Track 19 : AN3_81
• Track 20 : Fameo_77, Anselm_80, QueenB2_76, Dalmatian_79, Heffalump_76, DudeLittle_77, Retro23_79
• Track 21 : Jerm_81, Agape74_81, LilTurb_80, Bugsy_81
• Track 22 : AN9_79, VC3_78, ANI8_79, C3_72
• Track 23 : Power_79, FiringLine_79, Georgie2_81, First_0080, 20ES_81, SweetiePie_79, Crucio_79, QueenBeesly_79, SnapTap_79
• Track 24 : Kerberos_80, Travvers_80, DBQu4n_80, Tomathan_80, StarStuff_80, Pomar16_80
• Track 25 : RedRock_79
• Track 26 : Rachaly_76
• Track 27 : NicoleTera_77
• Track 28 : MissWhite_74
• Track 29 : Dignity_81, Leviathan_81, Turbido_80, Whabigail7_79, AbbyPaige_81, Smeagan_82

• Track 30 : VA6_79
• Track 31 : ChipMunk_80, EvilGenius_79
• Track 32 : Deloris_79
• Track 33 : Trixie_80
• Track 34 : Prudy_77
• Track 35 : CRB1_80
• Track 36 : NaSiaTalie_80
• Track 37 : DeerParkTS_75
• Track 38 : ArcherNM_74
• Track 39 : Iwokeuplikedis_81
• Track 40 : Loser_83
• Track 41 : LadyBird_83
• Track 42 : Miko_74
• Track 43 : Trooper_79
• Track 44 : AnnaL29_81
• Track 45 : SemperFi_79
• Track 46 : EZMoney23_76
• Track 47 : NothingSpecial_73
• Track 48 : BengiVuitton_79
• Track 49 : ForesterFrank_76
• Track 50 : XianYue_78
• Track 51 : KingCyrus_78
• Track 52 : Colin_80
• Track 53 : JoshKayV_81
• Track 54 : Acolyte_74
• Track 55 : BiancaTri92_76
• Track 56 : LionsBait_77
• Track 57 : MiculUcigas_79
• Track 58 : Anthony_75
• Track 59 : FatCactus_74
• Track 60 : Kinmap_82
• Track 61 : Chargerpower_77
• Track 62 : JHC117_78, HashRod_84, LugYA_86, Grum1_83, Mainiac_82, Grub_81, MoneyMay_83, MarQuardt_83, Malinsilva_86, Phoxy_83, Beauxregard13_82, Cullens_84, Grif_81, Marie_81, Sabinator_81, EpicPhail_84, JenCasNa_84, Stagni_80, LarryKay_83, Lilith_81, Sabia_81, Farber_83, Wooldri_85, PGHhamlin_85, Lowa_83, Snickers_83, Watson_82, PotatoSplit_84, Pembroke_83, Spike509_83, Bigflo_81, Microwolf_79, SoYo_80, Gwennie_83, MuchMore_86, Ollie_83, Dieselweasel_84, MadMarie_81, Hercules11_83, Methuselah_76, Taurus_84, Croquant_80, Montavir_78, Aglet_84, GingkoMaracino_83, BreSam8_83, Tiffany_82, Colbster_79, Penny1_83, P28Green_83, DaHudson_82, Fernando_84, GtownJaz_83, Rummer_82, AugsMagnumOpus_86, Phoebe_84, LBerry_84
• Track 63 : Roimos_82, Heathen_82, Goose1D_76, Scout_82, Puppy_84, Fred313_80, Kachowdy_84
• Track 64 : Louie6_82, KADY_80, Bxz2_78, TinyPebbles_82, BuzzBuzz_77, Daishi_82
• Track 65 : Gemma_80, Groupthink_83, PhishRPhriends_79, ClownCar_82, Kalnoky_83, Reba_78, Pawn_81, Manu_82, Calvinny_82, Marius_83, HaveUMetTed_83, Heliosoles_80
• Track 66 : Pistachio_83, SaturnRing_84, Clammy_85, BlueBird_85, Giroux_86, Bugatti_86
• Track 67 : HelDan_83
• Track 68 : BabyRay_82

• Track 69 : Cat_69
• Track 70 : Kalb97_83
• Track 71 : OlanP_81
• Track 72 : SoilDragon_83
• Track 73 : JeppNRM_83
• Track 74 : Vix_79, Anubis_87
• Track 75 : Soshari_85, StepMih_83
• Track 76 : Jobu08_79
• Track 77 : Idleandcovert_83, TNguyen7_84
• Track 78 : Theia_70, Bluefalcon_67, Dublin_71, Archetta_69, Micasa_71, MarysWell_71
• Track 79 : PetterN_79, Benedict_75, Naca_74, Airmid_74, Jabiru_73, Scorpia_74
• Track 80 : ElTiger69_77
• Track 81 : Bonamassa_71, HuhtaEnerson15_69
• Track 82 : Midas2_68, Cuco_70, Coog_68
• Track 83 : Tiger_70, PickleBack_72, ForGetIt_72, Discoknowium_69, Phlorence_70, Jovo_71, Florence4_69, Conspiracy_72, AgentM_71, Lev2_72, Florence1_68, Aragog_71
• Track 84 : Swirley_71
• Track 85 : Milcery_71, Prinashe11_70, Twigg_70, Tarynearal_70, LittleCherry_70, George_66
• Track 86 : Zolita_70, SydNat_71, Ghoulboy_71
• Track 87 : UnionJack_75, Chadwick_75
• Track 88 : SuperCallie99_78, Imbriano_82, DaVinci_79, EricB_80, McFly_81, Dorothea_81, Candra_82, Kazan_82, BABullseye_74, Rifter_81, SmellyB_81, Kipper29_81, VohminGhazi_81, Chartreuse_80
• Track 89 : Cookiedough_81, DelvinSonDorr_77, Neeharika16_80, Isiphiwo_78, Hoot_76, Newrala_80, Pmask_80, SuperAwesome_81
• Track 90 : CloudWang3_81, Hexamo_80, Gladiator_77, Hammer_81, Gruunaga_80
• Track 91 : Jordennis_79
• Track 92 : Priamo_82, Blinn1_84
• Track 93 : GreedyLawyer_76
• Track 94 : NearlyHeadless_87
• Track 95 : Groundhog_84, Astro_86, Caitlin_85, Expelliarmus_83, Roary_88, Dixon_85, Smeadley_86
• Track 96 : Saintus_82, Stephig9_85, Danforth_87
• Track 97 : Phillis_83

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

The start number called the most often in the published annotations is 54, it was called in 91 of the 301 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Aglet_84, Anubis_87, AugsMagnumOpus_86, Beauxregard13_82, Bigflo_81, BlueBird_85, BreSam8_83, Bugatti_86, BuzzBuzz_77, Bxz2_78, Calvinny_82, Cat_69, Clammy_85, ClownCar_82, Colbster_79, Croquant_80, Cullens_84, DaHudson_82, Daishi_82, DarthPhader_87, Dieselweasel_84, EpicPhail_84, Farber_83, Fernando_84, Fred313_80, Gemma_80, GingkoMaracino_83, Giroux_86, Goose1D_76, Grif_81, Groupthink_83, Grub_81, Grum1_83, GtownJaz_83,

Gwennie_83, HashRod_84, HaveUMetTed_83, Heathen_82, Heliosoles_80, Hercules11_83, JHC117_78, JenCasNa_84, JeppNRM_83, Jobu08_79, KADY_80, Kachowdy_84, Kalb97_83, Kalnoky_83, LBerry_84, LarryKay_83, Lilith_81, Louie6_82, Lowa_83, LugYA_86, MadMarie_81, Mainiac_82, Malinsilva_86, Manu_82, MarQuardt_83, Marie_81, Marius_83, Methuselah_76, Microwolf_79, MoneyMay_83, Montavir_78, MuchMore_86, OlanP_81, Ollie_83, P28Green_83, PGHhamlin_85, Pawn_81, Pembroke_83, Penny1_83, PhishRPhriends_79, Phoebe_84, Phoxy_83, Pistachio_83, PotatoSplit_84, Puppy_84, Reba_78, Roimos_82, Rummer_82, Sabia_81, Sabinator_81, SaturnRing_84, Scout_82, Snickers_83, SoYo_80, SoilDragon_83, Spike509_83, Stagni_80, Taurus_84, Tiffany_82, TinyPebbles_82, Vix_79, Watson_82, Wooldri_85,

Genes that have the "Most Annotated" start but do not call it:
• Anon_85, BabyRay_82, Bonamassa_71, ChipMunk_80, Danforth_87, ElTiger69_77, EvilGenius_79, George_66, HelDan_83, HuhtaEnerson15_69, Idleandcovert_83, LittleCherry_70, Milcery_71, Prinashe11_70, Saintus_82, Soshari_85, StepMih_83, Stephig9_85, Swirley_71, TNguyen7_84, Tarynearal_70, Twigg_70,

Genes that do not have the "Most Annotated" start:
• 20ES_81, AN3_81, AN9_79, ANI8_79, AbbyPaige_81, Acolyte_74, Agape74_81, AgentM_71, Airmid_74, Aneem_81, AnnaL29_81, Anselm_80, Anthony_75, Aragog_71, ArcherNM_74, Archetta_69, Astro_86, BABullseye_74, Bachome_78, Baehexic_78, Benedict_75, BengiVuitton_79, BiancaTri92_76, Blinn1_84, Bluefalcon_67, BobSwaget_73, Bud_75, Bugsy_81, C3_72, CRB1_80, Caitlin_85, Candra_82, Centaur_79, Chadwick_75, Changeling_78, Chargerpower_77, Chartreuse_80, CloudWang3_81, Colin_80, Conspiracy_72, Coog_68, Cookiedough_81, Crucio_79, Cuco_70, DBQu4n_80, DaVinci_79, Dalmatian_79, DeerParkTS_75, Deloris_79, DelvinSonDorr_77, Dignity_81, Discoknowium_69, Dixon_85, Dorothea_81, Drake55_80, Dublin_71, DudeLittle_77, EZMoney23_76, EagleEye_82, Ebony_80, Elle_82, Equemioh13_79, EricB_80, Et2Brutus_79, Expelliarmus_83, Fameo_77, FatCactus_74, Fibonacci_79, FiringLine_79, First_0080, Flare16_79, Flaverint_81, Florence1_68, Florence4_69, ForGetIt_72, ForesterFrank_76, Georgie2_81, Ghoulboy_71, Gilberta_77, Gladiator_77, Gratitude_79, GreedyLawyer_76, Groundhog_84, Gruunaga_80, Hammer_81, HarryHoudini_79, Heffalump_76, Hexamo_80, HippoHollow_77, Hoot_76, Hutc2_76, Imbriano_82, Insomnia_79, Isiphiwo_78, Iwokeuplikedis_81, Jabiru_73, Jabith_79, Jerm_81, Jordennis_79, Joselito_79, JoshKayV_81, Jovo_71, Kazan_82, Kerberos_80, Kimba_78, KingCyrus_78, Kinmap_82, Kipper29_81, LadyBird_83, Larenn_77, Lev2_72, Leviathan_81, LilTurb_80, LionsBait_77, LogiBear_77, Lokk_74, Loser_83, Lucivia_81, Lucyedi_81, MaCh_80, Mabel_80, Malec_78, MarysWell_71, McFly_81, Micasa_71, MiculUcigas_79, Midas2_68, Miko_74, MissWhite_74, Mulciber_78, Munch_80, MyraDee_74, NaSiaTalie_80, Naca_74, NearlyHeadless_87, Neeharika16_80, Newrala_80, NicoleTera_77, NothingSpecial_73, Orange_80, PainterBoy_81, Petersenfast_76, PetterN_79, Phillis_83, Phlorence_70, PickleBack_72, Piro94_78, Pmask_80, Pomar16_80, Power_79, Priamo_82, Prudy_77, QueenB2_76, QueenBeesly_79, Rachaly_76, RedRock_79, Retro23_79, Rifter_81, Roary_88, Salz_75, Saskia_78, Scorpia_74, SemperFi_79, Sham4_76, Sknot_79, Smeadley_86, Smeagan_82, SmellyB_81, SnapTap_79, Snape_80, StarStuff_80, SuperAwesome_81, SuperCallie99_78, SweetiePie_79, SydNat_71, TarsusIV_79, Terrific_80, Theia_70, Tiger_70, Timothy_80, TinyTimmy_79, Tomathan_80, Travvers_80, Trixie_80, Trooper_79, Turbido_80, UnionJack_75, Updawg_80, VA6_79, VC3_78, VohminGhazi_81, Whabigail7_79, WideWale_80, Wolpertinger_78, XianYue_78, Zolita_70,

Summary by start number:

Start 22:
• Found in 43 of 315 (13.7%) of genes in pham
• Manual Annotations of this start: 39 of 301
• Called 95.3% of time when present
• Phage (with cluster) where this start called: 20ES_81 (A2), AN3_81 (A2), AbbyPaige_81 (A2), Agape74_81 (A2), Baehexic_78 (A2), BengiVuitton_79 (A2), Bugsy_81 (A2), Centaur_79 (A2), Crucio_79 (A2), Dignity_81 (A2), Drake55_80 (A2), Equemioh13_79 (A2), FiringLine_79 (A2), First_0080 (A2), Flare16_79 (A2), Georgie2_81 (A2), Gratitude_79 (A2), HarryHoudini_79 (A2), Jerm_81 (A2), JoshKayV_81 (A2), KingCyrus_78 (A2), LadyBird_83 (A2), Larenn_77 (A2), Leviathan_81 (A2), LilTurb_80 (A2), Malec_78 (A2), MiculUcigas_79 (A2), Piro94_78 (A2), Power_79 (A2), QueenBeesly_79 (A2), SemperFi_79 (A2), Sknot_79 (A2), Smeagan_82 (A2), SnapTap_79 (A2), SweetiePie_79 (A2), Terrific_80 (A2), Turbido_80 (A2), Updawg_80 (A2), VA6_79 (A2), Whabigail7_79 (A2), WideWale_80 (A2),

Start 23:
• Found in 6 of 315 (1.9%) of genes in pham
• Manual Annotations of this start: 2 of 301
• Called 33.3% of time when present
• Phage (with cluster) where this start called: AnnaL29_81 (A2), Deloris_79 (A2),

Start 25:
• Found in 9 of 315 (2.9%) of genes in pham
• Manual Annotations of this start: 1 of 301
• Called 11.1% of time when present
• Phage (with cluster) where this start called: GreedyLawyer_76 (A6),

Start 30:
• Found in 4 of 315 (1.3%) of genes in pham
• Manual Annotations of this start: 2 of 301
• Called 50.0% of time when present
• Phage (with cluster) where this start called: BobSwaget_73 (A2), Lokk_74 (A2),

Start 31:
• Found in 69 of 315 (21.9%) of genes in pham
• Manual Annotations of this start: 64 of 301
• Called 95.7% of time when present
• Phage (with cluster) where this start called: AN9_79 (A2), ANI8_79 (A2), Acolyte_74 (A2), Aneem_81 (A11), ArcherNM_74 (A2), Bachome_78 (A11), BiancaTri92_76 (A2), Blinn1_84 (A6), Bud_75 (A11), C3_72 (A2), CRB1_80 (A2), Changeling_78 (A2), ChipMunk_80 (A2), Colin_80 (A2), DBQu4n_80 (A2), DeerParkTS_75 (A2), EZMoney23_76 (A2), Ebony_80 (A11), Elle_82 (A15), Et2Brutus_79 (A11), EvilGenius_79 (A2), Fibonacci_79 (A11), Flaverint_81 (A11), ForesterFrank_76 (A2), Gilberta_77 (A11), HippoHollow_77 (A2), Hutc2_76 (A11), Insomnia_79 (A11), Iwokeuplikedis_81 (A2), Jabith_79 (A11), Joselito_79 (A11), Kerberos_80 (A2), Kimba_78 (A11), LionsBait_77 (A2), Loser_83 (A2), Lucivia_81 (A11), MaCh_80 (A11), Mabel_80 (A11), Miko_74 (A2), MissWhite_74 (A2), Mulciber_78 (A11), Munch_80 (A11), NaSiaTalie_80 (A2), NicoleTera_77 (A2), NothingSpecial_73 (A2), Orange_80 (A11), Petersenfast_76 (A11), Pomar16_80 (A2), Priamo_82 (A6),

Prudy_77 (A2), Rachaly_76 (A2), Salz_75 (A11), Saskia_78 (A11), Sham4_76 (A11), Snape_80 (A11), StarStuff_80 (A2), TarsusIV_79 (A2), Timothy_80 (A11), TinyTimmy_79 (A11), Tomathan_80 (A2), Travvers_80 (A2), Trixie_80 (A2), Trooper_79 (A2), VC3_78 (A2), Wolpertinger_78 (A11), XianYue_78 (A2),

Start 34:
• Found in 1 of 315 (0.3%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: LogiBear_77 (A15),

Start 36:
• Found in 4 of 315 (1.3%) of genes in pham
• Manual Annotations of this start: 4 of 301
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Anon_85 (A15), Chargerpower_77 (A22), Kinmap_82 (A21), MyraDee_74 (A18),

Start 37:
• Found in 9 of 315 (2.9%) of genes in pham
• Manual Annotations of this start: 1 of 301
• Called 11.1% of time when present
• Phage (with cluster) where this start called: RedRock_79 (A2),

Start 38:
• Found in 19 of 315 (6.0%) of genes in pham
• Manual Annotations of this start: 4 of 301
• Called 21.1% of time when present
• Phage (with cluster) where this start called: BabyRay_82 (A3), HelDan_83 (A3), Idleandcovert_83 (A3), TNguyen7_84 (A3),

Start 39:
• Found in 3 of 315 (1.0%) of genes in pham
• Manual Annotations of this start: 3 of 301
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Danforth_87 (A8), Saintus_82 (A8), Stephig9_85 (A8),

Start 41:
• Found in 7 of 315 (2.2%) of genes in pham
• Manual Annotations of this start: 7 of 301
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Anselm_80 (A2), Dalmatian_79 (A2), DudeLittle_77 (A2), Fameo_77 (A2), Heffalump_76 (A2), QueenB2_76 (A2), Retro23_79 (A2),

Start 42:
• Found in 46 of 315 (14.6%) of genes in pham
• Manual Annotations of this start: 32 of 301
• Called 73.9% of time when present
• Phage (with cluster) where this start called: AgentM_71 (A5), Aragog_71 (A5), Archetta_69 (A5), Bluefalcon_67 (A5), Bonamassa_71 (A5), Conspiracy_72 (A5), Coog_68 (A5), Cuco_70 (A5), Discoknowium_69 (A5), Dublin_71 (A5), ElTiger69_77

(A5), Florence1_68 (A5), Florence4_69 (A5), ForGetIt_72 (A5), George_66 (A5), Ghoulboy_71 (A5), HuhtaEnerson15_69 (A5), Jovo_71 (A5), Lev2_72 (A5), LittleCherry_70 (A5), MarysWell_71 (A5), Micasa_71 (A5), Midas2_68 (A5), Milcery_71 (A5), Phlorence_70 (A5), PickleBack_72 (A5), Prinashe11_70 (A5), Swirley_71 (A5), SydNat_71 (A5), Tarynearal_70 (A5), Theia_70 (A5), Tiger_70 (A5), Twigg_70 (A5), Zolita_70 (A5),

Start 43:
• Found in 9 of 315 (2.9%) of genes in pham
• Manual Annotations of this start: 8 of 301
• Called 88.9% of time when present
• Phage (with cluster) where this start called: Airmid_74 (A5), Benedict_75 (A5), Chadwick_75 (A5), Jabiru_73 (A5), Naca_74 (A5), PetterN_79 (A5), Scorpia_74 (A5), UnionJack_75 (A5),

Start 48:
• Found in 10 of 315 (3.2%) of genes in pham
• Manual Annotations of this start: 9 of 301
• Called 90.0% of time when present
• Phage (with cluster) where this start called: Astro_86 (A8), Caitlin_85 (A8), Dixon_85 (A8), Expelliarmus_83 (A8), Groundhog_84 (A8), NearlyHeadless_87 (A8), Phillis_83 (A8), Roary_88 (A8), Smeadley_86 (A8),

Start 52:
• Found in 2 of 315 (0.6%) of genes in pham
• Manual Annotations of this start: 2 of 301
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Anthony_75 (A20), FatCactus_74 (A20),

Start 53:
• Found in 32 of 315 (10.2%) of genes in pham
• Manual Annotations of this start: 30 of 301
• Called 96.9% of time when present
• Phage (with cluster) where this start called: BABullseye_74 (A6), Candra_82 (A6), Chartreuse_80 (A6), CloudWang3_81 (A6), Cookiedough_81 (A6), DaVinci_79 (A6), DelvinSonDorr_77 (A6), Dorothea_81 (A6), EagleEye_82 (A16), EricB_80 (A6), Gladiator_77 (A6), Gruunaga_80 (A6), Hammer_81 (A6), Hexamo_80 (A6), Hoot_76 (A6), Imbriano_82 (A6), Isiphiwo_78 (A6), Jordennis_79 (A6), Kazan_82 (A6), Kipper29_81 (A6), Lucyedi_81 (A16), McFly_81 (A6), Neeharika16_80 (A6), Newrala_80 (A6), PainterBoy_81 (A16), Pmask_80 (A6), Rifter_81 (A6), SmellyB_81 (A6), SuperAwesome_81 (A6), SuperCallie99_78 (A6), VohminGhazi_81 (A6),

Start 54:
• Found in 119 of 315 (37.8%) of genes in pham
• Manual Annotations of this start: 91 of 301
• Called 81.5% of time when present
• Phage (with cluster) where this start called: Aglet_84 (A3), Anubis_87 (A3), AugsMagnumOpus_86 (A3), Beauxregard13_82 (A3), Bigflo_81 (A3), BlueBird_85 (A3), BreSam8_83 (A3), Bugatti_86 (A3), BuzzBuzz_77 (A3), Bxz2_78 (A3), Calvinny_82 (A3), Cat_69 (A3), Clammy_85 (A3), ClownCar_82 (A3), Colbster_79 (A3), Croquant_80 (A3), Cullens_84 (A3), DaHudson_82 (A3), Daishi_82 (A3), DarthPhader_87 (A12), Dieselweasel_84 (A3), EpicPhail_84 (A3), Farber_83 (A3), Fernando_84 (A3), Fred313_80 (A3), Gemma_80 (A3), GingkoMaracino_83 (A3),

Giroux_86 (A3), Goose1D_76 (A3), Grif_81 (A3), Groupthink_83 (A3), Grub_81 (A3), Grum1_83 (A3), GtownJaz_83 (A3), Gwennie_83 (A3), HashRod_84 (A3), HaveUMetTed_83 (A3), Heathen_82 (A3), Heliosoles_80 (A3), Hercules11_83 (A3), JHC117_78 (A3), JenCasNa_84 (A3), JeppNRM_83 (A3), Jobu08_79 (A3), KADY_80 (A3), Kachowdy_84 (A3), Kalb97_83 (A3), Kalnoky_83 (A3), LBerry_84 (A3), LarryKay_83 (A3), Lilith_81 (A3), Louie6_82 (A3), Lowa_83 (A3), LugYA_86 (A3), MadMarie_81 (A3), Mainiac_82 (A3), Malinsilva_86 (A3), Manu_82 (A3), MarQuardt_83 (A3), Marie_81 (A3), Marius_83 (A3), Methuselah_76 (A3), Microwolf_79 (A3), MoneyMay_83 (A3), Montavir_78 (A3), MuchMore_86 (A3), OlanP_81 (A3), Ollie_83 (A3), P28Green_83 (A3), PGHhamlin_85 (A3), Pawn_81 (A3), Pembroke_83 (A3), Penny1_83 (A3), PhishRPhriends_79 (A3), Phoebe_84 (A3), Phoxy_83 (A3), Pistachio_83 (A3), PotatoSplit_84 (A3), Puppy_84 (A3), Reba_78 (A3), Roimos_82 (A3), Rummer_82 (A3), Sabia_81 (A3), Sabinator_81 (A3), SaturnRing_84 (A3), Scout_82 (A3), Snickers_83 (A3), SoYo_80 (A3), SoilDragon_83 (A3), Spike509_83 (A3), Stagni_80 (A3), Taurus_84 (A3), Tiffany_82 (A3), TinyPebbles_82 (A3), Vix_79 (A3), Watson_82 (A3), Wooldri_85 (A3),

Start 58:
• Found in 72 of 315 (22.9%) of genes in pham
• Manual Annotations of this start: 2 of 301
• Called 2.8% of time when present
• Phage (with cluster) where this start called: Soshari_85 (A3), StepMih_83 (A3),

Summary by clusters:

There are 13 clusters represented in this pham: A15, A20, A22, A16, A11, A21, A12, A18, A3, A2, A5, A6, A8,

Info for manual annotations of cluster A11:
•Start number 31 was manually annotated 27 times for cluster A11.

Info for manual annotations of cluster A12:
•Start number 54 was manually annotated 1 time for cluster A12.

Info for manual annotations of cluster A15:
•Start number 31 was manually annotated 1 time for cluster A15.
•Start number 36 was manually annotated 1 time for cluster A15.

Info for manual annotations of cluster A16:
•Start number 53 was manually annotated 3 times for cluster A16.

Info for manual annotations of cluster A18:
•Start number 36 was manually annotated 1 time for cluster A18.

Info for manual annotations of cluster A2:
•Start number 22 was manually annotated 39 times for cluster A2.
•Start number 23 was manually annotated 2 times for cluster A2.
•Start number 30 was manually annotated 2 times for cluster A2.
•Start number 31 was manually annotated 34 times for cluster A2.
•Start number 37 was manually annotated 1 time for cluster A2.
•Start number 41 was manually annotated 7 times for cluster A2.

Info for manual annotations of cluster A20:

•Start number 52 was manually annotated 2 times for cluster A20.

Info for manual annotations of cluster A21:
•Start number 36 was manually annotated 1 time for cluster A21.

Info for manual annotations of cluster A22:
•Start number 36 was manually annotated 1 time for cluster A22.

Info for manual annotations of cluster A3:
•Start number 38 was manually annotated 4 times for cluster A3.
•Start number 54 was manually annotated 90 times for cluster A3.
•Start number 58 was manually annotated 2 times for cluster A3.

Info for manual annotations of cluster A5:
•Start number 42 was manually annotated 32 times for cluster A5.
•Start number 43 was manually annotated 8 times for cluster A5.

Info for manual annotations of cluster A6:
•Start number 25 was manually annotated 1 time for cluster A6.
•Start number 31 was manually annotated 2 times for cluster A6.
•Start number 53 was manually annotated 27 times for cluster A6.

Info for manual annotations of cluster A8:
•Start number 39 was manually annotated 3 times for cluster A8.
•Start number 48 was manually annotated 9 times for cluster A8.

Gene Information:

Gene: 20ES_81 Start: 46774, Stop: 46457, Start Num: 22
Candidate Starts for 20ES_81:
(Start: 22 @46774 has 39 MA's), (59, 46663), (67, 46612), (68, 46606), (71, 46588), (81, 46546), (84, 46507),

Gene: AN3_81 Start: 45387, Stop: 45106, Start Num: 22
Candidate Starts for AN3_81:
(Start: 22 @45387 has 39 MA's), (Start: 23 @45381 has 2 MA's), (56, 45333), (59, 45315), (61, 45297), (68, 45258), (71, 45240), (81, 45198), (84, 45159),

Gene: AN9_79 Start: 45517, Stop: 45221, Start Num: 31
Candidate Starts for AN9_79:
(Start: 31 @45517 has 64 MA's), (70, 45385), (84, 45295),

Gene: ANI8_79 Start: 45517, Stop: 45221, Start Num: 31
Candidate Starts for ANI8_79:
(Start: 31 @45517 has 64 MA's), (70, 45385), (84, 45295),

Gene: AbbyPaige_81 Start: 47049, Stop: 46729, Start Num: 22
Candidate Starts for AbbyPaige_81:
(Start: 22 @47049 has 39 MA's), (33, 46995), (Start: 42 @46974 has 32 MA's), (56, 46956), (66, 46896), (67, 46887), (68, 46881), (71, 46863), (84, 46782),

Gene: Acolyte_74 Start: 46022, Stop: 45753, Start Num: 31
Candidate Starts for Acolyte_74:
(Start: 31 @46022 has 64 MA's), (35, 46016), (71, 45884), (84, 45803),

Gene: Agape74_81 Start: 47043, Stop: 46723, Start Num: 22
Candidate Starts for Agape74_81:
(Start: 22 @47043 has 39 MA's), (33, 46989), (Start: 42 @46968 has 32 MA's), (56, 46950), (66, 46890), (67, 46881), (68, 46875), (71, 46857), (84, 46776),

Gene: AgentM_71 Start: 44359, Stop: 44114, Start Num: 42
Candidate Starts for AgentM_71:
(Start: 42 @44359 has 32 MA's), (55, 44323), (64, 44272), (67, 44251), (75, 44215),

Gene: Aglet_84 Start: 46272, Stop: 46042, Start Num: 54
Candidate Starts for Aglet_84:
(44, 46314), (Start: 54 @46272 has 91 MA's), (56, 46263), (Start: 58 @46251 has 2 MA's), (59, 46245), (70, 46179),

Gene: Airmid_74 Start: 45167, Stop: 44925, Start Num: 43
Candidate Starts for Airmid_74:
(Start: 43 @45167 has 8 MA's),

Gene: Aneem_81 Start: 45984, Stop: 45709, Start Num: 31
Candidate Starts for Aneem_81:
(7, 46224), (9, 46161), (Start: 31 @45984 has 64 MA's), (59, 45915), (62, 45894), (66, 45873), (70, 45849), (72, 45837), (84, 45759),

Gene: AnnaL29_81 Start: 47245, Stop: 46979, Start Num: 23
Candidate Starts for AnnaL29_81:
(Start: 22 @47251 has 39 MA's), (Start: 23 @47245 has 2 MA's), (56, 47206), (59, 47188), (67, 47137), (68, 47131), (71, 47113), (81, 47071), (84, 47032),

Gene: Anon_85 Start: 46676, Stop: 46413, Start Num: 36
Candidate Starts for Anon_85:
(10, 46847), (19, 46775), (Start: 36 @46676 has 4 MA's), (Start: 54 @46646 has 91 MA's), (63, 46598), (66, 46580), (72, 46544), (76, 46529), (79, 46514), (84, 46463),

Gene: Anselm_80 Start: 46936, Stop: 46634, Start Num: 41
Candidate Starts for Anselm_80:
(Start: 41 @46936 has 7 MA's), (64, 46846), (84, 46723),

Gene: Anthony_75 Start: 45522, Stop: 45256, Start Num: 52
Candidate Starts for Anthony_75:
(Start: 52 @45522 has 2 MA's), (57, 45507), (59, 45492), (78, 45396), (82, 45375), (84, 45339),

Gene: Anubis_87 Start: 46158, Stop: 45928, Start Num: 54
Candidate Starts for Anubis_87:
(44, 46200), (Start: 54 @46158 has 91 MA's), (Start: 58 @46137 has 2 MA's), (59, 46131), (70, 46065),

Gene: Aragog_71 Start: 44377, Stop: 44132, Start Num: 42
Candidate Starts for Aragog_71:
(Start: 42 @44377 has 32 MA's), (55, 44341), (64, 44290), (67, 44269), (75, 44233),

Gene: ArcherNM_74 Start: 46349, Stop: 46071, Start Num: 31
Candidate Starts for ArcherNM_74:
(11, 46499), (28, 46361), (Start: 30 @46352 has 2 MA's), (Start: 31 @46349 has 64 MA's), (35, 46343), (Start: 42 @46322 has 32 MA's), (59, 46286), (70, 46220), (79, 46181), (84, 46130), (89, 46082),

Gene: Archetta_69 Start: 44318, Stop: 44076, Start Num: 42
Candidate Starts for Archetta_69:
(Start: 42 @44318 has 32 MA's), (55, 44285), (56, 44282), (64, 44234), (67, 44213), (75, 44177), (80, 44153),

Gene: Astro_86 Start: 46880, Stop: 46638, Start Num: 48
Candidate Starts for Astro_86:
(Start: 48 @46880 has 9 MA's), (70, 46769), (71, 46760), (75, 46748),

Gene: AugsMagnumOpus_86 Start: 46260, Stop: 46030, Start Num: 54
Candidate Starts for AugsMagnumOpus_86:
(44, 46302), (Start: 54 @46260 has 91 MA's), (56, 46251), (Start: 58 @46239 has 2 MA's), (59, 46233), (70, 46167),

Gene: BABullseye_74 Start: 43477, Stop: 43256, Start Num: 53
Candidate Starts for BABullseye_74:
(Start: 53 @43477 has 30 MA's), (56, 43465),

Gene: BabyRay_82 Start: 46614, Stop: 46357, Start Num: 38
Candidate Starts for BabyRay_82:
(Start: 38 @46614 has 4 MA's), (Start: 54 @46593 has 91 MA's), (66, 46524), (70, 46500), (71, 46491), (84, 46413),

Gene: Bachome_78 Start: 44864, Stop: 44589, Start Num: 31
Candidate Starts for Bachome_78:
(9, 45041), (Start: 31 @44864 has 64 MA's), (59, 44795), (62, 44774), (66, 44753), (70, 44729), (72, 44717), (84, 44639),

Gene: Baehexic_78 Start: 46443, Stop: 46123, Start Num: 22
Candidate Starts for Baehexic_78:
(Start: 22 @46443 has 39 MA's), (33, 46389), (59, 46332), (67, 46281), (68, 46275), (71, 46257), (81, 46215), (84, 46176),

Gene: Beauxregard13_82 Start: 46275, Stop: 46045, Start Num: 54
Candidate Starts for Beauxregard13_82:
(44, 46317), (Start: 54 @46275 has 91 MA's), (56, 46266), (Start: 58 @46254 has 2 MA's), (59, 46248), (70, 46182),

Gene: Benedict_75 Start: 44899, Stop: 44657, Start Num: 43
Candidate Starts for Benedict_75:
(Start: 43 @44899 has 8 MA's),

Gene: BengiVuitton_79 Start: 46581, Stop: 46300, Start Num: 22
Candidate Starts for BengiVuitton_79:
(Start: 22 @46581 has 39 MA's), (Start: 23 @46575 has 2 MA's), (56, 46527), (59, 46509), (68, 46452), (71, 46434), (81, 46392), (84, 46353),

Gene: BiancaTri92_76 Start: 46264, Stop: 45950, Start Num: 31

Candidate Starts for BiancaTri92_76:
(Start: 31 @46264 has 64 MA's), (47, 46216), (59, 46159), (60, 46144), (70, 46093), (71, 46084), (72, 46081), (80, 46045), (84, 46003),

Gene: Bigflo_81 Start: 46271, Stop: 46041, Start Num: 54
Candidate Starts for Bigflo_81:
(44, 46313), (Start: 54 @46271 has 91 MA's), (56, 46262), (Start: 58 @46250 has 2 MA's), (59, 46244), (70, 46178),

Gene: Blinn1_84 Start: 45891, Stop: 45631, Start Num: 31
Candidate Starts for Blinn1_84:
(Start: 31 @45891 has 64 MA's), (59, 45831), (60, 45816), (72, 45753), (84, 45675), (87, 45636),

Gene: BlueBird_85 Start: 47028, Stop: 46792, Start Num: 54
Candidate Starts for BlueBird_85:
(Start: 38 @47049 has 4 MA's), (Start: 54 @47028 has 91 MA's), (66, 46959), (71, 46926), (84, 46848),

Gene: Bluefalcon_67 Start: 44317, Stop: 44075, Start Num: 42
Candidate Starts for Bluefalcon_67:
(Start: 42 @44317 has 32 MA's), (55, 44284), (56, 44281), (64, 44233), (67, 44212), (75, 44176), (80, 44152),

Gene: BobSwaget_73 Start: 44446, Stop: 44162, Start Num: 30
Candidate Starts for BobSwaget_73:
(8, 44641), (11, 44593), (28, 44455), (Start: 30 @44446 has 2 MA's), (Start: 31 @44443 has 64 MA's), (59, 44377), (73, 44296), (79, 44272), (84, 44221), (89, 44173),

Gene: Bonamassa_71 Start: 44547, Stop: 44302, Start Num: 42
Candidate Starts for Bonamassa_71:
(Start: 42 @44547 has 32 MA's), (Start: 54 @44517 has 91 MA's), (75, 44403),

Gene: BreSam8_83 Start: 46265, Stop: 46035, Start Num: 54
Candidate Starts for BreSam8_83:
(44, 46307), (Start: 54 @46265 has 91 MA's), (56, 46256), (Start: 58 @46244 has 2 MA's), (59, 46238), (70, 46172),

Gene: Bud_75 Start: 44421, Stop: 44146, Start Num: 31
Candidate Starts for Bud_75:
(7, 44661), (9, 44598), (Start: 31 @44421 has 64 MA's), (59, 44352), (62, 44331), (66, 44310), (70, 44286), (72, 44274), (84, 44196),

Gene: Bugatti_86 Start: 47028, Stop: 46792, Start Num: 54
Candidate Starts for Bugatti_86:
(Start: 38 @47049 has 4 MA's), (Start: 54 @47028 has 91 MA's), (66, 46959), (71, 46926), (84, 46848),

Gene: Bugsy_81 Start: 47094, Stop: 46774, Start Num: 22
Candidate Starts for Bugsy_81:
(Start: 22 @47094 has 39 MA's), (33, 47040), (Start: 42 @47019 has 32 MA's), (56, 47001), (66, 46941), (67, 46932), (68, 46926), (71, 46908), (84, 46827),

Gene: BuzzBuzz_77 Start: 46300, Stop: 46070, Start Num: 54
Candidate Starts for BuzzBuzz_77:

(44, 46342), (Start: 54 @46300 has 91 MA's), (Start: 58 @46279 has 2 MA's), (59, 46273), (70, 46207), (71, 46198),

Gene: Bxz2_78 Start: 46307, Stop: 46077, Start Num: 54
Candidate Starts for Bxz2_78:
(44, 46349), (Start: 54 @46307 has 91 MA's), (Start: 58 @46286 has 2 MA's), (59, 46280), (70, 46214), (71, 46205),

Gene: C3_72 Start: 45517, Stop: 45221, Start Num: 31
Candidate Starts for C3_72:
(Start: 31 @45517 has 64 MA's), (70, 45385), (84, 45295),

Gene: CRB1_80 Start: 47036, Stop: 46719, Start Num: 31
Candidate Starts for CRB1_80:
(Start: 31 @47036 has 64 MA's), (59, 46925), (60, 46910), (69, 46862), (70, 46859), (72, 46847), (84, 46769),

Gene: Caitlin_85 Start: 46572, Stop: 46330, Start Num: 48
Candidate Starts for Caitlin_85:
(Start: 48 @46572 has 9 MA's), (70, 46461), (71, 46452), (75, 46440),

Gene: Calvinny_82 Start: 46083, Stop: 45853, Start Num: 54
Candidate Starts for Calvinny_82:
(21, 46233), (44, 46125), (49, 46107), (Start: 54 @46083 has 91 MA's), (66, 46014), (70, 45990), (84, 45903),

Gene: Candra_82 Start: 45172, Stop: 44951, Start Num: 53
Candidate Starts for Candra_82:
(Start: 53 @45172 has 30 MA's), (56, 45160),

Gene: Cat_69 Start: 44324, Stop: 44088, Start Num: 54
Candidate Starts for Cat_69:
(Start: 38 @44345 has 4 MA's), (Start: 54 @44324 has 91 MA's), (66, 44255), (70, 44231), (71, 44222), (84, 44144),

Gene: Centaur_79 Start: 46321, Stop: 46001, Start Num: 22
Candidate Starts for Centaur_79:
(Start: 22 @46321 has 39 MA's), (33, 46267), (59, 46210), (67, 46159), (68, 46153), (71, 46135), (81, 46093), (84, 46054),

Gene: Chadwick_75 Start: 44643, Stop: 44401, Start Num: 43
Candidate Starts for Chadwick_75:
(Start: 43 @44643 has 8 MA's), (55, 44610),

Gene: Changeling_78 Start: 46920, Stop: 46642, Start Num: 31
Candidate Starts for Changeling_78:
(Start: 31 @46920 has 64 MA's), (Start: 37 @46914 has 1 MA's), (59, 46857), (70, 46791), (79, 46752), (84, 46701), (89, 46653),

Gene: Chargerpower_77 Start: 44887, Stop: 44654, Start Num: 36
Candidate Starts for Chargerpower_77:
(20, 44971), (Start: 36 @44887 has 4 MA's), (59, 44854), (71, 44782), (84, 44704),

Gene: Chartreuse_80 Start: 44483, Stop: 44262, Start Num: 53
Candidate Starts for Chartreuse_80:
(Start: 53 @44483 has 30 MA's), (56, 44471),

Gene: ChipMunk_80 Start: 47961, Stop: 47692, Start Num: 31
Candidate Starts for ChipMunk_80:
(Start: 31 @47961 has 64 MA's), (32, 47955), (Start: 54 @47925 has 91 MA's), (56, 47916), (59, 47898), (67, 47847), (68, 47841), (71, 47823), (81, 47781), (84, 47742),

Gene: Clammy_85 Start: 47028, Stop: 46792, Start Num: 54
Candidate Starts for Clammy_85:
(Start: 38 @47049 has 4 MA's), (Start: 54 @47028 has 91 MA's), (66, 46959), (71, 46926), (84, 46848),

Gene: CloudWang3_81 Start: 45345, Stop: 45124, Start Num: 53
Candidate Starts for CloudWang3_81:
(Start: 53 @45345 has 30 MA's), (56, 45333), (86, 45129),

Gene: ClownCar_82 Start: 46078, Stop: 45848, Start Num: 54
Candidate Starts for ClownCar_82:
(21, 46228), (44, 46120), (49, 46102), (Start: 54 @46078 has 91 MA's), (66, 46009), (70, 45985), (84, 45898),

Gene: Colbster_79 Start: 46275, Stop: 46045, Start Num: 54
Candidate Starts for Colbster_79:
(44, 46317), (Start: 54 @46275 has 91 MA's), (56, 46266), (Start: 58 @46254 has 2 MA's), (59, 46248), (70, 46182),

Gene: Colin_80 Start: 47629, Stop: 47354, Start Num: 31
Candidate Starts for Colin_80:
(Start: 31 @47629 has 64 MA's), (59, 47563), (60, 47548), (72, 47485), (84, 47407),

Gene: Conspiracy_72 Start: 44599, Stop: 44354, Start Num: 42
Candidate Starts for Conspiracy_72:
(Start: 42 @44599 has 32 MA's), (55, 44563), (64, 44512), (67, 44491), (75, 44455),

Gene: Coog_68 Start: 44365, Stop: 44123, Start Num: 42
Candidate Starts for Coog_68:
(Start: 42 @44365 has 32 MA's), (55, 44332), (56, 44329), (67, 44260), (75, 44224), (80, 44200),

Gene: Cookiedough_81 Start: 45790, Stop: 45569, Start Num: 53
Candidate Starts for Cookiedough_81:
(13, 45994), (Start: 25 @45904 has 1 MA's), (Start: 53 @45790 has 30 MA's), (56, 45778),

Gene: Croquant_80 Start: 46272, Stop: 46042, Start Num: 54
Candidate Starts for Croquant_80:
(44, 46314), (Start: 54 @46272 has 91 MA's), (56, 46263), (Start: 58 @46251 has 2 MA's), (59, 46245), (70, 46179),

Gene: Crucio_79 Start: 46848, Stop: 46531, Start Num: 22
Candidate Starts for Crucio_79:
(Start: 22 @46848 has 39 MA's), (59, 46737), (67, 46686), (68, 46680), (71, 46662), (81, 46620), (84, 46581),

Gene: Cuco_70 Start: 44225, Stop: 43983, Start Num: 42
Candidate Starts for Cuco_70:
(Start: 42 @44225 has 32 MA's), (55, 44192), (56, 44189), (67, 44120), (75, 44084), (80, 44060),

Gene: Cullens_84 Start: 46274, Stop: 46044, Start Num: 54
Candidate Starts for Cullens_84:
(44, 46316), (Start: 54 @46274 has 91 MA's), (56, 46265), (Start: 58 @46253 has 2 MA's), (59, 46247), (70, 46181),

Gene: DBQu4n_80 Start: 46541, Stop: 46269, Start Num: 31
Candidate Starts for DBQu4n_80:
(Start: 31 @46541 has 64 MA's), (59, 46478), (70, 46412), (84, 46322),

Gene: DaHudson_82 Start: 46264, Stop: 46034, Start Num: 54
Candidate Starts for DaHudson_82:
(44, 46306), (Start: 54 @46264 has 91 MA's), (56, 46255), (Start: 58 @46243 has 2 MA's), (59, 46237), (70, 46171),

Gene: DaVinci_79 Start: 44537, Stop: 44316, Start Num: 53
Candidate Starts for DaVinci_79:
(Start: 53 @44537 has 30 MA's), (56, 44525),

Gene: Daishi_82 Start: 45141, Stop: 44911, Start Num: 54
Candidate Starts for Daishi_82:
(44, 45183), (Start: 54 @45141 has 91 MA's), (Start: 58 @45120 has 2 MA's), (59, 45114), (70, 45048), (71, 45039),

Gene: Dalmatian_79 Start: 46667, Stop: 46365, Start Num: 41
Candidate Starts for Dalmatian_79:
(Start: 41 @46667 has 7 MA's), (64, 46577), (84, 46454),

Gene: Danforth_87 Start: 46987, Stop: 46715, Start Num: 39
Candidate Starts for Danforth_87:
(26, 47047), (Start: 39 @46987 has 3 MA's), (Start: 54 @46939 has 91 MA's), (70, 46846), (71, 46837),

Gene: DarthPhader_87 Start: 50218, Stop: 50003, Start Num: 54
Candidate Starts for DarthPhader_87:
(45, 50251), (Start: 54 @50218 has 91 MA's), (59, 50191),

Gene: DeerParkTS_75 Start: 45386, Stop: 45114, Start Num: 31
Candidate Starts for DeerParkTS_75:
(Start: 31 @45386 has 64 MA's), (Start: 37 @45380 has 1 MA's), (59, 45323), (70, 45257), (84, 45167),

Gene: Deloris_79 Start: 46271, Stop: 45996, Start Num: 23
Candidate Starts for Deloris_79:
(Start: 22 @46277 has 39 MA's), (Start: 23 @46271 has 2 MA's), (56, 46223), (59, 46205), (68, 46148), (71, 46130), (81, 46088), (84, 46049),

Gene: DelvinSonDorr_77 Start: 45195, Stop: 44974, Start Num: 53
Candidate Starts for DelvinSonDorr_77:
(13, 45399), (Start: 25 @45309 has 1 MA's), (Start: 53 @45195 has 30 MA's), (56, 45183),

Gene: Dieselweasel_84 Start: 46273, Stop: 46043, Start Num: 54

Candidate Starts for Dieselweasel_84:
(44, 46315), (Start: 54 @46273 has 91 MA's), (56, 46264), (Start: 58 @46252 has 2 MA's), (59, 46246), (70, 46180),

Gene: Dignity_81 Start: 47132, Stop: 46812, Start Num: 22
Candidate Starts for Dignity_81:
(Start: 22 @47132 has 39 MA's), (33, 47078), (Start: 42 @47057 has 32 MA's), (56, 47039), (66, 46979), (67, 46970), (68, 46964), (71, 46946), (84, 46865),

Gene: Discoknowium_69 Start: 44116, Stop: 43871, Start Num: 42
Candidate Starts for Discoknowium_69:
(Start: 42 @44116 has 32 MA's), (55, 44080), (64, 44029), (67, 44008), (75, 43972),

Gene: Dixon_85 Start: 46439, Stop: 46197, Start Num: 48
Candidate Starts for Dixon_85:
(Start: 48 @46439 has 9 MA's), (70, 46328), (71, 46319), (75, 46307),

Gene: Dorothea_81 Start: 45783, Stop: 45562, Start Num: 53
Candidate Starts for Dorothea_81:
(Start: 53 @45783 has 30 MA's), (56, 45771),

Gene: Drake55_80 Start: 46578, Stop: 46258, Start Num: 22
Candidate Starts for Drake55_80:
(Start: 22 @46578 has 39 MA's), (56, 46485), (59, 46467), (68, 46410), (71, 46392), (84, 46311),

Gene: Dublin_71 Start: 44497, Stop: 44255, Start Num: 42
Candidate Starts for Dublin_71:
(Start: 42 @44497 has 32 MA's), (55, 44464), (56, 44461), (64, 44413), (67, 44392), (75, 44356), (80, 44332),

Gene: DudeLittle_77 Start: 46433, Stop: 46131, Start Num: 41
Candidate Starts for DudeLittle_77:
(Start: 41 @46433 has 7 MA's), (64, 46343), (84, 46220),

Gene: EZMoney23_76 Start: 46037, Stop: 45765, Start Num: 31
Candidate Starts for EZMoney23_76:
(5, 46337), (Start: 31 @46037 has 64 MA's), (Start: 37 @46031 has 1 MA's), (59, 45974), (70, 45908), (84, 45818),

Gene: EagleEye_82 Start: 46572, Stop: 46357, Start Num: 53
Candidate Starts for EagleEye_82:
(24, 46689), (29, 46659), (50, 46584), (Start: 53 @46572 has 30 MA's), (59, 46542), (64, 46512), (65, 46503), (72, 46464), (84, 46389),

Gene: Ebony_80 Start: 45555, Stop: 45280, Start Num: 31
Candidate Starts for Ebony_80:
(9, 45732), (Start: 31 @45555 has 64 MA's), (59, 45486), (62, 45465), (66, 45444), (70, 45420), (72, 45408), (84, 45330),

Gene: ElTiger69_77 Start: 45591, Stop: 45328, Start Num: 42
Candidate Starts for ElTiger69_77:
(Start: 42 @45591 has 32 MA's), (Start: 43 @45588 has 8 MA's), (46, 45576), (Start: 48 @45570 has 9 MA's), (Start: 54 @45543 has 91 MA's), (55, 45537), (75, 45429),

Gene: Elle_82 Start: 45871, Stop: 45602, Start Num: 31
Candidate Starts for Elle_82:
(Start: 31 @45871 has 64 MA's), (66, 45769), (72, 45733), (76, 45718), (79, 45703), (84, 45652),

Gene: EpicPhail_84 Start: 46275, Stop: 46045, Start Num: 54
Candidate Starts for EpicPhail_84:
(44, 46317), (Start: 54 @46275 has 91 MA's), (56, 46266), (Start: 58 @46254 has 2 MA's), (59, 46248), (70, 46182),

Gene: Equemioh13_79 Start: 46550, Stop: 46230, Start Num: 22
Candidate Starts for Equemioh13_79:
(Start: 22 @46550 has 39 MA's), (33, 46496), (59, 46439), (67, 46388), (68, 46382), (71, 46364), (81, 46322), (84, 46283),

Gene: EricB_80 Start: 45129, Stop: 44908, Start Num: 53
Candidate Starts for EricB_80:
(Start: 53 @45129 has 30 MA's), (56, 45117),

Gene: Et2Brutus_79 Start: 45518, Stop: 45243, Start Num: 31
Candidate Starts for Et2Brutus_79:
(7, 45758), (9, 45695), (Start: 31 @45518 has 64 MA's), (59, 45449), (62, 45428), (66, 45407), (70, 45383), (72, 45371), (84, 45293),

Gene: EvilGenius_79 Start: 47962, Stop: 47693, Start Num: 31
Candidate Starts for EvilGenius_79:
(Start: 31 @47962 has 64 MA's), (32, 47956), (Start: 54 @47926 has 91 MA's), (56, 47917), (59, 47899), (67, 47848), (68, 47842), (71, 47824), (81, 47782), (84, 47743),

Gene: Expelliarmus_83 Start: 46653, Stop: 46411, Start Num: 48
Candidate Starts for Expelliarmus_83:
(Start: 48 @46653 has 9 MA's), (70, 46542), (71, 46533), (75, 46521),

Gene: Fameo_77 Start: 46475, Stop: 46173, Start Num: 41
Candidate Starts for Fameo_77:
(Start: 41 @46475 has 7 MA's), (64, 46385), (84, 46262),

Gene: Farber_83 Start: 46261, Stop: 46031, Start Num: 54
Candidate Starts for Farber_83:
(44, 46303), (Start: 54 @46261 has 91 MA's), (56, 46252), (Start: 58 @46240 has 2 MA's), (59, 46234), (70, 46168),

Gene: FatCactus_74 Start: 44985, Stop: 44743, Start Num: 52
Candidate Starts for FatCactus_74:
(Start: 52 @44985 has 2 MA's), (57, 44970), (59, 44955), (78, 44859), (82, 44838), (84, 44802), (85, 44772),

Gene: Fernando_84 Start: 46274, Stop: 46044, Start Num: 54
Candidate Starts for Fernando_84:
(44, 46316), (Start: 54 @46274 has 91 MA's), (56, 46265), (Start: 58 @46253 has 2 MA's), (59, 46247), (70, 46181),

Gene: Fibonacci_79 Start: 45524, Stop: 45249, Start Num: 31

Candidate Starts for Fibonacci_79:
(7, 45764), (9, 45701), (Start: 31 @45524 has 64 MA's), (59, 45455), (62, 45434), (66, 45413), (70, 45389), (72, 45377), (84, 45299),

Gene: FiringLine_79 Start: 46830, Stop: 46513, Start Num: 22
Candidate Starts for FiringLine_79:
(Start: 22 @46830 has 39 MA's), (59, 46719), (67, 46668), (68, 46662), (71, 46644), (81, 46602), (84, 46563),

Gene: First_0080 Start: 46674, Stop: 46357, Start Num: 22
Candidate Starts for First_0080:
(Start: 22 @46674 has 39 MA's), (59, 46563), (67, 46512), (68, 46506), (71, 46488), (81, 46446), (84, 46407),

Gene: Flare16_79 Start: 46365, Stop: 46045, Start Num: 22
Candidate Starts for Flare16_79:
(Start: 22 @46365 has 39 MA's), (33, 46311), (59, 46254), (67, 46203), (68, 46197), (71, 46179), (81, 46137), (84, 46098),

Gene: Flaverint_81 Start: 45982, Stop: 45707, Start Num: 31
Candidate Starts for Flaverint_81:
(7, 46222), (9, 46159), (Start: 31 @45982 has 64 MA's), (59, 45913), (62, 45892), (66, 45871), (70, 45847), (72, 45835), (84, 45757),

Gene: Florence1_68 Start: 44057, Stop: 43812, Start Num: 42
Candidate Starts for Florence1_68:
(Start: 42 @44057 has 32 MA's), (55, 44021), (64, 43970), (67, 43949), (75, 43913),

Gene: Florence4_69 Start: 44057, Stop: 43812, Start Num: 42
Candidate Starts for Florence4_69:
(Start: 42 @44057 has 32 MA's), (55, 44021), (64, 43970), (67, 43949), (75, 43913),

Gene: ForGetIt_72 Start: 44624, Stop: 44379, Start Num: 42
Candidate Starts for ForGetIt_72:
(Start: 42 @44624 has 32 MA's), (55, 44588), (64, 44537), (67, 44516), (75, 44480),

Gene: ForesterFrank_76 Start: 46581, Stop: 46300, Start Num: 31
Candidate Starts for ForesterFrank_76:
(8, 46779), (11, 46731), (28, 46593), (Start: 30 @46584 has 2 MA's), (Start: 31 @46581 has 64 MA's), (59, 46515), (70, 46449), (79, 46410), (84, 46359),

Gene: Fred313_80 Start: 46658, Stop: 46422, Start Num: 54
Candidate Starts for Fred313_80:
(Start: 38 @46679 has 4 MA's), (Start: 54 @46658 has 91 MA's), (66, 46589), (71, 46556),

Gene: Gemma_80 Start: 46081, Stop: 45851, Start Num: 54
Candidate Starts for Gemma_80:
(21, 46231), (44, 46123), (49, 46105), (Start: 54 @46081 has 91 MA's), (66, 46012), (70, 45988), (84, 45901),

Gene: George_66 Start: 44285, Stop: 44040, Start Num: 42
Candidate Starts for George_66:
(Start: 42 @44285 has 32 MA's), (Start: 54 @44255 has 91 MA's), (64, 44198), (75, 44141),

Gene: Georgie2_81 Start: 47034, Stop: 46717, Start Num: 22
Candidate Starts for Georgie2_81:
(Start: 22 @47034 has 39 MA's), (59, 46923), (67, 46872), (68, 46866), (71, 46848), (81, 46806), (84, 46767),

Gene: Ghoulboy_71 Start: 44592, Stop: 44350, Start Num: 42
Candidate Starts for Ghoulboy_71:
(Start: 42 @44592 has 32 MA's), (55, 44559), (56, 44556), (Start: 58 @44544 has 2 MA's), (64, 44508), (67, 44487), (75, 44451), (80, 44427),

Gene: Gilberta_77 Start: 44858, Stop: 44583, Start Num: 31
Candidate Starts for Gilberta_77:
(7, 45098), (9, 45035), (Start: 31 @44858 has 64 MA's), (59, 44789), (62, 44768), (66, 44747), (70, 44723), (72, 44711), (84, 44633),

Gene: GingkoMaracino_83 Start: 46157, Stop: 45927, Start Num: 54
Candidate Starts for GingkoMaracino_83:
(44, 46199), (Start: 54 @46157 has 91 MA's), (56, 46148), (Start: 58 @46136 has 2 MA's), (59, 46130), (70, 46064),

Gene: Giroux_86 Start: 47027, Stop: 46791, Start Num: 54
Candidate Starts for Giroux_86:
(Start: 38 @47048 has 4 MA's), (Start: 54 @47027 has 91 MA's), (66, 46958), (71, 46925), (84, 46847),

Gene: Gladiator_77 Start: 45001, Stop: 44780, Start Num: 53
Candidate Starts for Gladiator_77:
(Start: 53 @45001 has 30 MA's), (56, 44989), (86, 44785),

Gene: Goose1D_76 Start: 43132, Stop: 42896, Start Num: 54
Candidate Starts for Goose1D_76:
(Start: 38 @43153 has 4 MA's), (Start: 54 @43132 has 91 MA's), (66, 43063), (71, 43030),

Gene: Gratitude_79 Start: 46550, Stop: 46230, Start Num: 22
Candidate Starts for Gratitude_79:
(Start: 22 @46550 has 39 MA's), (33, 46496), (59, 46439), (67, 46388), (68, 46382), (71, 46364), (81, 46322), (84, 46283),

Gene: GreedyLawyer_76 Start: 45216, Stop: 44881, Start Num: 25
Candidate Starts for GreedyLawyer_76:
(13, 45306), (Start: 25 @45216 has 1 MA's), (Start: 53 @45102 has 30 MA's), (56, 45090),

Gene: Grif_81 Start: 46348, Stop: 46118, Start Num: 54
Candidate Starts for Grif_81:
(44, 46390), (Start: 54 @46348 has 91 MA's), (56, 46339), (Start: 58 @46327 has 2 MA's), (59, 46321), (70, 46255),

Gene: Groundhog_84 Start: 46709, Stop: 46467, Start Num: 48
Candidate Starts for Groundhog_84:
(Start: 48 @46709 has 9 MA's), (70, 46598), (71, 46589), (75, 46577),

Gene: Groupthink_83 Start: 46082, Stop: 45852, Start Num: 54
Candidate Starts for Groupthink_83:

(21, 46232), (44, 46124), (49, 46106), (Start: 54 @46082 has 91 MA's), (66, 46013), (70, 45989), (84, 45902),

Gene: Grub_81 Start: 46264, Stop: 46034, Start Num: 54
Candidate Starts for Grub_81:
(44, 46306), (Start: 54 @46264 has 91 MA's), (56, 46255), (Start: 58 @46243 has 2 MA's), (59, 46237), (70, 46171),

Gene: Grum1_83 Start: 46274, Stop: 46044, Start Num: 54
Candidate Starts for Grum1_83:
(44, 46316), (Start: 54 @46274 has 91 MA's), (56, 46265), (Start: 58 @46253 has 2 MA's), (59, 46247), (70, 46181),

Gene: Gruunaga_80 Start: 44956, Stop: 44735, Start Num: 53
Candidate Starts for Gruunaga_80:
(Start: 53 @44956 has 30 MA's), (56, 44944), (86, 44740),

Gene: GtownJaz_83 Start: 46272, Stop: 46042, Start Num: 54
Candidate Starts for GtownJaz_83:
(44, 46314), (Start: 54 @46272 has 91 MA's), (56, 46263), (Start: 58 @46251 has 2 MA's), (59, 46245), (70, 46179),

Gene: Gwennie_83 Start: 46275, Stop: 46045, Start Num: 54
Candidate Starts for Gwennie_83:
(44, 46317), (Start: 54 @46275 has 91 MA's), (56, 46266), (Start: 58 @46254 has 2 MA's), (59, 46248), (70, 46182),

Gene: Hammer_81 Start: 44663, Stop: 44442, Start Num: 53
Candidate Starts for Hammer_81:
(Start: 53 @44663 has 30 MA's), (56, 44651), (86, 44447),

Gene: HarryHoudini_79 Start: 46575, Stop: 46255, Start Num: 22
Candidate Starts for HarryHoudini_79:
(Start: 22 @46575 has 39 MA's), (56, 46482), (59, 46464), (68, 46407), (71, 46389), (84, 46308),

Gene: HashRod_84 Start: 46301, Stop: 46071, Start Num: 54
Candidate Starts for HashRod_84:
(44, 46343), (Start: 54 @46301 has 91 MA's), (56, 46292), (Start: 58 @46280 has 2 MA's), (59, 46274), (70, 46208),

Gene: HaveUMetTed_83 Start: 46070, Stop: 45840, Start Num: 54
Candidate Starts for HaveUMetTed_83:
(21, 46220), (44, 46112), (49, 46094), (Start: 54 @46070 has 91 MA's), (66, 46001), (70, 45977), (84, 45890),

Gene: Heathen_82 Start: 46746, Stop: 46510, Start Num: 54
Candidate Starts for Heathen_82:
(Start: 38 @46767 has 4 MA's), (Start: 54 @46746 has 91 MA's), (66, 46677), (71, 46644),

Gene: Heffalump_76 Start: 46943, Stop: 46641, Start Num: 41
Candidate Starts for Heffalump_76:
(Start: 41 @46943 has 7 MA's), (64, 46853), (84, 46730),

Gene: HelDan_83 Start: 46990, Stop: 46733, Start Num: 38
Candidate Starts for HelDan_83:
(Start: 38 @46990 has 4 MA's), (Start: 54 @46969 has 91 MA's), (66, 46900), (71, 46867),

Gene: Heliosoles_80 Start: 46086, Stop: 45856, Start Num: 54
Candidate Starts for Heliosoles_80:
(21, 46236), (44, 46128), (49, 46110), (Start: 54 @46086 has 91 MA's), (66, 46017), (70, 45993), (84, 45906),

Gene: Hercules11_83 Start: 46283, Stop: 46053, Start Num: 54
Candidate Starts for Hercules11_83:
(44, 46325), (Start: 54 @46283 has 91 MA's), (56, 46274), (Start: 58 @46262 has 2 MA's), (59, 46256), (70, 46190),

Gene: Hexamo_80 Start: 44831, Stop: 44610, Start Num: 53
Candidate Starts for Hexamo_80:
(Start: 53 @44831 has 30 MA's), (56, 44819), (86, 44615),

Gene: HippoHollow_77 Start: 47561, Stop: 47280, Start Num: 31
Candidate Starts for HippoHollow_77:
(Start: 31 @47561 has 64 MA's), (32, 47555), (59, 47489), (67, 47438), (68, 47432), (71, 47414), (81, 47372), (84, 47333),

Gene: Hoot_76 Start: 42987, Stop: 42766, Start Num: 53
Candidate Starts for Hoot_76:
(13, 43191), (Start: 25 @43101 has 1 MA's), (Start: 53 @42987 has 30 MA's), (56, 42975),

Gene: HuhtaEnerson15_69 Start: 44200, Stop: 43955, Start Num: 42
Candidate Starts for HuhtaEnerson15_69:
(Start: 42 @44200 has 32 MA's), (Start: 54 @44170 has 91 MA's), (75, 44056),

Gene: Hutc2_76 Start: 44408, Stop: 44133, Start Num: 31
Candidate Starts for Hutc2_76:
(7, 44648), (9, 44585), (Start: 31 @44408 has 64 MA's), (59, 44339), (62, 44318), (66, 44297), (70, 44273), (72, 44261), (84, 44183),

Gene: Idleandcovert_83 Start: 47049, Stop: 46792, Start Num: 38
Candidate Starts for Idleandcovert_83:
(Start: 38 @47049 has 4 MA's), (Start: 54 @47028 has 91 MA's), (66, 46959), (71, 46926), (84, 46848),

Gene: Imbriano_82 Start: 45975, Stop: 45754, Start Num: 53
Candidate Starts for Imbriano_82:
(Start: 53 @45975 has 30 MA's), (56, 45963),

Gene: Insomnia_79 Start: 45699, Stop: 45424, Start Num: 31
Candidate Starts for Insomnia_79:
(7, 45939), (9, 45876), (Start: 31 @45699 has 64 MA's), (59, 45630), (62, 45609), (66, 45588), (70, 45564), (72, 45552), (84, 45474),

Gene: Isiphiwo_78 Start: 45157, Stop: 44936, Start Num: 53
Candidate Starts for Isiphiwo_78:
(13, 45361), (Start: 25 @45271 has 1 MA's), (Start: 53 @45157 has 30 MA's), (56, 45145),

Gene: Iwokeuplikedis_81 Start: 47056, Stop: 46784, Start Num: 31
Candidate Starts for Iwokeuplikedis_81:
(Start: 31 @47056 has 64 MA's), (32, 47050), (59, 46993), (68, 46936), (71, 46918), (81, 46876), (84, 46837),

Gene: JHC117_78 Start: 46269, Stop: 46039, Start Num: 54
Candidate Starts for JHC117_78:
(44, 46311), (Start: 54 @46269 has 91 MA's), (56, 46260), (Start: 58 @46248 has 2 MA's), (59, 46242), (70, 46176),

Gene: Jabiru_73 Start: 44754, Stop: 44512, Start Num: 43
Candidate Starts for Jabiru_73:
(Start: 43 @44754 has 8 MA's),

Gene: Jabith_79 Start: 45716, Stop: 45441, Start Num: 31
Candidate Starts for Jabith_79:
(7, 45956), (9, 45893), (Start: 31 @45716 has 64 MA's), (59, 45647), (62, 45626), (66, 45605), (70, 45581), (72, 45569), (84, 45491),

Gene: JenCasNa_84 Start: 46274, Stop: 46044, Start Num: 54
Candidate Starts for JenCasNa_84:
(44, 46316), (Start: 54 @46274 has 91 MA's), (56, 46265), (Start: 58 @46253 has 2 MA's), (59, 46247), (70, 46181),

Gene: JeppNRM_83 Start: 46084, Stop: 45854, Start Num: 54
Candidate Starts for JeppNRM_83:
(21, 46234), (44, 46126), (49, 46108), (Start: 54 @46084 has 91 MA's), (56, 46075), (66, 46015), (70, 45991), (84, 45904),

Gene: Jerm_81 Start: 47115, Stop: 46795, Start Num: 22
Candidate Starts for Jerm_81:
(Start: 22 @47115 has 39 MA's), (33, 47061), (Start: 42 @47040 has 32 MA's), (56, 47022), (66, 46962), (67, 46953), (68, 46947), (71, 46929), (84, 46848),

Gene: Jobu08_79 Start: 46098, Stop: 45868, Start Num: 54
Candidate Starts for Jobu08_79:
(12, 46320), (44, 46140), (Start: 54 @46098 has 91 MA's), (56, 46089), (Start: 58 @46077 has 2 MA's), (59, 46071), (70, 46005), (84, 45918),

Gene: Jordennis_79 Start: 45369, Stop: 45148, Start Num: 53
Candidate Starts for Jordennis_79:
(Start: 53 @45369 has 30 MA's), (56, 45357),

Gene: Joselito_79 Start: 45736, Stop: 45461, Start Num: 31
Candidate Starts for Joselito_79:
(7, 45976), (9, 45913), (Start: 31 @45736 has 64 MA's), (59, 45667), (62, 45646), (66, 45625), (70, 45601), (72, 45589), (84, 45511),

Gene: JoshKayV_81 Start: 47259, Stop: 46987, Start Num: 22
Candidate Starts for JoshKayV_81:
(Start: 22 @47259 has 39 MA's), (33, 47253), (56, 47214), (66, 47154), (67, 47145), (68, 47139), (71, 47121), (84, 47040),

Gene: Jovo_71 Start: 44880, Stop: 44635, Start Num: 42
Candidate Starts for Jovo_71:
(Start: 42 @44880 has 32 MA's), (55, 44844), (64, 44793), (67, 44772), (75, 44736),

Gene: KADY_80 Start: 46301, Stop: 46071, Start Num: 54
Candidate Starts for KADY_80:
(44, 46343), (Start: 54 @46301 has 91 MA's), (Start: 58 @46280 has 2 MA's), (59, 46274), (70, 46208), (71, 46199),

Gene: Kachowdy_84 Start: 46998, Stop: 46762, Start Num: 54
Candidate Starts for Kachowdy_84:
(Start: 38 @47019 has 4 MA's), (Start: 54 @46998 has 91 MA's), (66, 46929), (71, 46896),

Gene: Kalb97_83 Start: 45452, Stop: 45192, Start Num: 54
Candidate Starts for Kalb97_83:
(21, 45602), (44, 45494), (49, 45476), (Start: 54 @45452 has 91 MA's), (56, 45443), (66, 45383), (70, 45359), (84, 45272), (89, 45224),

Gene: Kalnoky_83 Start: 46079, Stop: 45849, Start Num: 54
Candidate Starts for Kalnoky_83:
(21, 46229), (44, 46121), (49, 46103), (Start: 54 @46079 has 91 MA's), (66, 46010), (70, 45986), (84, 45899),

Gene: Kazan_82 Start: 45142, Stop: 44921, Start Num: 53
Candidate Starts for Kazan_82:
(Start: 53 @45142 has 30 MA's), (56, 45130),

Gene: Kerberos_80 Start: 46561, Stop: 46289, Start Num: 31
Candidate Starts for Kerberos_80:
(Start: 31 @46561 has 64 MA's), (59, 46498), (70, 46432), (84, 46342),

Gene: Kimba_78 Start: 45236, Stop: 44961, Start Num: 31
Candidate Starts for Kimba_78:
(9, 45413), (Start: 31 @45236 has 64 MA's), (59, 45167), (62, 45146), (66, 45125), (70, 45101), (72, 45089), (84, 45011),

Gene: KingCyrus_78 Start: 47984, Stop: 47667, Start Num: 22
Candidate Starts for KingCyrus_78:
(Start: 22 @47984 has 39 MA's), (59, 47873), (67, 47822), (68, 47816), (71, 47798), (81, 47756), (84, 47717),

Gene: Kinmap_82 Start: 45453, Stop: 45217, Start Num: 36
Candidate Starts for Kinmap_82:
(Start: 36 @45453 has 4 MA's), (59, 45420), (84, 45267),

Gene: Kipper29_81 Start: 45155, Stop: 44934, Start Num: 53
Candidate Starts for Kipper29_81:
(Start: 53 @45155 has 30 MA's), (56, 45143),

Gene: LBerry_84 Start: 46275, Stop: 46045, Start Num: 54
Candidate Starts for LBerry_84:
(44, 46317), (Start: 54 @46275 has 91 MA's), (56, 46266), (Start: 58 @46254 has 2 MA's), (59, 46248), (70, 46182),

Gene: LadyBird_83 Start: 47185, Stop: 46904, Start Num: 22
Candidate Starts for LadyBird_83:
(Start: 22 @47185 has 39 MA's), (Start: 23 @47179 has 2 MA's), (56, 47131), (59, 47113), (68, 47056), (71, 47038), (81, 46996), (84, 46957),

Gene: Larenn_77 Start: 46535, Stop: 46206, Start Num: 22
Candidate Starts for Larenn_77:
(Start: 22 @46535 has 39 MA's), (27, 46502), (33, 46472), (56, 46433), (59, 46415), (67, 46364), (68, 46358), (71, 46340), (81, 46298), (84, 46259),

Gene: LarryKay_83 Start: 46305, Stop: 46075, Start Num: 54
Candidate Starts for LarryKay_83:
(44, 46347), (Start: 54 @46305 has 91 MA's), (56, 46296), (Start: 58 @46284 has 2 MA's), (59, 46278), (70, 46212),

Gene: Lev2_72 Start: 44512, Stop: 44267, Start Num: 42
Candidate Starts for Lev2_72:
(Start: 42 @44512 has 32 MA's), (55, 44476), (64, 44425), (67, 44404), (75, 44368),

Gene: Leviathan_81 Start: 47181, Stop: 46861, Start Num: 22
Candidate Starts for Leviathan_81:
(Start: 22 @47181 has 39 MA's), (33, 47127), (Start: 42 @47106 has 32 MA's), (56, 47088), (66, 47028), (67, 47019), (68, 47013), (71, 46995), (84, 46914),

Gene: LilTurb_80 Start: 46995, Stop: 46675, Start Num: 22
Candidate Starts for LilTurb_80:
(Start: 22 @46995 has 39 MA's), (33, 46941), (Start: 42 @46920 has 32 MA's), (56, 46902), (66, 46842), (67, 46833), (68, 46827), (71, 46809), (84, 46728),

Gene: Lilith_81 Start: 46264, Stop: 46034, Start Num: 54
Candidate Starts for Lilith_81:
(44, 46306), (Start: 54 @46264 has 91 MA's), (56, 46255), (Start: 58 @46243 has 2 MA's), (59, 46237), (70, 46171),

Gene: LionsBait_77 Start: 47560, Stop: 47279, Start Num: 31
Candidate Starts for LionsBait_77:
(Start: 31 @47560 has 64 MA's), (32, 47554), (59, 47488), (67, 47437), (68, 47431), (71, 47413), (81, 47371), (84, 47332),

Gene: LittleCherry_70 Start: 44070, Stop: 43825, Start Num: 42
Candidate Starts for LittleCherry_70:
(Start: 42 @44070 has 32 MA's), (Start: 54 @44040 has 91 MA's), (64, 43983), (75, 43926),

Gene: LogiBear_77 Start: 44652, Stop: 44383, Start Num: 34
Candidate Starts for LogiBear_77:
(34, 44652), (71, 44517), (83, 44463), (84, 44433),

Gene: Lokk_74 Start: 45070, Stop: 44786, Start Num: 30
Candidate Starts for Lokk_74:
(8, 45265), (11, 45217), (28, 45079), (Start: 30 @45070 has 2 MA's), (Start: 31 @45067 has 64 MA's), (59, 45001), (73, 44920), (79, 44896), (84, 44845), (89, 44797),

Gene: Loser_83 Start: 47509, Stop: 47237, Start Num: 31
Candidate Starts for Loser_83:
(Start: 31 @47509 has 64 MA's), (Start: 37 @47503 has 1 MA's), (59, 47446), (70, 47380), (77, 47353), (84, 47290),

Gene: Louie6_82 Start: 46302, Stop: 46072, Start Num: 54
Candidate Starts for Louie6_82:
(44, 46344), (Start: 54 @46302 has 91 MA's), (Start: 58 @46281 has 2 MA's), (59, 46275), (70, 46209), (71, 46200),

Gene: Lowa_83 Start: 46263, Stop: 46033, Start Num: 54
Candidate Starts for Lowa_83:
(44, 46305), (Start: 54 @46263 has 91 MA's), (56, 46254), (Start: 58 @46242 has 2 MA's), (59, 46236), (70, 46170),

Gene: Lucivia_81 Start: 46015, Stop: 45740, Start Num: 31
Candidate Starts for Lucivia_81:
(7, 46255), (9, 46192), (Start: 31 @46015 has 64 MA's), (59, 45946), (62, 45925), (66, 45904), (70, 45880), (72, 45868), (84, 45790),

Gene: Lucyedi_81 Start: 46771, Stop: 46526, Start Num: 53
Candidate Starts for Lucyedi_81:
(24, 46888), (29, 46858), (50, 46783), (Start: 53 @46771 has 30 MA's), (64, 46711),

Gene: LugYA_86 Start: 46275, Stop: 46045, Start Num: 54
Candidate Starts for LugYA_86:
(44, 46317), (Start: 54 @46275 has 91 MA's), (56, 46266), (Start: 58 @46254 has 2 MA's), (59, 46248), (70, 46182),

Gene: MaCh_80 Start: 45979, Stop: 45704, Start Num: 31
Candidate Starts for MaCh_80:
(7, 46219), (9, 46156), (Start: 31 @45979 has 64 MA's), (59, 45910), (62, 45889), (66, 45868), (70, 45844), (72, 45832), (84, 45754),

Gene: Mabel_80 Start: 45980, Stop: 45705, Start Num: 31
Candidate Starts for Mabel_80:
(7, 46220), (9, 46157), (Start: 31 @45980 has 64 MA's), (59, 45911), (62, 45890), (66, 45869), (70, 45845), (72, 45833), (84, 45755),

Gene: MadMarie_81 Start: 46272, Stop: 46042, Start Num: 54
Candidate Starts for MadMarie_81:
(44, 46314), (Start: 54 @46272 has 91 MA's), (56, 46263), (Start: 58 @46251 has 2 MA's), (59, 46245), (70, 46179),

Gene: Mainiac_82 Start: 46264, Stop: 46034, Start Num: 54
Candidate Starts for Mainiac_82:
(44, 46306), (Start: 54 @46264 has 91 MA's), (56, 46255), (Start: 58 @46243 has 2 MA's), (59, 46237), (70, 46171),

Gene: Malec_78 Start: 47105, Stop: 46776, Start Num: 22
Candidate Starts for Malec_78:
(Start: 22 @47105 has 39 MA's), (27, 47072), (33, 47042), (56, 47003), (59, 46985), (67, 46934), (68, 46928), (71, 46910), (81, 46868), (84, 46829),

Gene: Malinsilva_86 Start: 46263, Stop: 46033, Start Num: 54
Candidate Starts for Malinsilva_86:
(44, 46305), (Start: 54 @46263 has 91 MA's), (56, 46254), (Start: 58 @46242 has 2 MA's), (59, 46236), (70, 46170),

Gene: Manu_82 Start: 46086, Stop: 45856, Start Num: 54
Candidate Starts for Manu_82:
(21, 46236), (44, 46128), (49, 46110), (Start: 54 @46086 has 91 MA's), (66, 46017), (70, 45993), (84, 45906),

Gene: MarQuardt_83 Start: 46273, Stop: 46043, Start Num: 54
Candidate Starts for MarQuardt_83:
(44, 46315), (Start: 54 @46273 has 91 MA's), (56, 46264), (Start: 58 @46252 has 2 MA's), (59, 46246), (70, 46180),

Gene: Marie_81 Start: 46274, Stop: 46044, Start Num: 54
Candidate Starts for Marie_81:
(44, 46316), (Start: 54 @46274 has 91 MA's), (56, 46265), (Start: 58 @46253 has 2 MA's), (59, 46247), (70, 46181),

Gene: Marius_83 Start: 46079, Stop: 45849, Start Num: 54
Candidate Starts for Marius_83:
(21, 46229), (44, 46121), (49, 46103), (Start: 54 @46079 has 91 MA's), (66, 46010), (70, 45986), (84, 45899),

Gene: MarysWell_71 Start: 44740, Stop: 44498, Start Num: 42
Candidate Starts for MarysWell_71:
(Start: 42 @44740 has 32 MA's), (55, 44707), (56, 44704), (64, 44656), (67, 44635), (75, 44599), (80, 44575),

Gene: McFly_81 Start: 45491, Stop: 45270, Start Num: 53
Candidate Starts for McFly_81:
(Start: 53 @45491 has 30 MA's), (56, 45479),

Gene: Methuselah_76 Start: 46295, Stop: 46065, Start Num: 54
Candidate Starts for Methuselah_76:
(44, 46337), (Start: 54 @46295 has 91 MA's), (56, 46286), (Start: 58 @46274 has 2 MA's), (59, 46268), (70, 46202),

Gene: Micasa_71 Start: 44462, Stop: 44220, Start Num: 42
Candidate Starts for Micasa_71:
(Start: 42 @44462 has 32 MA's), (55, 44429), (56, 44426), (64, 44378), (67, 44357), (75, 44321), (80, 44297),

Gene: Microwolf_79 Start: 46287, Stop: 46057, Start Num: 54
Candidate Starts for Microwolf_79:
(44, 46329), (Start: 54 @46287 has 91 MA's), (56, 46278), (Start: 58 @46266 has 2 MA's), (59, 46260), (70, 46194),

Gene: MiculUcigas_79 Start: 46268, Stop: 45948, Start Num: 22
Candidate Starts for MiculUcigas_79:

(Start: 22 @46268 has 39 MA's), (33, 46214), (59, 46157), (67, 46106), (68, 46100), (71, 46082), (81, 46040), (84, 46001),

Gene: Midas2_68 Start: 44365, Stop: 44123, Start Num: 42
Candidate Starts for Midas2_68:
(Start: 42 @44365 has 32 MA's), (55, 44332), (56, 44329), (67, 44260), (75, 44224), (80, 44200),

Gene: Miko_74 Start: 45841, Stop: 45563, Start Num: 31
Candidate Starts for Miko_74:
(6, 46138), (Start: 31 @45841 has 64 MA's), (Start: 37 @45835 has 1 MA's), (59, 45778), (73, 45697), (79, 45673), (84, 45622), (89, 45574),

Gene: Milcery_71 Start: 44253, Stop: 44008, Start Num: 42
Candidate Starts for Milcery_71:
(Start: 42 @44253 has 32 MA's), (Start: 54 @44223 has 91 MA's), (64, 44166), (75, 44109),

Gene: MissWhite_74 Start: 43643, Stop: 43320, Start Num: 31
Candidate Starts for MissWhite_74:
(15, 43754), (16, 43748), (Start: 31 @43643 has 64 MA's), (35, 43637), (59, 43577), (62, 43556), (70, 43511), (88, 43373),

Gene: MoneyMay_83 Start: 46274, Stop: 46044, Start Num: 54
Candidate Starts for MoneyMay_83:
(44, 46316), (Start: 54 @46274 has 91 MA's), (56, 46265), (Start: 58 @46253 has 2 MA's), (59, 46247), (70, 46181),

Gene: Montavir_78 Start: 46271, Stop: 46041, Start Num: 54
Candidate Starts for Montavir_78:
(44, 46313), (Start: 54 @46271 has 91 MA's), (56, 46262), (Start: 58 @46250 has 2 MA's), (59, 46244), (70, 46178),

Gene: MuchMore_86 Start: 46260, Stop: 46030, Start Num: 54
Candidate Starts for MuchMore_86:
(44, 46302), (Start: 54 @46260 has 91 MA's), (56, 46251), (Start: 58 @46239 has 2 MA's), (59, 46233), (70, 46167),

Gene: Mulciber_78 Start: 45521, Stop: 45246, Start Num: 31
Candidate Starts for Mulciber_78:
(7, 45761), (9, 45698), (Start: 31 @45521 has 64 MA's), (59, 45452), (62, 45431), (66, 45410), (70, 45386), (72, 45374), (84, 45296),

Gene: Munch_80 Start: 45984, Stop: 45709, Start Num: 31
Candidate Starts for Munch_80:
(7, 46224), (9, 46161), (Start: 31 @45984 has 64 MA's), (59, 45915), (62, 45894), (66, 45873), (70, 45849), (72, 45837), (84, 45759),

Gene: MyraDee_74 Start: 43043, Stop: 42735, Start Num: 36
Candidate Starts for MyraDee_74:
(1, 43406), (2, 43385), (Start: 36 @43043 has 4 MA's), (40, 43022), (Start: 42 @43019 has 32 MA's), (51, 42980), (59, 42941), (84, 42788),

Gene: NaSiaTalie_80 Start: 46561, Stop: 46298, Start Num: 31
Candidate Starts for NaSiaTalie_80:

(Start: 31 @46561 has 64 MA's), (Start: 38 @46540 has 4 MA's), (60, 46489), (72, 46426),

Gene: Naca_74 Start: 45642, Stop: 45400, Start Num: 43
Candidate Starts for Naca_74:
(Start: 43 @45642 has 8 MA's),

Gene: NearlyHeadless_87 Start: 46723, Stop: 46481, Start Num: 48
Candidate Starts for NearlyHeadless_87:
(Start: 48 @46723 has 9 MA's), (70, 46612), (71, 46603),

Gene: Neeharika16_80 Start: 45241, Stop: 45020, Start Num: 53
Candidate Starts for Neeharika16_80:
(13, 45445), (Start: 25 @45355 has 1 MA's), (Start: 53 @45241 has 30 MA's), (56, 45229),

Gene: Newrala_80 Start: 45577, Stop: 45356, Start Num: 53
Candidate Starts for Newrala_80:
(13, 45781), (Start: 25 @45691 has 1 MA's), (Start: 53 @45577 has 30 MA's), (56, 45565),

Gene: NicoleTera_77 Start: 46504, Stop: 46226, Start Num: 31
Candidate Starts for NicoleTera_77:
(Start: 31 @46504 has 64 MA's), (Start: 37 @46498 has 1 MA's), (59, 46441), (70, 46375), (79, 46336), (84, 46285), (89, 46237),

Gene: NothingSpecial_73 Start: 46180, Stop: 45911, Start Num: 31
Candidate Starts for NothingSpecial_73:
(Start: 31 @46180 has 64 MA's), (32, 46174), (56, 46135), (59, 46117), (68, 46060), (71, 46042), (84, 45961),

Gene: OlanP_81 Start: 46258, Stop: 46028, Start Num: 54
Candidate Starts for OlanP_81:
(18, 46432), (21, 46408), (44, 46300), (49, 46282), (Start: 54 @46258 has 91 MA's), (66, 46189), (70, 46165), (84, 46078),

Gene: Ollie_83 Start: 46142, Stop: 45912, Start Num: 54
Candidate Starts for Ollie_83:
(44, 46184), (Start: 54 @46142 has 91 MA's), (56, 46133), (Start: 58 @46121 has 2 MA's), (59, 46115), (70, 46049),

Gene: Orange_80 Start: 45534, Stop: 45259, Start Num: 31
Candidate Starts for Orange_80:
(7, 45774), (9, 45711), (Start: 31 @45534 has 64 MA's), (59, 45465), (62, 45444), (66, 45423), (70, 45399), (72, 45387), (84, 45309),

Gene: P28Green_83 Start: 46277, Stop: 46047, Start Num: 54
Candidate Starts for P28Green_83:
(44, 46319), (Start: 54 @46277 has 91 MA's), (56, 46268), (Start: 58 @46256 has 2 MA's), (59, 46250), (70, 46184),

Gene: PGHhamlin_85 Start: 46263, Stop: 46033, Start Num: 54
Candidate Starts for PGHhamlin_85:
(44, 46305), (Start: 54 @46263 has 91 MA's), (56, 46254), (Start: 58 @46242 has 2 MA's), (59, 46236), (70, 46170),

Gene: PainterBoy_81 Start: 46481, Stop: 46236, Start Num: 53
Candidate Starts for PainterBoy_81:
(24, 46598), (29, 46568), (50, 46493), (Start: 53 @46481 has 30 MA's), (64, 46421),

Gene: Pawn_81 Start: 46086, Stop: 45856, Start Num: 54
Candidate Starts for Pawn_81:
(21, 46236), (44, 46128), (49, 46110), (Start: 54 @46086 has 91 MA's), (66, 46017), (70, 45993), (84, 45906),

Gene: Pembroke_83 Start: 46272, Stop: 46042, Start Num: 54
Candidate Starts for Pembroke_83:
(44, 46314), (Start: 54 @46272 has 91 MA's), (56, 46263), (Start: 58 @46251 has 2 MA's), (59, 46245), (70, 46179),

Gene: Penny1_83 Start: 46275, Stop: 46045, Start Num: 54
Candidate Starts for Penny1_83:
(44, 46317), (Start: 54 @46275 has 91 MA's), (56, 46266), (Start: 58 @46254 has 2 MA's), (59, 46248), (70, 46182),

Gene: Petersenfast_76 Start: 44415, Stop: 44140, Start Num: 31
Candidate Starts for Petersenfast_76:
(7, 44655), (9, 44592), (Start: 31 @44415 has 64 MA's), (59, 44346), (62, 44325), (66, 44304), (70, 44280), (72, 44268), (84, 44190),

Gene: PetterN_79 Start: 45429, Stop: 45187, Start Num: 43
Candidate Starts for PetterN_79:
(Start: 43 @45429 has 8 MA's),

Gene: Phillis_83 Start: 45739, Stop: 45497, Start Num: 48
Candidate Starts for Phillis_83:
(Start: 48 @45739 has 9 MA's), (59, 45694), (70, 45628), (74, 45610),

Gene: PhishRPhriends_79 Start: 45266, Stop: 45036, Start Num: 54
Candidate Starts for PhishRPhriends_79:
(21, 45416), (44, 45308), (49, 45290), (Start: 54 @45266 has 91 MA's), (66, 45197), (70, 45173), (84, 45086),

Gene: Phlorence_70 Start: 44259, Stop: 44014, Start Num: 42
Candidate Starts for Phlorence_70:
(Start: 42 @44259 has 32 MA's), (55, 44223), (64, 44172), (67, 44151), (75, 44115),

Gene: Phoebe_84 Start: 46267, Stop: 46037, Start Num: 54
Candidate Starts for Phoebe_84:
(44, 46309), (Start: 54 @46267 has 91 MA's), (56, 46258), (Start: 58 @46246 has 2 MA's), (59, 46240), (70, 46174),

Gene: Phoxy_83 Start: 46296, Stop: 46066, Start Num: 54
Candidate Starts for Phoxy_83:
(44, 46338), (Start: 54 @46296 has 91 MA's), (56, 46287), (Start: 58 @46275 has 2 MA's), (59, 46269), (70, 46203),

Gene: PickleBack_72 Start: 44434, Stop: 44189, Start Num: 42
Candidate Starts for PickleBack_72:

(Start: 42 @44434 has 32 MA's), (55, 44398), (64, 44347), (67, 44326), (75, 44290),

Gene: Piro94_78 Start: 46509, Stop: 46189, Start Num: 22
Candidate Starts for Piro94_78:
(Start: 22 @46509 has 39 MA's), (56, 46416), (59, 46398), (68, 46341), (71, 46323), (84, 46242),

Gene: Pistachio_83 Start: 46575, Stop: 46339, Start Num: 54
Candidate Starts for Pistachio_83:
(Start: 38 @46596 has 4 MA's), (Start: 54 @46575 has 91 MA's), (66, 46506), (71, 46473), (84, 46395),

Gene: Pmask_80 Start: 45778, Stop: 45557, Start Num: 53
Candidate Starts for Pmask_80:
(13, 45982), (Start: 25 @45892 has 1 MA's), (Start: 53 @45778 has 30 MA's), (56, 45766),

Gene: Pomar16_80 Start: 46631, Stop: 46359, Start Num: 31
Candidate Starts for Pomar16_80:
(Start: 31 @46631 has 64 MA's), (59, 46568), (70, 46502), (84, 46412),

Gene: PotatoSplit_84 Start: 46275, Stop: 46045, Start Num: 54
Candidate Starts for PotatoSplit_84:
(44, 46317), (Start: 54 @46275 has 91 MA's), (56, 46266), (Start: 58 @46254 has 2 MA's), (59, 46248), (70, 46182),

Gene: Power_79 Start: 47033, Stop: 46716, Start Num: 22
Candidate Starts for Power_79:
(Start: 22 @47033 has 39 MA's), (59, 46922), (67, 46871), (68, 46865), (71, 46847), (81, 46805), (84, 46766),

Gene: Priamo_82 Start: 45237, Stop: 44977, Start Num: 31
Candidate Starts for Priamo_82:
(Start: 31 @45237 has 64 MA's), (59, 45177), (60, 45162), (72, 45099), (84, 45021), (87, 44982),

Gene: Prinashe11_70 Start: 44073, Stop: 43828, Start Num: 42
Candidate Starts for Prinashe11_70:
(Start: 42 @44073 has 32 MA's), (Start: 54 @44043 has 91 MA's), (64, 43986), (75, 43929),

Gene: Prudy_77 Start: 46871, Stop: 46599, Start Num: 31
Candidate Starts for Prudy_77:
(4, 47162), (5, 47159), (17, 46958), (Start: 31 @46871 has 64 MA's), (Start: 37 @46865 has 1 MA's), (59, 46808), (70, 46742), (84, 46652),

Gene: Puppy_84 Start: 46645, Stop: 46409, Start Num: 54
Candidate Starts for Puppy_84:
(Start: 38 @46666 has 4 MA's), (Start: 54 @46645 has 91 MA's), (66, 46576), (71, 46543),

Gene: QueenB2_76 Start: 46156, Stop: 45854, Start Num: 41
Candidate Starts for QueenB2_76:
(Start: 41 @46156 has 7 MA's), (64, 46066), (84, 45943),

Gene: QueenBeesly_79 Start: 46830, Stop: 46513, Start Num: 22
Candidate Starts for QueenBeesly_79:
(Start: 22 @46830 has 39 MA's), (59, 46719), (67, 46668), (68, 46662), (71, 46644), (81, 46602), (84, 46563),

Gene: Rachaly_76 Start: 45987, Stop: 45709, Start Num: 31
Candidate Starts for Rachaly_76:
(6, 46284), (Start: 31 @45987 has 64 MA's), (Start: 37 @45981 has 1 MA's), (56, 45942), (59, 45924), (68, 45867), (71, 45849), (81, 45807), (84, 45768), (89, 45720),

Gene: Reba_78 Start: 44922, Stop: 44692, Start Num: 54
Candidate Starts for Reba_78:
(21, 45072), (44, 44964), (49, 44946), (Start: 54 @44922 has 91 MA's), (66, 44853), (70, 44829), (84, 44742),

Gene: RedRock_79 Start: 47115, Stop: 46849, Start Num: 37
Candidate Starts for RedRock_79:
(3, 47439), (5, 47433), (Start: 31 @47121 has 64 MA's), (Start: 37 @47115 has 1 MA's), (59, 47058), (70, 46992), (77, 46965), (84, 46902),

Gene: Retro23_79 Start: 46560, Stop: 46258, Start Num: 41
Candidate Starts for Retro23_79:
(Start: 41 @46560 has 7 MA's), (64, 46470), (84, 46347),

Gene: Rifter_81 Start: 44458, Stop: 44243, Start Num: 53
Candidate Starts for Rifter_81:
(Start: 53 @44458 has 30 MA's), (56, 44446),

Gene: Roary_88 Start: 46911, Stop: 46669, Start Num: 48
Candidate Starts for Roary_88:
(Start: 48 @46911 has 9 MA's), (70, 46800), (71, 46791), (75, 46779),

Gene: Roimos_82 Start: 46884, Stop: 46648, Start Num: 54
Candidate Starts for Roimos_82:
(Start: 38 @46905 has 4 MA's), (Start: 54 @46884 has 91 MA's), (66, 46815), (71, 46782),

Gene: Rummer_82 Start: 46299, Stop: 46069, Start Num: 54
Candidate Starts for Rummer_82:
(44, 46341), (Start: 54 @46299 has 91 MA's), (56, 46290), (Start: 58 @46278 has 2 MA's), (59, 46272), (70, 46206),

Gene: Sabia_81 Start: 46279, Stop: 46049, Start Num: 54
Candidate Starts for Sabia_81:
(44, 46321), (Start: 54 @46279 has 91 MA's), (56, 46270), (Start: 58 @46258 has 2 MA's), (59, 46252), (70, 46186),

Gene: Sabinator_81 Start: 46273, Stop: 46043, Start Num: 54
Candidate Starts for Sabinator_81:
(44, 46315), (Start: 54 @46273 has 91 MA's), (56, 46264), (Start: 58 @46252 has 2 MA's), (59, 46246), (70, 46180),

Gene: Saintus_82 Start: 43589, Stop: 43317, Start Num: 39
Candidate Starts for Saintus_82:
(26, 43649), (Start: 39 @43589 has 3 MA's), (Start: 54 @43541 has 91 MA's), (70, 43448), (71, 43439),

Gene: Salz_75 Start: 44330, Stop: 44055, Start Num: 31
Candidate Starts for Salz_75:

(7, 44570), (9, 44507), (Start: 31 @44330 has 64 MA's), (59, 44261), (62, 44240), (66, 44219), (70, 44195), (72, 44183), (84, 44105),

Gene: Saskia_78 Start: 44878, Stop: 44603, Start Num: 31
Candidate Starts for Saskia_78:
(9, 45055), (Start: 31 @44878 has 64 MA's), (59, 44809), (62, 44788), (66, 44767), (70, 44743), (72, 44731), (84, 44653),

Gene: SaturnRing_84 Start: 47028, Stop: 46792, Start Num: 54
Candidate Starts for SaturnRing_84:
(Start: 38 @47049 has 4 MA's), (Start: 54 @47028 has 91 MA's), (66, 46959), (71, 46926), (84, 46848),

Gene: Scorpia_74 Start: 45000, Stop: 44758, Start Num: 43
Candidate Starts for Scorpia_74:
(Start: 43 @45000 has 8 MA's),

Gene: Scout_82 Start: 46209, Stop: 45973, Start Num: 54
Candidate Starts for Scout_82:
(Start: 38 @46230 has 4 MA's), (Start: 54 @46209 has 91 MA's), (66, 46140), (71, 46107),

Gene: SemperFi_79 Start: 46718, Stop: 46401, Start Num: 22
Candidate Starts for SemperFi_79:
(Start: 22 @46718 has 39 MA's), (59, 46607), (67, 46556), (68, 46550), (71, 46532), (81, 46490), (84, 46451),

Gene: Sham4_76 Start: 44413, Stop: 44138, Start Num: 31
Candidate Starts for Sham4_76:
(7, 44653), (9, 44590), (Start: 31 @44413 has 64 MA's), (59, 44344), (62, 44323), (66, 44302), (70, 44278), (72, 44266), (84, 44188),

Gene: Sknot_79 Start: 46362, Stop: 46042, Start Num: 22
Candidate Starts for Sknot_79:
(Start: 22 @46362 has 39 MA's), (33, 46308), (59, 46251), (67, 46200), (68, 46194), (71, 46176), (81, 46134), (84, 46095),

Gene: Smeadley_86 Start: 46775, Stop: 46533, Start Num: 48
Candidate Starts for Smeadley_86:
(Start: 48 @46775 has 9 MA's), (70, 46664), (71, 46655), (75, 46643),

Gene: Smeagan_82 Start: 47272, Stop: 46952, Start Num: 22
Candidate Starts for Smeagan_82:
(Start: 22 @47272 has 39 MA's), (33, 47218), (Start: 42 @47197 has 32 MA's), (56, 47179), (66, 47119), (67, 47110), (68, 47104), (71, 47086), (84, 47005),

Gene: SmellyB_81 Start: 45136, Stop: 44915, Start Num: 53
Candidate Starts for SmellyB_81:
(Start: 53 @45136 has 30 MA's), (56, 45124),

Gene: SnapTap_79 Start: 46689, Stop: 46372, Start Num: 22
Candidate Starts for SnapTap_79:
(Start: 22 @46689 has 39 MA's), (59, 46578), (67, 46527), (68, 46521), (71, 46503), (81, 46461), (84, 46422),

Gene: Snape_80 Start: 45523, Stop: 45248, Start Num: 31
Candidate Starts for Snape_80:
(7, 45763), (9, 45700), (Start: 31 @45523 has 64 MA's), (59, 45454), (62, 45433), (66, 45412), (70, 45388), (72, 45376), (84, 45298),

Gene: Snickers_83 Start: 46244, Stop: 46014, Start Num: 54
Candidate Starts for Snickers_83:
(44, 46286), (Start: 54 @46244 has 91 MA's), (56, 46235), (Start: 58 @46223 has 2 MA's), (59, 46217), (70, 46151),

Gene: SoYo_80 Start: 46187, Stop: 45957, Start Num: 54
Candidate Starts for SoYo_80:
(44, 46229), (Start: 54 @46187 has 91 MA's), (56, 46178), (Start: 58 @46166 has 2 MA's), (59, 46160), (70, 46094),

Gene: SoilDragon_83 Start: 45714, Stop: 45484, Start Num: 54
Candidate Starts for SoilDragon_83:
(44, 45756), (Start: 54 @45714 has 91 MA's), (56, 45705), (Start: 58 @45693 has 2 MA's), (59, 45687), (70, 45621), (84, 45534),

Gene: Soshari_85 Start: 46274, Stop: 46065, Start Num: 58
Candidate Starts for Soshari_85:
(44, 46337), (Start: 54 @46295 has 91 MA's), (56, 46286), (Start: 58 @46274 has 2 MA's), (59, 46268), (70, 46202),

Gene: Spike509_83 Start: 46296, Stop: 46066, Start Num: 54
Candidate Starts for Spike509_83:
(44, 46338), (Start: 54 @46296 has 91 MA's), (56, 46287), (Start: 58 @46275 has 2 MA's), (59, 46269), (70, 46203),

Gene: Stagni_80 Start: 46274, Stop: 46044, Start Num: 54
Candidate Starts for Stagni_80:
(44, 46316), (Start: 54 @46274 has 91 MA's), (56, 46265), (Start: 58 @46253 has 2 MA's), (59, 46247), (70, 46181),

Gene: StarStuff_80 Start: 46596, Stop: 46324, Start Num: 31
Candidate Starts for StarStuff_80:
(Start: 31 @46596 has 64 MA's), (59, 46533), (70, 46467), (84, 46377),

Gene: StepMih_83 Start: 46244, Stop: 46035, Start Num: 58
Candidate Starts for StepMih_83:
(44, 46307), (Start: 54 @46265 has 91 MA's), (56, 46256), (Start: 58 @46244 has 2 MA's), (59, 46238), (70, 46172),

Gene: Stephig9_85 Start: 46744, Stop: 46472, Start Num: 39
Candidate Starts for Stephig9_85:
(26, 46804), (Start: 39 @46744 has 3 MA's), (Start: 54 @46696 has 91 MA's), (70, 46603), (71, 46594),

Gene: SuperAwesome_81 Start: 45817, Stop: 45596, Start Num: 53
Candidate Starts for SuperAwesome_81:
(13, 46021), (Start: 25 @45931 has 1 MA's), (Start: 53 @45817 has 30 MA's), (56, 45805),

Gene: SuperCallie99_78 Start: 45658, Stop: 45437, Start Num: 53

Candidate Starts for SuperCallie99_78:
(Start: 53 @45658 has 30 MA's), (56, 45646),

Gene: SweetiePie_79 Start: 46821, Stop: 46504, Start Num: 22
Candidate Starts for SweetiePie_79:
(Start: 22 @46821 has 39 MA's), (59, 46710), (67, 46659), (68, 46653), (71, 46635), (81, 46593), (84, 46554),

Gene: Swirley_71 Start: 44403, Stop: 44158, Start Num: 42
Candidate Starts for Swirley_71:
(Start: 42 @44403 has 32 MA's), (Start: 54 @44373 has 91 MA's), (64, 44316), (67, 44295), (75, 44259),

Gene: SydNat_71 Start: 44601, Stop: 44359, Start Num: 42
Candidate Starts for SydNat_71:
(Start: 42 @44601 has 32 MA's), (55, 44568), (56, 44565), (Start: 58 @44553 has 2 MA's), (64, 44517), (67, 44496), (75, 44460), (80, 44436),

Gene: TNguyen7_84 Start: 47007, Stop: 46750, Start Num: 38
Candidate Starts for TNguyen7_84:
(Start: 38 @47007 has 4 MA's), (Start: 54 @46986 has 91 MA's), (66, 46917), (71, 46884), (84, 46806),

Gene: TarsusIV_79 Start: 46873, Stop: 46601, Start Num: 31
Candidate Starts for TarsusIV_79:
(Start: 31 @46873 has 64 MA's), (32, 46867), (56, 46828), (59, 46810), (67, 46759), (68, 46753), (71, 46735), (84, 46654),

Gene: Tarynearal_70 Start: 44239, Stop: 43994, Start Num: 42
Candidate Starts for Tarynearal_70:
(Start: 42 @44239 has 32 MA's), (Start: 54 @44209 has 91 MA's), (64, 44152), (75, 44095),

Gene: Taurus_84 Start: 46274, Stop: 46044, Start Num: 54
Candidate Starts for Taurus_84:
(44, 46316), (Start: 54 @46274 has 91 MA's), (56, 46265), (Start: 58 @46253 has 2 MA's), (59, 46247), (70, 46181),

Gene: Terrific_80 Start: 46336, Stop: 46016, Start Num: 22
Candidate Starts for Terrific_80:
(Start: 22 @46336 has 39 MA's), (33, 46282), (59, 46225), (67, 46174), (68, 46168), (71, 46150), (81, 46108), (84, 46069),

Gene: Theia_70 Start: 44724, Stop: 44482, Start Num: 42
Candidate Starts for Theia_70:
(Start: 42 @44724 has 32 MA's), (55, 44691), (56, 44688), (64, 44640), (67, 44619), (75, 44583), (80, 44559),

Gene: Tiffany_82 Start: 46159, Stop: 45929, Start Num: 54
Candidate Starts for Tiffany_82:
(44, 46201), (Start: 54 @46159 has 91 MA's), (56, 46150), (Start: 58 @46138 has 2 MA's), (59, 46132), (70, 46066),

Gene: Tiger_70 Start: 44180, Stop: 43935, Start Num: 42
Candidate Starts for Tiger_70:

(Start: 42 @44180 has 32 MA's), (55, 44144), (64, 44093), (67, 44072), (75, 44036),

Gene: Timothy_80 Start: 45500, Stop: 45225, Start Num: 31
Candidate Starts for Timothy_80:
(7, 45740), (9, 45677), (Start: 31 @45500 has 64 MA's), (59, 45431), (62, 45410), (66, 45389), (70, 45365), (72, 45353), (84, 45275),

Gene: TinyPebbles_82 Start: 46303, Stop: 46073, Start Num: 54
Candidate Starts for TinyPebbles_82:
(44, 46345), (Start: 54 @46303 has 91 MA's), (Start: 58 @46282 has 2 MA's), (59, 46276), (70, 46210), (71, 46201),

Gene: TinyTimmy_79 Start: 45229, Stop: 44954, Start Num: 31
Candidate Starts for TinyTimmy_79:
(7, 45469), (9, 45406), (Start: 31 @45229 has 64 MA's), (59, 45160), (62, 45139), (66, 45118), (70, 45094), (72, 45082), (84, 45004),

Gene: Tomathan_80 Start: 46674, Stop: 46402, Start Num: 31
Candidate Starts for Tomathan_80:
(Start: 31 @46674 has 64 MA's), (59, 46611), (70, 46545), (84, 46455),

Gene: Travvers_80 Start: 46591, Stop: 46319, Start Num: 31
Candidate Starts for Travvers_80:
(Start: 31 @46591 has 64 MA's), (59, 46528), (70, 46462), (84, 46372),

Gene: Trixie_80 Start: 47546, Stop: 47271, Start Num: 31
Candidate Starts for Trixie_80:
(Start: 31 @47546 has 64 MA's), (59, 47480), (71, 47405), (77, 47387), (84, 47324),

Gene: Trooper_79 Start: 46430, Stop: 46158, Start Num: 31
Candidate Starts for Trooper_79:
(14, 46544), (Start: 31 @46430 has 64 MA's), (32, 46424), (56, 46385), (59, 46367), (68, 46310), (71, 46292), (81, 46250), (84, 46211),

Gene: Turbido_80 Start: 46993, Stop: 46673, Start Num: 22
Candidate Starts for Turbido_80:
(Start: 22 @46993 has 39 MA's), (33, 46939), (Start: 42 @46918 has 32 MA's), (56, 46900), (66, 46840), (67, 46831), (68, 46825), (71, 46807), (84, 46726),

Gene: Twigg_70 Start: 44051, Stop: 43806, Start Num: 42
Candidate Starts for Twigg_70:
(Start: 42 @44051 has 32 MA's), (Start: 54 @44021 has 91 MA's), (64, 43964), (75, 43907),

Gene: UnionJack_75 Start: 44664, Stop: 44422, Start Num: 43
Candidate Starts for UnionJack_75:
(Start: 43 @44664 has 8 MA's), (55, 44631),

Gene: Updawg_80 Start: 46550, Stop: 46230, Start Num: 22
Candidate Starts for Updawg_80:
(Start: 22 @46550 has 39 MA's), (33, 46496), (59, 46439), (67, 46388), (68, 46382), (71, 46364), (81, 46322), (84, 46283),

Gene: VA6_79 Start: 46565, Stop: 46284, Start Num: 22

Candidate Starts for VA6_79:
(Start: 22 @46565 has 39 MA's), (Start: 23 @46559 has 2 MA's), (56, 46511), (59, 46493), (61, 46475), (68, 46436), (71, 46418), (81, 46376), (84, 46337),

Gene: VC3_78 Start: 45517, Stop: 45221, Start Num: 31
Candidate Starts for VC3_78:
(Start: 31 @45517 has 64 MA's), (70, 45385), (84, 45295),

Gene: Vix_79 Start: 46354, Stop: 46124, Start Num: 54
Candidate Starts for Vix_79:
(44, 46396), (Start: 54 @46354 has 91 MA's), (Start: 58 @46333 has 2 MA's), (59, 46327), (70, 46261),

Gene: VohminGhazi_81 Start: 45137, Stop: 44916, Start Num: 53
Candidate Starts for VohminGhazi_81:
(Start: 53 @45137 has 30 MA's), (56, 45125),

Gene: Watson_82 Start: 46263, Stop: 46033, Start Num: 54
Candidate Starts for Watson_82:
(44, 46305), (Start: 54 @46263 has 91 MA's), (56, 46254), (Start: 58 @46242 has 2 MA's), (59, 46236), (70, 46170),

Gene: Whabigail7_79 Start: 46991, Stop: 46671, Start Num: 22
Candidate Starts for Whabigail7_79:
(Start: 22 @46991 has 39 MA's), (33, 46937), (Start: 42 @46916 has 32 MA's), (56, 46898), (66, 46838), (67, 46829), (68, 46823), (71, 46805), (84, 46724),

Gene: WideWale_80 Start: 46550, Stop: 46230, Start Num: 22
Candidate Starts for WideWale_80:
(Start: 22 @46550 has 39 MA's), (33, 46496), (59, 46439), (67, 46388), (68, 46382), (71, 46364), (81, 46322), (84, 46283),

Gene: Wolpertinger_78 Start: 45532, Stop: 45257, Start Num: 31
Candidate Starts for Wolpertinger_78:
(7, 45772), (9, 45709), (Start: 31 @45532 has 64 MA's), (59, 45463), (62, 45442), (66, 45421), (70, 45397), (72, 45385), (84, 45307),

Gene: Wooldri_85 Start: 46180, Stop: 45950, Start Num: 54
Candidate Starts for Wooldri_85:
(44, 46222), (Start: 54 @46180 has 91 MA's), (56, 46171), (Start: 58 @46159 has 2 MA's), (59, 46153), (70, 46087),

Gene: XianYue_78 Start: 46882, Stop: 46607, Start Num: 31
Candidate Starts for XianYue_78:
(14, 46996), (Start: 31 @46882 has 64 MA's), (59, 46813), (70, 46747), (71, 46738), (79, 46708), (84, 46657),

Gene: Zolita_70 Start: 44584, Stop: 44342, Start Num: 42
Candidate Starts for Zolita_70:
(Start: 42 @44584 has 32 MA's), (55, 44551), (56, 44548), (Start: 58 @44536 has 2 MA's), (64, 44500), (67, 44479), (75, 44443), (80, 44419),