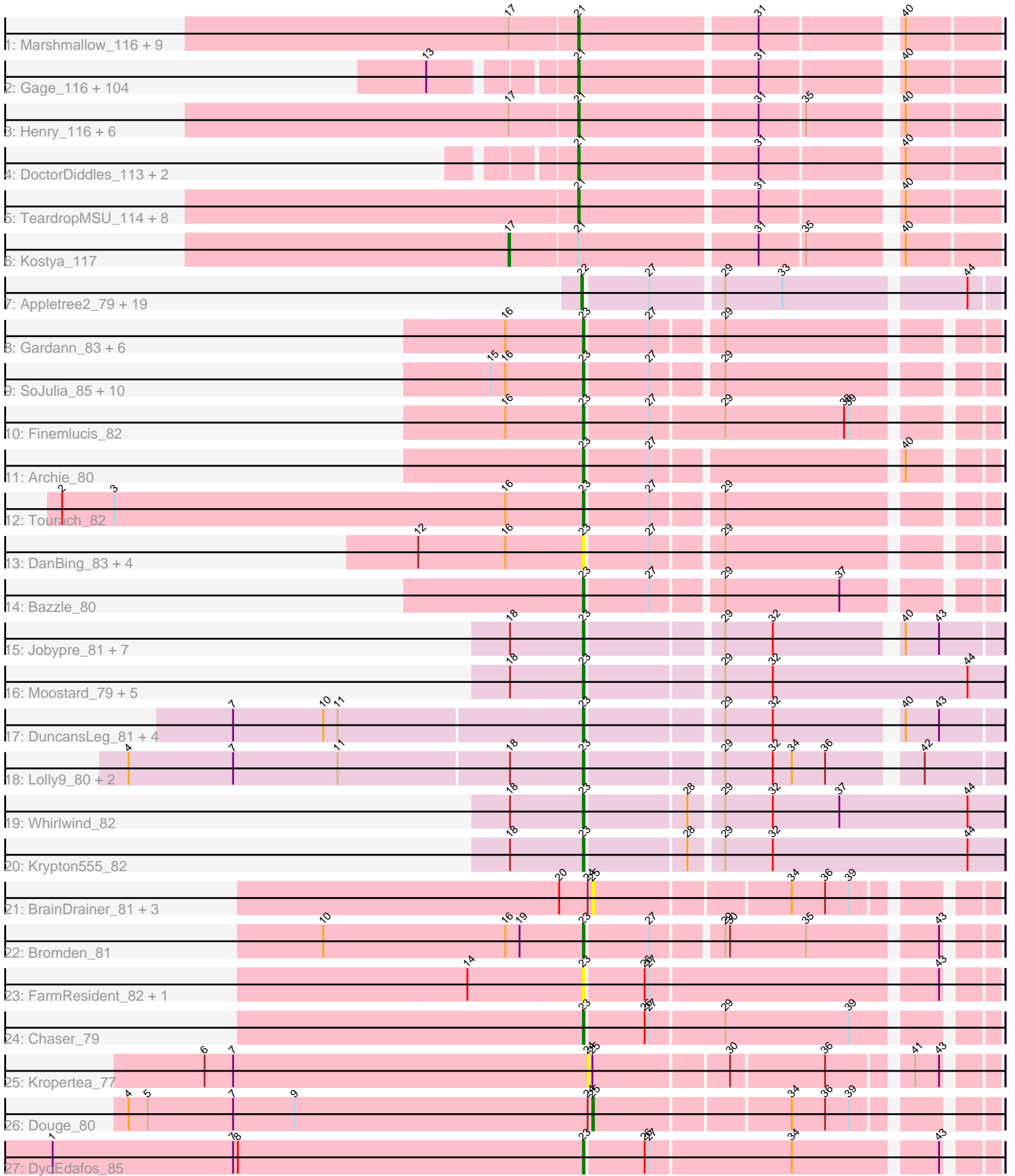


Pham 215825



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 215825 Report

This analysis was run 02/22/25 on database version 588.

Pham number 215825 has 217 members, 34 are drafts.

Phages represented in each track:

- Track 1 : Marshmallow_116, Pat3_114, Bask21_118, Inca_114, Cookies_115, Phaja_116, Amao_118, Dusk_115, FoghornLeghorn_111, SirDuracell_118
- Track 2 : Gage_116, MadamMonkfish_113, StormChicken_116, Eureka_114, Misfit_115, Traaww1_111, HanKaySha_114, Kimchi_119, Contagion_111, Adnama_118, Murica_118, Saints25_110, Becksu_112, JeTaime_113, TBrady12_118, ChosenOne_114, Petra64142_118, Hopey_114, Murphy_113, Phaux_116, Stark_114, BaboJay_114, Moldemort_116, Emmina_114, Pumpkin_115, Bruin_111, Xandras_114, Elite2014_113, Sassay_109, CrystalP_115, MPhalcon_115, GoldenSpark_118, Barbarian_114, xkcd_118, Maxxinista_116, 244_116, BilboSwaggins_114, Bench_116, Tarkin_113, Simpliphy_112, Manda_115, Buck_115, Asriel_113, FairyPath_114, Command613_117, Stank_117, Flypotenuse_111, Dumbo_114, MISSy_115, Ukulele_109, Cjw1_114, Wiggin_117, YassJohnny_111, Qualification_115, Easy2Say_114, AmericanBeauty_117, Hoonter_117, Youngblood_118, Rimmer_112, Gemini_119, PhatBacter_117, FireRed_117, Lilac_115, Czyszczo1_114, Policronamos_117, Teaspoon_115, Thresher_115, ShereKhan_112, Filch_117, Argent26_118, BigBubba_116, Goku_114, Goldilocks_118, Miniwave_109, Myrale_115, Terminus_117, Lilizi_114, Palpatine_115, Porky_113, Thimble_116, OrionPax_112, Highbury_110, Balomoji_115, NoSleep_114, Toto_113, StellaBean_112, Mosby_111, Rakim_116, NelitzaMV_111, HufflyPuff_116, Nimrod_115, BugsBunny_113, Willez_109, Phrux_110, Paperbeatsrock_113, Nala_116, Holt_120, RiverMonster_113, Tomaszewski_109, ShamWow_115, Kanye_111, StolenFromERC_116, Lilpickle_113, GooberAzure_117, Elph10_113
- Track 3 : Henry_116, Glexan_117, Harella_119, ChotaBhai_118, Gator_116, IHOP_116, DrDrey_118
- Track 4 : DoctorDiddles_113, Daikon_116, SophKB_113
- Track 5 : TeardropMSU_114, Sotrice96_119, Mindy_117, Icee_119, BadStone_115, ABCat_115, Cactus_122, Tuco_119, Pharsalus_114
- Track 6 : Kostya_117
- Track 7 : Appletree2_79, Enceladus_77, AvadaKedavra_80, Silverleaf_80, Wyatt2_81, DirkDirk_77, MAckerman_78, OhShagHennessy_77, Rose5_80, Zaria_81, Acquire49_80, LeBron_79, UPIE_79, Halena_78, JoeDirt_80, CicholasNage_77, Poochiewood_78, Wamburggrxpress_80, Tyson_81, Calm_82
- Track 8 : Gardann_83, Sarshaun_84, Nicholasp3_83, Crossroads_83, Rumpelstiltskin_80, Soap141_83, Underpass_74
- Track 9 : SoJulia_85, BobsGarage_83, Faith1_83, Netyap_84, DrSeegs_83, BigCheese_83, Winky_83, Miley16_83, Breezona_83, Itos_82, Gabriela_82

- Track 10 : Finemlucis_82
- Track 11 : Archie_80
- Track 12 : Tourach_82
- Track 13 : DanBing_83, Baoshan_80, Hafay_84, Claus_83, ZhongYanYuan_80
- Track 14 : Bazzle_80
- Track 15 : Jobypre_81, Clautastrophe_79, Bellis_79, Red305_82, Lumos_81, MsGreen_81, Jubie_80, Snenia_80
- Track 16 : Moostard_79, Finnry_81, Kingsolomon_79, Nicholas_79, Samty_80, TriFive_81
- Track 17 : DuncansLeg_81, BourbonZero_82, Ellson_80, KirDoubleO7_79, LiyuLake_80
- Track 18 : Lolly9_80, MiniMac_85, MiniLon_85
- Track 19 : Whirlwind_82
- Track 20 : Krypton555_82
- Track 21 : BrainDrainer_81, Sheng711_82, Douzhi_81, PYPDinur_80
- Track 22 : Bromden_81
- Track 23 : FarmResident_82, Quby_81
- Track 24 : Chaser_79
- Track 25 : Kropertea_77
- Track 26 : Douge_80
- Track 27 : DyoEdafos_85

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

The start number called the most often in the published annotations is 21, it was called in 124 of the 183 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244_116, ABCat_115, Adnama_118, Amao_118, AmericanBeauty_117, Argent26_118, Asriel_113, BaboJay_114, BadStone_115, Balomoji_115, Barbarian_114, Bask21_118, Becksu_112, Bench_116, BigBubba_116, BilboSwaggins_114, Bruin_111, Buck_115, BugsBunny_113, Cactus_122, ChosenOne_114, ChotaBhai_118, Cjw1_114, Command613_117, Contagion_111, Cookies_115, CrystalP_115, Czyszczonek_114, Daikon_116, DoctorDiddles_113, DrDrey_118, Dumbo_114, Dusk_115, Easy2Say_114, Elite2014_113, Elph10_113, Emmina_114, Eureka_114, FairyPath_114, Filch_117, FireRed_117, Flypotenuse_111, FoghornLeghorn_111, Gage_116, Gator_116, Gemini_119, Glexan_117, Goku_114, GoldenSpark_118, Goldilocks_118, GooberAzure_117, HanKaySha_114, Harella_119, Henry_116, Highbury_110, Holt_120, Hoonter_117, Hopey_114, HuffyPuff_116, IHOP_116, Icee_119, Inca_114, JeTaime_113, Kanye_111, Kimchi_119, Lilac_115, Lilizi_114, Lilpickle_113, MISSy_115, MPhalcon_115, MadamMonkfish_113, Manda_115, Marshmallow_116, Maxxinista_116, Mindy_117, Miniwave_109, Misfit_115, Moldemort_116, Mosby_111, Murica_118, Murphy_113, Myrale_115, Nala_116, NelitzaMV_111, Nimrod_115, NoSleep_114, OrionPax_112, Palpatine_115, Paperbeatsrock_113, Pat3_114, Petra64142_118, Phaja_116, Pharsalus_114, PhatBacter_117, Phaux_116, Phrux_110, Policronamos_117, Porky_113, Pumpkin_115, Quallification_115, Rakim_116, Rimmer_112, RiverMonster_113, Saints25_110, Sassay_109, ShamWow_115, ShereKhan_112, Simpliphy_112, SirDuracell_118, SophKB_113, Sotrice96_119, Stank_117, Stark_114, StellaBean_112, StolenFromERC_116,

StormChicken_116, TBrady12_118, Tarkin_113, TeardropMSU_114, Teaspoon_115, Terminus_117, Thimble_116, Thresher_115, Tomaszewski_109, Toto_113, Traaww1_111, Tuco_119, Ukulele_109, Wiggin_117, Willez_109, Xandras_114, YassJohnny_111, Youngblood_118, xkcd_118,

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

- Kostya_117,

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

- Acquire49_80, Appletree2_79, Archie_80, AvadaKedavra_80, Baoshan_80, Bazzle_80, Bellis_79, BigCheese_83, BobsGarage_83, BourbonZero_82, BrainDrainer_81, Breezona_83, Bromden_81, Calm_82, Chaser_79, CicholasNage_77, Claus_83, Clautastrophe_79, Crossroads_83, DanBing_83, DirkDirk_77, Douge_80, Douzhi_81, DrSeegs_83, DuncansLeg_81, DyoEdafos_85, Ellson_80, Enceladus_77, Faith1_83, FarmResident_82, Finemlucis_82, Finnry_81, Gabriela_82, Gardann_83, Hafay_84, Halena_78, Itos_82, Jobypre_81, JoeDirt_80, Jubie_80, Kingsolomon_79, KirDoubleO7_79, Kropertea_77, Krypton555_82, LeBron_79, LiyuLake_80, Lolly9_80, Lumos_81, MAckerman_78, Miley16_83, MiniLon_85, MiniMac_85, Moostard_79, MsGreen_81, Netyap_84, Nicholas_79, Nicholasp3_83, OhShagHennessy_77, PYPDinur_80, Poochiewood_78, Quby_81, Red305_82, Rose5_80, Rumpelstiltskin_80, Samty_80, Sarshaun_84, Sheng711_82, Silverleaf_80, Snenia_80, SoJulia_85, Soap141_83, Tourach_82, TriFive_81, Tyson_81, UPIE_79, Underpass_74, Wamburggrxpress_80, Whirlwind_82, Winky_83, Wyatt2_81, Zaria_81, ZhongYanYuan_80,

Summary by start number:

Start 17:

- Found in 18 of 217 (8.3%) of genes in pham
- Manual Annotations of this start: 1 of 183
- Called 5.6% of time when present
- Phage (with cluster) where this start called: Kostya_117 (E),

Start 21:

- Found in 135 of 217 (62.2%) of genes in pham
- Manual Annotations of this start: 124 of 183
- Called 99.3% of time when present
- Phage (with cluster) where this start called: 244_116 (E), ABCat_115 (E), Adnama_118 (E), Amao_118 (E), AmericanBeauty_117 (E), Argent26_118 (E), Asriel_113 (E), BaboJay_114 (E), BadStone_115 (E), Balomoji_115 (E), Barbarian_114 (E), Bask21_118 (E), Becksu_112 (E), Bench_116 (E), BigBubba_116 (E), BilboSwaggins_114 (E), Bruin_111 (E), Buck_115 (E), BugsBunny_113 (E), Cactus_122 (E), ChosenOne_114 (E), ChotaBhai_118 (E), Cjw1_114 (E), Command613_117 (E), Contagion_111 (E), Cookies_115 (E), CrystalP_115 (E), Czyszczon1_114 (E), Daikon_116 (E), DoctorDiddles_113 (E), DrDrey_118 (E), Dumbo_114 (E), Dusk_115 (E), Easy2Say_114 (E), Elite2014_113 (E), Elph10_113 (E), Emmina_114 (E), Eureka_114 (E), FairyPath_114 (E), Filch_117 (E), FireRed_117 (E), Flypotenuse_111 (E), FoghornLeghorn_111 (E), Gage_116 (E), Gator_116 (E), Gemini_119 (E), Glexan_117 (E), Goku_114 (E), GoldenSpark_118 (E), Goldilocks_118 (E), GooberAzure_117 (E), HanKaySha_114 (E), Harella_119 (E), Henry_116 (E), Highbury_110 (E), Holt_120 (E), Hoonter_117 (E), Hopey_114 (E), HufflyPuff_116 (E), IHOP_116 (E), Icee_119 (E), Inca_114 (E), JeTaimie_113 (E), Kanye_111 (E), Kimchi_119 (E), Lilac_115 (E), Lilizi_114 (E), Lilpickle_113 (E),

MISSy_115 (E), MPhalcon_115 (E), MadamMonkfish_113 (E), Manda_115 (E), Marshmallow_116 (E), Maxxinista_116 (E), Mindy_117 (E), Miniwave_109 (E), Misfit_115 (E), Moldemort_116 (E), Mosby_111 (E), Murica_118 (E), Murphy_113 (E), Myrale_115 (E), Nala_116 (E), NelitzaMV_111 (E), Nimrod_115 (E), NoSleep_114 (E), OrionPax_112 (E), Palpatine_115 (E), Paperbeatsrock_113 (E), Pat3_114 (E), Petra64142_118 (E), Phaja_116 (E), Pharsalus_114 (E), PhatBacter_117 (E), Phaux_116 (E), Phrux_110 (E), Policronamos_117 (E), Porky_113 (E), Pumpkin_115 (E), Quallification_115 (E), Rakim_116 (E), Rimmer_112 (E), RiverMonster_113 (E), Saints25_110 (E), Sassay_109 (E), ShamWow_115 (E), ShereKhan_112 (E), Simpliphy_112 (E), SirDuracell_118 (E), SophKB_113 (E), Sotrice96_119 (E), Stank_117 (E), Stark_114 (E), StellaBean_112 (E), StolenFromERC_116 (E), StormChicken_116 (E), TBrady12_118 (E), Tarkin_113 (E), TeardropMSU_114 (E), Teaspoon_115 (E), Terminus_117 (E), Thimble_116 (E), Thresher_115 (E), Tomaszewski_109 (E), Toto_113 (E), Traaww1_111 (E), Tuco_119 (E), Ukulele_109 (E), Wiggin_117 (E), Willez_109 (E), Xandras_114 (E), YassJohnny_111 (E), Youngblood_118 (E), xkcd_118 (E),

Start 22:

- Found in 20 of 217 (9.2%) of genes in pham
- Manual Annotations of this start: 19 of 183
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Acquire49_80 (L1), Appletree2_79 (L1), AvadaKedavra_80 (L1), Calm_82 (L1), CicholasNage_77 (L1), DirkDirk_77 (L1), Enceladus_77 (L1), Halena_78 (L1), JoeDirt_80 (L1), LeBron_79 (L1), MAckerman_78 (L1), OhShagHennessy_77 (L1), Poochiewood_78 (L1), Rose5_80 (L1), Silverleaf_80 (L1), Tyson_81 (L1), UPIE_79 (L1), Wamburggrxpress_80 (L1), Wyatt2_81 (L1), Zaria_81 (L1),

Start 23:

- Found in 56 of 217 (25.8%) of genes in pham
- Manual Annotations of this start: 38 of 183
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Archie_80 (L2), Baoshan_80 (L2), Bazzle_80 (L2), Bellis_79 (L3), BigCheese_83 (L2), BobsGarage_83 (L2), BourbonZero_82 (L3), Breezona_83 (L2), Bromden_81 (L4), Chaser_79 (L4), Claus_83 (L2), Clautastrophe_79 (L3), Crossroads_83 (L2), DanBing_83 (L2), DrSeegs_83 (L2), DuncansLeg_81 (L3), DyoEdafos_85 (L4), Ellson_80 (L3), Faith1_83 (L2), FarmResident_82 (L4), Finemlucis_82 (L2), Finnry_81 (L3), Gabriela_82 (L2), Gardann_83 (L2), Hafay_84 (L2), Itos_82 (L2), Jobypre_81 (L3), Jubie_80 (L3), Kingsolomon_79 (L3), KirDoubleO7_79 (L3), Krypton555_82 (L3), LiyuLake_80 (L3), Lolly9_80 (L3), Lumos_81 (L3), Miley16_83 (L2), MiniLon_85 (L3), MiniMac_85 (L3), Moostard_79 (L3), MsGreen_81 (L3), Netyap_84 (L2), Nicholas_79 (L3), Nicholasp3_83 (L2), Quby_81 (L4), Red305_82 (L3), Rumpelstiltskin_80 (L2), Samty_80 (L3), Sarshaun_84 (L2), Snenia_80 (L3), SoJulia_85 (L2), Soap141_83 (L2), Tourach_82 (L2), TriFive_81 (L3), Underpass_74 (L2), Whirlwind_82 (L3), Winky_83 (L2), ZhongYanYuan_80 (L2),

Start 24:

- Found in 6 of 217 (2.8%) of genes in pham
- No Manual Annotations of this start.
- Called 16.7% of time when present
- Phage (with cluster) where this start called: Kropertea_77 (L4),

Start 25:

- Found in 6 of 217 (2.8%) of genes in pham
- Manual Annotations of this start: 1 of 183
- Called 83.3% of time when present
- Phage (with cluster) where this start called: BrainDrainer_81 (L4), Douge_80 (L4), Douzhi_81 (L4), PYPDinur_80 (L4), Sheng711_82 (L4),

Summary by clusters:

There are 5 clusters represented in this pham: E, L4, L2, L3, L1,

Info for manual annotations of cluster E:

- Start number 17 was manually annotated 1 time for cluster E.
- Start number 21 was manually annotated 124 times for cluster E.

Info for manual annotations of cluster L1:

- Start number 22 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 23 was manually annotated 18 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 23 was manually annotated 17 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 23 was manually annotated 3 times for cluster L4.
- Start number 25 was manually annotated 1 time for cluster L4.

Gene Information:

Gene: 244_116 Start: 65056, Stop: 65298, Start Num: 21

Candidate Starts for 244_116:

(13, 64978), (Start: 21 @65056 has 124 MA's), (31, 65164), (40, 65242),

Gene: ABCat_115 Start: 66539, Stop: 66781, Start Num: 21

Candidate Starts for ABCat_115:

(Start: 21 @66539 has 124 MA's), (31, 66647), (40, 66725),

Gene: Acquire49_80 Start: 52642, Stop: 52884, Start Num: 22

Candidate Starts for Acquire49_80:

(Start: 22 @52642 has 19 MA's), (27, 52681), (29, 52723), (33, 52759), (44, 52867),

Gene: Adnama_118 Start: 64969, Stop: 65211, Start Num: 21

Candidate Starts for Adnama_118:

(13, 64891), (Start: 21 @64969 has 124 MA's), (31, 65077), (40, 65155),

Gene: Amao_118 Start: 66102, Stop: 66344, Start Num: 21

Candidate Starts for Amao_118:

(Start: 17 @66060 has 1 MA's), (Start: 21 @66102 has 124 MA's), (31, 66210), (40, 66288),

Gene: AmericanBeauty_117 Start: 65011, Stop: 65253, Start Num: 21

Candidate Starts for AmericanBeauty_117:
(13, 64933), (Start: 21 @65011 has 124 MA's), (31, 65119), (40, 65197),

Gene: Appletree2_79 Start: 52253, Stop: 52495, Start Num: 22
Candidate Starts for Appletree2_79:
(Start: 22 @52253 has 19 MA's), (27, 52292), (29, 52334), (33, 52370), (44, 52478),

Gene: Archie_80 Start: 54193, Stop: 54423, Start Num: 23
Candidate Starts for Archie_80:
(Start: 23 @54193 has 38 MA's), (27, 54232), (40, 54376),

Gene: Argent26_118 Start: 64893, Stop: 65135, Start Num: 21
Candidate Starts for Argent26_118:
(13, 64815), (Start: 21 @64893 has 124 MA's), (31, 65001), (40, 65079),

Gene: Asriel_113 Start: 63844, Stop: 64086, Start Num: 21
Candidate Starts for Asriel_113:
(13, 63766), (Start: 21 @63844 has 124 MA's), (31, 63952), (40, 64030),

Gene: AvadaKedavra_80 Start: 52721, Stop: 52963, Start Num: 22
Candidate Starts for AvadaKedavra_80:
(Start: 22 @52721 has 19 MA's), (27, 52760), (29, 52802), (33, 52838), (44, 52946),

Gene: BaboJay_114 Start: 66229, Stop: 66471, Start Num: 21
Candidate Starts for BaboJay_114:
(13, 66151), (Start: 21 @66229 has 124 MA's), (31, 66337), (40, 66415),

Gene: BadStone_115 Start: 66087, Stop: 66329, Start Num: 21
Candidate Starts for BadStone_115:
(Start: 21 @66087 has 124 MA's), (31, 66195), (40, 66273),

Gene: Balomoji_115 Start: 65627, Stop: 65869, Start Num: 21
Candidate Starts for Balomoji_115:
(13, 65549), (Start: 21 @65627 has 124 MA's), (31, 65735), (40, 65813),

Gene: Baoshan_80 Start: 54479, Stop: 54709, Start Num: 23
Candidate Starts for Baoshan_80:
(12, 54377), (16, 54431), (Start: 23 @54479 has 38 MA's), (27, 54518), (29, 54557),

Gene: Barbarian_114 Start: 63844, Stop: 64086, Start Num: 21
Candidate Starts for Barbarian_114:
(13, 63766), (Start: 21 @63844 has 124 MA's), (31, 63952), (40, 64030),

Gene: Bask21_118 Start: 64904, Stop: 65146, Start Num: 21
Candidate Starts for Bask21_118:
(Start: 17 @64862 has 1 MA's), (Start: 21 @64904 has 124 MA's), (31, 65012), (40, 65090),

Gene: Bazzle_80 Start: 54382, Stop: 54612, Start Num: 23
Candidate Starts for Bazzle_80:
(Start: 23 @54382 has 38 MA's), (27, 54421), (29, 54460), (37, 54532),

Gene: Becksu_112 Start: 65282, Stop: 65524, Start Num: 21
Candidate Starts for Becksu_112:

(13, 65204), (Start: 21 @65282 has 124 MA's), (31, 65390), (40, 65468),

Gene: Bellis_79 Start: 54375, Stop: 54614, Start Num: 23

Candidate Starts for Bellis_79:

(18, 54330), (Start: 23 @54375 has 38 MA's), (29, 54453), (32, 54483), (40, 54555), (43, 54576),

Gene: Bench_116 Start: 65650, Stop: 65892, Start Num: 21

Candidate Starts for Bench_116:

(13, 65572), (Start: 21 @65650 has 124 MA's), (31, 65758), (40, 65836),

Gene: BigBubba_116 Start: 64702, Stop: 64944, Start Num: 21

Candidate Starts for BigBubba_116:

(13, 64624), (Start: 21 @64702 has 124 MA's), (31, 64810), (40, 64888),

Gene: BigCheese_83 Start: 54609, Stop: 54839, Start Num: 23

Candidate Starts for BigCheese_83:

(15, 54552), (16, 54561), (Start: 23 @54609 has 38 MA's), (27, 54648), (29, 54687),

Gene: BilboSwaggins_114 Start: 66124, Stop: 66366, Start Num: 21

Candidate Starts for BilboSwaggins_114:

(13, 66046), (Start: 21 @66124 has 124 MA's), (31, 66232), (40, 66310),

Gene: BobsGarage_83 Start: 54609, Stop: 54839, Start Num: 23

Candidate Starts for BobsGarage_83:

(15, 54552), (16, 54561), (Start: 23 @54609 has 38 MA's), (27, 54648), (29, 54687),

Gene: BourbonZero_82 Start: 54404, Stop: 54643, Start Num: 23

Candidate Starts for BourbonZero_82:

(7, 54188), (10, 54245), (11, 54254), (Start: 23 @54404 has 38 MA's), (29, 54482), (32, 54512), (40, 54584), (43, 54605),

Gene: BrainDrainer_81 Start: 53381, Stop: 53605, Start Num: 25

Candidate Starts for BrainDrainer_81:

(20, 53360), (24, 53378), (Start: 25 @53381 has 1 MA's), (34, 53498), (36, 53519), (39, 53534),

Gene: Breezona_83 Start: 54609, Stop: 54839, Start Num: 23

Candidate Starts for Breezona_83:

(15, 54552), (16, 54561), (Start: 23 @54609 has 38 MA's), (27, 54648), (29, 54687),

Gene: Bromden_81 Start: 54008, Stop: 54238, Start Num: 23

Candidate Starts for Bromden_81:

(10, 53846), (16, 53960), (19, 53969), (Start: 23 @54008 has 38 MA's), (27, 54047), (29, 54086), (30, 54089), (35, 54137), (43, 54212),

Gene: Bruin_111 Start: 64334, Stop: 64576, Start Num: 21

Candidate Starts for Bruin_111:

(13, 64256), (Start: 21 @64334 has 124 MA's), (31, 64442), (40, 64520),

Gene: Buck_115 Start: 66150, Stop: 66392, Start Num: 21

Candidate Starts for Buck_115:

(13, 66072), (Start: 21 @66150 has 124 MA's), (31, 66258), (40, 66336),

Gene: BugsBunny_113 Start: 65648, Stop: 65890, Start Num: 21

Candidate Starts for BugsBunny_113:
(13, 65570), (Start: 21 @65648 has 124 MA's), (31, 65756), (40, 65834),

Gene: Cactus_122 Start: 65447, Stop: 65689, Start Num: 21
Candidate Starts for Cactus_122:
(Start: 21 @65447 has 124 MA's), (31, 65555), (40, 65633),

Gene: Calm_82 Start: 52964, Stop: 53206, Start Num: 22
Candidate Starts for Calm_82:
(Start: 22 @52964 has 19 MA's), (27, 53003), (29, 53045), (33, 53081), (44, 53189),

Gene: Chaser_79 Start: 53007, Stop: 53243, Start Num: 23
Candidate Starts for Chaser_79:
(Start: 23 @53007 has 38 MA's), (26, 53043), (27, 53046), (29, 53091), (39, 53169),

Gene: ChosenOne_114 Start: 64534, Stop: 64776, Start Num: 21
Candidate Starts for ChosenOne_114:
(13, 64456), (Start: 21 @64534 has 124 MA's), (31, 64642), (40, 64720),

Gene: ChotaBhai_118 Start: 65846, Stop: 66088, Start Num: 21
Candidate Starts for ChotaBhai_118:
(Start: 17 @65804 has 1 MA's), (Start: 21 @65846 has 124 MA's), (31, 65954), (35, 65981), (40, 66032),

Gene: CicholasNage_77 Start: 52306, Stop: 52548, Start Num: 22
Candidate Starts for CicholasNage_77:
(Start: 22 @52306 has 19 MA's), (27, 52345), (29, 52387), (33, 52423), (44, 52531),

Gene: Cjw1_114 Start: 66343, Stop: 66585, Start Num: 21
Candidate Starts for Cjw1_114:
(13, 66265), (Start: 21 @66343 has 124 MA's), (31, 66451), (40, 66529),

Gene: Claus_83 Start: 54544, Stop: 54774, Start Num: 23
Candidate Starts for Claus_83:
(12, 54442), (16, 54496), (Start: 23 @54544 has 38 MA's), (27, 54583), (29, 54622),

Gene: Clautastrophe_79 Start: 54373, Stop: 54612, Start Num: 23
Candidate Starts for Clautastrophe_79:
(18, 54328), (Start: 23 @54373 has 38 MA's), (29, 54451), (32, 54481), (40, 54553), (43, 54574),

Gene: Command613_117 Start: 65620, Stop: 65862, Start Num: 21
Candidate Starts for Command613_117:
(13, 65542), (Start: 21 @65620 has 124 MA's), (31, 65728), (40, 65806),

Gene: Contagion_111 Start: 64696, Stop: 64938, Start Num: 21
Candidate Starts for Contagion_111:
(13, 64618), (Start: 21 @64696 has 124 MA's), (31, 64804), (40, 64882),

Gene: Cookies_115 Start: 65832, Stop: 66074, Start Num: 21
Candidate Starts for Cookies_115:
(Start: 17 @65790 has 1 MA's), (Start: 21 @65832 has 124 MA's), (31, 65940), (40, 66018),

Gene: Crossroads_83 Start: 54684, Stop: 54914, Start Num: 23

Candidate Starts for Crossroads_83:

(16, 54636), (Start: 23 @54684 has 38 MA's), (27, 54723), (29, 54762),

Gene: CrystalP_115 Start: 66124, Stop: 66366, Start Num: 21

Candidate Starts for CrystalP_115:

(13, 66046), (Start: 21 @66124 has 124 MA's), (31, 66232), (40, 66310),

Gene: Czyszczone1_114 Start: 64689, Stop: 64931, Start Num: 21

Candidate Starts for Czyszczone1_114:

(13, 64611), (Start: 21 @64689 has 124 MA's), (31, 64797), (40, 64875),

Gene: Daikon_116 Start: 64923, Stop: 65165, Start Num: 21

Candidate Starts for Daikon_116:

(Start: 21 @64923 has 124 MA's), (31, 65031), (40, 65109),

Gene: DanBing_83 Start: 54414, Stop: 54644, Start Num: 23

Candidate Starts for DanBing_83:

(12, 54312), (16, 54366), (Start: 23 @54414 has 38 MA's), (27, 54453), (29, 54492),

Gene: DirkDirk_77 Start: 51833, Stop: 52075, Start Num: 22

Candidate Starts for DirkDirk_77:

(Start: 22 @51833 has 19 MA's), (27, 51872), (29, 51914), (33, 51950), (44, 52058),

Gene: DoctorDiddles_113 Start: 64583, Stop: 64825, Start Num: 21

Candidate Starts for DoctorDiddles_113:

(Start: 21 @64583 has 124 MA's), (31, 64691), (40, 64769),

Gene: Douge_80 Start: 52966, Stop: 53190, Start Num: 25

Candidate Starts for Douge_80:

(4, 52675), (5, 52687), (7, 52741), (9, 52780), (24, 52963), (Start: 25 @52966 has 1 MA's), (34, 53083), (36, 53104), (39, 53119),

Gene: Douzhi_81 Start: 53198, Stop: 53422, Start Num: 25

Candidate Starts for Douzhi_81:

(20, 53177), (24, 53195), (Start: 25 @53198 has 1 MA's), (34, 53315), (36, 53336), (39, 53351),

Gene: DrDrey_118 Start: 67225, Stop: 67467, Start Num: 21

Candidate Starts for DrDrey_118:

(Start: 17 @67183 has 1 MA's), (Start: 21 @67225 has 124 MA's), (31, 67333), (35, 67360), (40, 67411),

Gene: DrSeegs_83 Start: 54609, Stop: 54839, Start Num: 23

Candidate Starts for DrSeegs_83:

(15, 54552), (16, 54561), (Start: 23 @54609 has 38 MA's), (27, 54648), (29, 54687),

Gene: Dumbo_114 Start: 64726, Stop: 64968, Start Num: 21

Candidate Starts for Dumbo_114:

(13, 64648), (Start: 21 @64726 has 124 MA's), (31, 64834), (40, 64912),

Gene: DuncansLeg_81 Start: 54392, Stop: 54631, Start Num: 23

Candidate Starts for DuncansLeg_81:

(7, 54176), (10, 54233), (11, 54242), (Start: 23 @54392 has 38 MA's), (29, 54470), (32, 54500), (40, 54572), (43, 54593),

Gene: Dusk_115 Start: 65747, Stop: 65989, Start Num: 21

Candidate Starts for Dusk_115:

(Start: 17 @65705 has 1 MA's), (Start: 21 @65747 has 124 MA's), (31, 65855), (40, 65933),

Gene: DyoEdafos_85 Start: 53861, Stop: 54097, Start Num: 23

Candidate Starts for DyoEdafos_85:

(1, 53528), (7, 53642), (8, 53645), (Start: 23 @53861 has 38 MA's), (26, 53897), (27, 53900), (34, 53987), (43, 54071),

Gene: Easy2Say_114 Start: 65360, Stop: 65602, Start Num: 21

Candidate Starts for Easy2Say_114:

(13, 65282), (Start: 21 @65360 has 124 MA's), (31, 65468), (40, 65546),

Gene: Elite2014_113 Start: 64533, Stop: 64775, Start Num: 21

Candidate Starts for Elite2014_113:

(13, 64455), (Start: 21 @64533 has 124 MA's), (31, 64641), (40, 64719),

Gene: Ellson_80 Start: 54707, Stop: 54946, Start Num: 23

Candidate Starts for Ellson_80:

(7, 54491), (10, 54548), (11, 54557), (Start: 23 @54707 has 38 MA's), (29, 54785), (32, 54815), (40, 54887), (43, 54908),

Gene: Elph10_113 Start: 64372, Stop: 64614, Start Num: 21

Candidate Starts for Elph10_113:

(13, 64294), (Start: 21 @64372 has 124 MA's), (31, 64480), (40, 64558),

Gene: Emmina_114 Start: 64311, Stop: 64553, Start Num: 21

Candidate Starts for Emmina_114:

(13, 64233), (Start: 21 @64311 has 124 MA's), (31, 64419), (40, 64497),

Gene: Enceladus_77 Start: 52610, Stop: 52852, Start Num: 22

Candidate Starts for Enceladus_77:

(Start: 22 @52610 has 19 MA's), (27, 52649), (29, 52691), (33, 52727), (44, 52835),

Gene: Eureka_114 Start: 65499, Stop: 65741, Start Num: 21

Candidate Starts for Eureka_114:

(13, 65421), (Start: 21 @65499 has 124 MA's), (31, 65607), (40, 65685),

Gene: FairyPath_114 Start: 65804, Stop: 66046, Start Num: 21

Candidate Starts for FairyPath_114:

(13, 65726), (Start: 21 @65804 has 124 MA's), (31, 65912), (40, 65990),

Gene: Faith1_83 Start: 54609, Stop: 54839, Start Num: 23

Candidate Starts for Faith1_83:

(15, 54552), (16, 54561), (Start: 23 @54609 has 38 MA's), (27, 54648), (29, 54687),

Gene: FarmResident_82 Start: 52928, Stop: 53164, Start Num: 23

Candidate Starts for FarmResident_82:

(14, 52856), (Start: 23 @52928 has 38 MA's), (26, 52964), (27, 52967), (43, 53138),

Gene: Filch_117 Start: 65265, Stop: 65507, Start Num: 21

Candidate Starts for Filch_117:

(13, 65187), (Start: 21 @65265 has 124 MA's), (31, 65373), (40, 65451),

Gene: Finemlucis_82 Start: 55077, Stop: 55313, Start Num: 23

Candidate Starts for Finemlucis_82:

(16, 55029), (Start: 23 @55077 has 38 MA's), (27, 55116), (29, 55161), (38, 55236), (39, 55239),

Gene: Finnry_81 Start: 54624, Stop: 54878, Start Num: 23

Candidate Starts for Finnry_81:

(18, 54579), (Start: 23 @54624 has 38 MA's), (29, 54702), (32, 54732), (44, 54855),

Gene: FireRed_117 Start: 65775, Stop: 66017, Start Num: 21

Candidate Starts for FireRed_117:

(13, 65697), (Start: 21 @65775 has 124 MA's), (31, 65883), (40, 65961),

Gene: Flypotenuse_111 Start: 64498, Stop: 64740, Start Num: 21

Candidate Starts for Flypotenuse_111:

(13, 64420), (Start: 21 @64498 has 124 MA's), (31, 64606), (40, 64684),

Gene: FoghornLeghorn_111 Start: 63524, Stop: 63766, Start Num: 21

Candidate Starts for FoghornLeghorn_111:

(Start: 17 @63482 has 1 MA's), (Start: 21 @63524 has 124 MA's), (31, 63632), (40, 63710),

Gene: Gabriela_82 Start: 53955, Stop: 54185, Start Num: 23

Candidate Starts for Gabriela_82:

(15, 53898), (16, 53907), (Start: 23 @53955 has 38 MA's), (27, 53994), (29, 54033),

Gene: Gage_116 Start: 65031, Stop: 65273, Start Num: 21

Candidate Starts for Gage_116:

(13, 64953), (Start: 21 @65031 has 124 MA's), (31, 65139), (40, 65217),

Gene: Gardann_83 Start: 54444, Stop: 54674, Start Num: 23

Candidate Starts for Gardann_83:

(16, 54396), (Start: 23 @54444 has 38 MA's), (27, 54483), (29, 54522),

Gene: Gator_116 Start: 65799, Stop: 66041, Start Num: 21

Candidate Starts for Gator_116:

(Start: 17 @65757 has 1 MA's), (Start: 21 @65799 has 124 MA's), (31, 65907), (35, 65934), (40, 65985),

Gene: Gemini_119 Start: 65410, Stop: 65652, Start Num: 21

Candidate Starts for Gemini_119:

(13, 65332), (Start: 21 @65410 has 124 MA's), (31, 65518), (40, 65596),

Gene: Glexan_117 Start: 65949, Stop: 66191, Start Num: 21

Candidate Starts for Glexan_117:

(Start: 17 @65907 has 1 MA's), (Start: 21 @65949 has 124 MA's), (31, 66057), (35, 66084), (40, 66135),

Gene: Goku_114 Start: 65808, Stop: 66050, Start Num: 21

Candidate Starts for Goku_114:

(13, 65730), (Start: 21 @65808 has 124 MA's), (31, 65916), (40, 65994),

Gene: GoldenSpark_118 Start: 64893, Stop: 65135, Start Num: 21

Candidate Starts for GoldenSpark_118:
(13, 64815), (Start: 21 @64893 has 124 MA's), (31, 65001), (40, 65079),

Gene: Goldilocks_118 Start: 65489, Stop: 65731, Start Num: 21
Candidate Starts for Goldilocks_118:
(13, 65411), (Start: 21 @65489 has 124 MA's), (31, 65597), (40, 65675),

Gene: GooberAzure_117 Start: 64893, Stop: 65135, Start Num: 21
Candidate Starts for GooberAzure_117:
(13, 64815), (Start: 21 @64893 has 124 MA's), (31, 65001), (40, 65079),

Gene: Hafay_84 Start: 54539, Stop: 54769, Start Num: 23
Candidate Starts for Hafay_84:
(12, 54437), (16, 54491), (Start: 23 @54539 has 38 MA's), (27, 54578), (29, 54617),

Gene: Halena_78 Start: 51880, Stop: 52122, Start Num: 22
Candidate Starts for Halena_78:
(Start: 22 @51880 has 19 MA's), (27, 51919), (29, 51961), (33, 51997), (44, 52105),

Gene: HanKaySha_114 Start: 65081, Stop: 65323, Start Num: 21
Candidate Starts for HanKaySha_114:
(13, 65003), (Start: 21 @65081 has 124 MA's), (31, 65189), (40, 65267),

Gene: Harella_119 Start: 66465, Stop: 66707, Start Num: 21
Candidate Starts for Harella_119:
(Start: 17 @66423 has 1 MA's), (Start: 21 @66465 has 124 MA's), (31, 66573), (35, 66600), (40, 66651),

Gene: Henry_116 Start: 65750, Stop: 65992, Start Num: 21
Candidate Starts for Henry_116:
(Start: 17 @65708 has 1 MA's), (Start: 21 @65750 has 124 MA's), (31, 65858), (35, 65885), (40, 65936),

Gene: Highbury_110 Start: 63238, Stop: 63480, Start Num: 21
Candidate Starts for Highbury_110:
(13, 63160), (Start: 21 @63238 has 124 MA's), (31, 63346), (40, 63424),

Gene: Holt_120 Start: 65887, Stop: 66129, Start Num: 21
Candidate Starts for Holt_120:
(13, 65809), (Start: 21 @65887 has 124 MA's), (31, 65995), (40, 66073),

Gene: Hoonter_117 Start: 65386, Stop: 65628, Start Num: 21
Candidate Starts for Hoonter_117:
(13, 65308), (Start: 21 @65386 has 124 MA's), (31, 65494), (40, 65572),

Gene: Hokey_114 Start: 65692, Stop: 65934, Start Num: 21
Candidate Starts for Hokey_114:
(13, 65614), (Start: 21 @65692 has 124 MA's), (31, 65800), (40, 65878),

Gene: HufflyPuff_116 Start: 66001, Stop: 66243, Start Num: 21
Candidate Starts for HufflyPuff_116:
(13, 65923), (Start: 21 @66001 has 124 MA's), (31, 66109), (40, 66187),

Gene: IHOP_116 Start: 65468, Stop: 65710, Start Num: 21
Candidate Starts for IHOP_116:
(Start: 17 @65426 has 1 MA's), (Start: 21 @65468 has 124 MA's), (31, 65576), (35, 65603), (40, 65654),

Gene: Icee_119 Start: 65438, Stop: 65680, Start Num: 21
Candidate Starts for Icee_119:
(Start: 21 @65438 has 124 MA's), (31, 65546), (40, 65624),

Gene: Inca_114 Start: 63647, Stop: 63889, Start Num: 21
Candidate Starts for Inca_114:
(Start: 17 @63605 has 1 MA's), (Start: 21 @63647 has 124 MA's), (31, 63755), (40, 63833),

Gene: Itos_82 Start: 53515, Stop: 53745, Start Num: 23
Candidate Starts for Itos_82:
(15, 53458), (16, 53467), (Start: 23 @53515 has 38 MA's), (27, 53554), (29, 53593),

Gene: JeTaime_113 Start: 65099, Stop: 65341, Start Num: 21
Candidate Starts for JeTaime_113:
(13, 65021), (Start: 21 @65099 has 124 MA's), (31, 65207), (40, 65285),

Gene: Jobypre_81 Start: 54373, Stop: 54612, Start Num: 23
Candidate Starts for Jobypre_81:
(18, 54328), (Start: 23 @54373 has 38 MA's), (29, 54451), (32, 54481), (40, 54553), (43, 54574),

Gene: JoeDirt_80 Start: 53208, Stop: 53450, Start Num: 22
Candidate Starts for JoeDirt_80:
(Start: 22 @53208 has 19 MA's), (27, 53247), (29, 53289), (33, 53325), (44, 53433),

Gene: Jubie_80 Start: 54508, Stop: 54747, Start Num: 23
Candidate Starts for Jubie_80:
(18, 54463), (Start: 23 @54508 has 38 MA's), (29, 54586), (32, 54616), (40, 54688), (43, 54709),

Gene: Kanye_111 Start: 65142, Stop: 65384, Start Num: 21
Candidate Starts for Kanye_111:
(13, 65064), (Start: 21 @65142 has 124 MA's), (31, 65250), (40, 65328),

Gene: Kimchi_119 Start: 65614, Stop: 65856, Start Num: 21
Candidate Starts for Kimchi_119:
(13, 65536), (Start: 21 @65614 has 124 MA's), (31, 65722), (40, 65800),

Gene: Kingsolomon_79 Start: 54380, Stop: 54634, Start Num: 23
Candidate Starts for Kingsolomon_79:
(18, 54335), (Start: 23 @54380 has 38 MA's), (29, 54458), (32, 54488), (44, 54611),

Gene: KirDoubleO7_79 Start: 54394, Stop: 54633, Start Num: 23
Candidate Starts for KirDoubleO7_79:
(7, 54178), (10, 54235), (11, 54244), (Start: 23 @54394 has 38 MA's), (29, 54472), (32, 54502), (40, 54574), (43, 54595),

Gene: Kostya_117 Start: 65528, Stop: 65812, Start Num: 17
Candidate Starts for Kostya_117:

(Start: 17 @65528 has 1 MA's), (Start: 21 @65570 has 124 MA's), (31, 65678), (35, 65705), (40, 65756),

Gene: Kropertea_77 Start: 53146, Stop: 53373, Start Num: 24

Candidate Starts for Kropertea_77:

(6, 52906), (7, 52924), (24, 53146), (Start: 25 @53149 has 1 MA's), (30, 53230), (36, 53287), (41, 53332), (43, 53347),

Gene: Krypton555_82 Start: 54649, Stop: 54903, Start Num: 23

Candidate Starts for Krypton555_82:

(18, 54604), (Start: 23 @54649 has 38 MA's), (28, 54709), (29, 54727), (32, 54757), (44, 54880),

Gene: LeBron_79 Start: 51879, Stop: 52121, Start Num: 22

Candidate Starts for LeBron_79:

(Start: 22 @51879 has 19 MA's), (27, 51918), (29, 51960), (33, 51996), (44, 52104),

Gene: Lilac_115 Start: 65835, Stop: 66077, Start Num: 21

Candidate Starts for Lilac_115:

(13, 65757), (Start: 21 @65835 has 124 MA's), (31, 65943), (40, 66021),

Gene: Lilizi_114 Start: 65121, Stop: 65363, Start Num: 21

Candidate Starts for Lilizi_114:

(13, 65043), (Start: 21 @65121 has 124 MA's), (31, 65229), (40, 65307),

Gene: Lilpickle_113 Start: 64533, Stop: 64775, Start Num: 21

Candidate Starts for Lilpickle_113:

(13, 64455), (Start: 21 @64533 has 124 MA's), (31, 64641), (40, 64719),

Gene: LiyuLake_80 Start: 54467, Stop: 54706, Start Num: 23

Candidate Starts for LiyuLake_80:

(7, 54251), (10, 54308), (11, 54317), (Start: 23 @54467 has 38 MA's), (29, 54545), (32, 54575), (40, 54647), (43, 54668),

Gene: Lolly9_80 Start: 54471, Stop: 54710, Start Num: 23

Candidate Starts for Lolly9_80:

(4, 54189), (7, 54255), (11, 54321), (18, 54426), (Start: 23 @54471 has 38 MA's), (29, 54549), (32, 54579), (34, 54591), (36, 54612), (42, 54663),

Gene: Lumos_81 Start: 54370, Stop: 54609, Start Num: 23

Candidate Starts for Lumos_81:

(18, 54325), (Start: 23 @54370 has 38 MA's), (29, 54448), (32, 54478), (40, 54550), (43, 54571),

Gene: MAckerman_78 Start: 51873, Stop: 52115, Start Num: 22

Candidate Starts for MAckerman_78:

(Start: 22 @51873 has 19 MA's), (27, 51912), (29, 51954), (33, 51990), (44, 52098),

Gene: MISSy_115 Start: 65818, Stop: 66060, Start Num: 21

Candidate Starts for MISSy_115:

(13, 65740), (Start: 21 @65818 has 124 MA's), (31, 65926), (40, 66004),

Gene: MPhalcon_115 Start: 65236, Stop: 65478, Start Num: 21

Candidate Starts for MPhalcon_115:

(13, 65158), (Start: 21 @65236 has 124 MA's), (31, 65344), (40, 65422),

Gene: MadamMonkfish_113 Start: 64543, Stop: 64785, Start Num: 21
Candidate Starts for MadamMonkfish_113:
(13, 64465), (Start: 21 @64543 has 124 MA's), (31, 64651), (40, 64729),

Gene: Manda_115 Start: 65273, Stop: 65515, Start Num: 21
Candidate Starts for Manda_115:
(13, 65195), (Start: 21 @65273 has 124 MA's), (31, 65381), (40, 65459),

Gene: Marshmallow_116 Start: 66252, Stop: 66494, Start Num: 21
Candidate Starts for Marshmallow_116:
(Start: 17 @66210 has 1 MA's), (Start: 21 @66252 has 124 MA's), (31, 66360), (40, 66438),

Gene: Maxxinista_116 Start: 65020, Stop: 65262, Start Num: 21
Candidate Starts for Maxxinista_116:
(13, 64942), (Start: 21 @65020 has 124 MA's), (31, 65128), (40, 65206),

Gene: Miley16_83 Start: 54609, Stop: 54839, Start Num: 23
Candidate Starts for Miley16_83:
(15, 54552), (16, 54561), (Start: 23 @54609 has 38 MA's), (27, 54648), (29, 54687),

Gene: Mindy_117 Start: 65411, Stop: 65653, Start Num: 21
Candidate Starts for Mindy_117:
(Start: 21 @65411 has 124 MA's), (31, 65519), (40, 65597),

Gene: MiniLon_85 Start: 54472, Stop: 54711, Start Num: 23
Candidate Starts for MiniLon_85:
(4, 54190), (7, 54256), (11, 54322), (18, 54427), (Start: 23 @54472 has 38 MA's), (29, 54550), (32, 54580), (34, 54592), (36, 54613), (42, 54664),

Gene: MiniMac_85 Start: 54467, Stop: 54706, Start Num: 23
Candidate Starts for MiniMac_85:
(4, 54185), (7, 54251), (11, 54317), (18, 54422), (Start: 23 @54467 has 38 MA's), (29, 54545), (32, 54575), (34, 54587), (36, 54608), (42, 54659),

Gene: Miniwave_109 Start: 64729, Stop: 64971, Start Num: 21
Candidate Starts for Miniwave_109:
(13, 64651), (Start: 21 @64729 has 124 MA's), (31, 64837), (40, 64915),

Gene: Misfit_115 Start: 66332, Stop: 66574, Start Num: 21
Candidate Starts for Misfit_115:
(13, 66254), (Start: 21 @66332 has 124 MA's), (31, 66440), (40, 66518),

Gene: Moldemort_116 Start: 65001, Stop: 65243, Start Num: 21
Candidate Starts for Moldemort_116:
(13, 64923), (Start: 21 @65001 has 124 MA's), (31, 65109), (40, 65187),

Gene: Moostard_79 Start: 54375, Stop: 54629, Start Num: 23
Candidate Starts for Moostard_79:
(18, 54330), (Start: 23 @54375 has 38 MA's), (29, 54453), (32, 54483), (44, 54606),

Gene: Mosby_111 Start: 64696, Stop: 64938, Start Num: 21
Candidate Starts for Mosby_111:

(13, 64618), (Start: 21 @64696 has 124 MA's), (31, 64804), (40, 64882),

Gene: MsGreen_81 Start: 54372, Stop: 54611, Start Num: 23

Candidate Starts for MsGreen_81:

(18, 54327), (Start: 23 @54372 has 38 MA's), (29, 54450), (32, 54480), (40, 54552), (43, 54573),

Gene: Murica_118 Start: 67035, Stop: 67277, Start Num: 21

Candidate Starts for Murica_118:

(13, 66957), (Start: 21 @67035 has 124 MA's), (31, 67143), (40, 67221),

Gene: Murphy_113 Start: 65393, Stop: 65635, Start Num: 21

Candidate Starts for Murphy_113:

(13, 65315), (Start: 21 @65393 has 124 MA's), (31, 65501), (40, 65579),

Gene: Myrale_115 Start: 65908, Stop: 66150, Start Num: 21

Candidate Starts for Myrale_115:

(13, 65830), (Start: 21 @65908 has 124 MA's), (31, 66016), (40, 66094),

Gene: Nala_116 Start: 65745, Stop: 65987, Start Num: 21

Candidate Starts for Nala_116:

(13, 65667), (Start: 21 @65745 has 124 MA's), (31, 65853), (40, 65931),

Gene: NelitzaMV_111 Start: 63718, Stop: 63960, Start Num: 21

Candidate Starts for NelitzaMV_111:

(13, 63640), (Start: 21 @63718 has 124 MA's), (31, 63826), (40, 63904),

Gene: Netyap_84 Start: 54610, Stop: 54840, Start Num: 23

Candidate Starts for Netyap_84:

(15, 54553), (16, 54562), (Start: 23 @54610 has 38 MA's), (27, 54649), (29, 54688),

Gene: Nicholas_79 Start: 54380, Stop: 54634, Start Num: 23

Candidate Starts for Nicholas_79:

(18, 54335), (Start: 23 @54380 has 38 MA's), (29, 54458), (32, 54488), (44, 54611),

Gene: Nicholasp3_83 Start: 54444, Stop: 54674, Start Num: 23

Candidate Starts for Nicholasp3_83:

(16, 54396), (Start: 23 @54444 has 38 MA's), (27, 54483), (29, 54522),

Gene: Nimrod_115 Start: 65959, Stop: 66201, Start Num: 21

Candidate Starts for Nimrod_115:

(13, 65881), (Start: 21 @65959 has 124 MA's), (31, 66067), (40, 66145),

Gene: NoSleep_114 Start: 64553, Stop: 64795, Start Num: 21

Candidate Starts for NoSleep_114:

(13, 64475), (Start: 21 @64553 has 124 MA's), (31, 64661), (40, 64739),

Gene: OhShagHennessy_77 Start: 51911, Stop: 52153, Start Num: 22

Candidate Starts for OhShagHennessy_77:

(Start: 22 @51911 has 19 MA's), (27, 51950), (29, 51992), (33, 52028), (44, 52136),

Gene: OrionPax_112 Start: 64626, Stop: 64868, Start Num: 21

Candidate Starts for OrionPax_112:

(13, 64548), (Start: 21 @64626 has 124 MA's), (31, 64734), (40, 64812),

Gene: PYPDinur_80 Start: 53633, Stop: 53857, Start Num: 25
Candidate Starts for PYPDinur_80:
(20, 53612), (24, 53630), (Start: 25 @53633 has 1 MA's), (34, 53750), (36, 53771), (39, 53786),

Gene: Palpatine_115 Start: 66030, Stop: 66272, Start Num: 21
Candidate Starts for Palpatine_115:
(13, 65952), (Start: 21 @66030 has 124 MA's), (31, 66138), (40, 66216),

Gene: Paperbeatsrock_113 Start: 65407, Stop: 65649, Start Num: 21
Candidate Starts for Paperbeatsrock_113:
(13, 65329), (Start: 21 @65407 has 124 MA's), (31, 65515), (40, 65593),

Gene: Pat3_114 Start: 64905, Stop: 65147, Start Num: 21
Candidate Starts for Pat3_114:
(Start: 17 @64863 has 1 MA's), (Start: 21 @64905 has 124 MA's), (31, 65013), (40, 65091),

Gene: Petra64142_118 Start: 65875, Stop: 66117, Start Num: 21
Candidate Starts for Petra64142_118:
(13, 65797), (Start: 21 @65875 has 124 MA's), (31, 65983), (40, 66061),

Gene: Phaja_116 Start: 65473, Stop: 65715, Start Num: 21
Candidate Starts for Phaja_116:
(Start: 17 @65431 has 1 MA's), (Start: 21 @65473 has 124 MA's), (31, 65581), (40, 65659),

Gene: Pharsalus_114 Start: 65547, Stop: 65789, Start Num: 21
Candidate Starts for Pharsalus_114:
(Start: 21 @65547 has 124 MA's), (31, 65655), (40, 65733),

Gene: PhatBacter_117 Start: 65775, Stop: 66017, Start Num: 21
Candidate Starts for PhatBacter_117:
(13, 65697), (Start: 21 @65775 has 124 MA's), (31, 65883), (40, 65961),

Gene: Phaux_116 Start: 66335, Stop: 66577, Start Num: 21
Candidate Starts for Phaux_116:
(13, 66257), (Start: 21 @66335 has 124 MA's), (31, 66443), (40, 66521),

Gene: Phrux_110 Start: 64413, Stop: 64655, Start Num: 21
Candidate Starts for Phrux_110:
(13, 64335), (Start: 21 @64413 has 124 MA's), (31, 64521), (40, 64599),

Gene: Policronamos_117 Start: 66039, Stop: 66281, Start Num: 21
Candidate Starts for Policronamos_117:
(13, 65961), (Start: 21 @66039 has 124 MA's), (31, 66147), (40, 66225),

Gene: Poochiewood_78 Start: 53216, Stop: 53458, Start Num: 22
Candidate Starts for Poochiewood_78:
(Start: 22 @53216 has 19 MA's), (27, 53255), (29, 53297), (33, 53333), (44, 53441),

Gene: Porky_113 Start: 64737, Stop: 64979, Start Num: 21
Candidate Starts for Porky_113:
(13, 64659), (Start: 21 @64737 has 124 MA's), (31, 64845), (40, 64923),

Gene: Pumpkin_115 Start: 64753, Stop: 64995, Start Num: 21
Candidate Starts for Pumpkin_115:
(13, 64675), (Start: 21 @64753 has 124 MA's), (31, 64861), (40, 64939),

Gene: Quallification_115 Start: 65821, Stop: 66063, Start Num: 21
Candidate Starts for Quallification_115:
(13, 65743), (Start: 21 @65821 has 124 MA's), (31, 65929), (40, 66007),

Gene: Quby_81 Start: 52952, Stop: 53188, Start Num: 23
Candidate Starts for Quby_81:
(14, 52880), (Start: 23 @52952 has 38 MA's), (26, 52988), (27, 52991), (43, 53162),

Gene: Rakim_116 Start: 65241, Stop: 65483, Start Num: 21
Candidate Starts for Rakim_116:
(13, 65163), (Start: 21 @65241 has 124 MA's), (31, 65349), (40, 65427),

Gene: Red305_82 Start: 54373, Stop: 54612, Start Num: 23
Candidate Starts for Red305_82:
(18, 54328), (Start: 23 @54373 has 38 MA's), (29, 54451), (32, 54481), (40, 54553), (43, 54574),

Gene: Rimmer_112 Start: 65212, Stop: 65454, Start Num: 21
Candidate Starts for Rimmer_112:
(13, 65134), (Start: 21 @65212 has 124 MA's), (31, 65320), (40, 65398),

Gene: RiverMonster_113 Start: 65308, Stop: 65550, Start Num: 21
Candidate Starts for RiverMonster_113:
(13, 65230), (Start: 21 @65308 has 124 MA's), (31, 65416), (40, 65494),

Gene: Rose5_80 Start: 53053, Stop: 53295, Start Num: 22
Candidate Starts for Rose5_80:
(Start: 22 @53053 has 19 MA's), (27, 53092), (29, 53134), (33, 53170), (44, 53278),

Gene: Rumpelstiltskin_80 Start: 54237, Stop: 54467, Start Num: 23
Candidate Starts for Rumpelstiltskin_80:
(16, 54189), (Start: 23 @54237 has 38 MA's), (27, 54276), (29, 54315),

Gene: Saints25_110 Start: 63238, Stop: 63480, Start Num: 21
Candidate Starts for Saints25_110:
(13, 63160), (Start: 21 @63238 has 124 MA's), (31, 63346), (40, 63424),

Gene: Samty_80 Start: 54368, Stop: 54622, Start Num: 23
Candidate Starts for Samty_80:
(18, 54323), (Start: 23 @54368 has 38 MA's), (29, 54446), (32, 54476), (44, 54599),

Gene: Sarshaun_84 Start: 54702, Stop: 54932, Start Num: 23
Candidate Starts for Sarshaun_84:
(16, 54654), (Start: 23 @54702 has 38 MA's), (27, 54741), (29, 54780),

Gene: Sassay_109 Start: 63658, Stop: 63900, Start Num: 21
Candidate Starts for Sassay_109:
(13, 63580), (Start: 21 @63658 has 124 MA's), (31, 63766), (40, 63844),

Gene: ShamWow_115 Start: 66124, Stop: 66366, Start Num: 21

Candidate Starts for ShamWow_115:
(13, 66046), (Start: 21 @66124 has 124 MA's), (31, 66232), (40, 66310),

Gene: Sheng711_82 Start: 53267, Stop: 53491, Start Num: 25
Candidate Starts for Sheng711_82:
(20, 53246), (24, 53264), (Start: 25 @53267 has 1 MA's), (34, 53384), (36, 53405), (39, 53420),

Gene: ShereKhan_112 Start: 66067, Stop: 66309, Start Num: 21
Candidate Starts for ShereKhan_112:
(13, 65989), (Start: 21 @66067 has 124 MA's), (31, 66175), (40, 66253),

Gene: Silverleaf_80 Start: 52509, Stop: 52751, Start Num: 22
Candidate Starts for Silverleaf_80:
(Start: 22 @52509 has 19 MA's), (27, 52548), (29, 52590), (33, 52626), (44, 52734),

Gene: Simpliphy_112 Start: 64879, Stop: 65121, Start Num: 21
Candidate Starts for Simpliphy_112:
(13, 64801), (Start: 21 @64879 has 124 MA's), (31, 64987), (40, 65065),

Gene: SirDuracell_118 Start: 65404, Stop: 65646, Start Num: 21
Candidate Starts for SirDuracell_118:
(Start: 17 @65362 has 1 MA's), (Start: 21 @65404 has 124 MA's), (31, 65512), (40, 65590),

Gene: Snenia_80 Start: 54374, Stop: 54613, Start Num: 23
Candidate Starts for Snenia_80:
(18, 54329), (Start: 23 @54374 has 38 MA's), (29, 54452), (32, 54482), (40, 54554), (43, 54575),

Gene: SoJulia_85 Start: 55770, Stop: 56000, Start Num: 23
Candidate Starts for SoJulia_85:
(15, 55713), (16, 55722), (Start: 23 @55770 has 38 MA's), (27, 55809), (29, 55848),

Gene: Soap141_83 Start: 54702, Stop: 54932, Start Num: 23
Candidate Starts for Soap141_83:
(16, 54654), (Start: 23 @54702 has 38 MA's), (27, 54741), (29, 54780),

Gene: SophKB_113 Start: 65289, Stop: 65531, Start Num: 21
Candidate Starts for SophKB_113:
(Start: 21 @65289 has 124 MA's), (31, 65397), (40, 65475),

Gene: Sotrice96_119 Start: 66191, Stop: 66433, Start Num: 21
Candidate Starts for Sotrice96_119:
(Start: 21 @66191 has 124 MA's), (31, 66299), (40, 66377),

Gene: Stank_117 Start: 65686, Stop: 65928, Start Num: 21
Candidate Starts for Stank_117:
(13, 65608), (Start: 21 @65686 has 124 MA's), (31, 65794), (40, 65872),

Gene: Stark_114 Start: 65192, Stop: 65434, Start Num: 21
Candidate Starts for Stark_114:
(13, 65114), (Start: 21 @65192 has 124 MA's), (31, 65300), (40, 65378),

Gene: StellaBean_112 Start: 65489, Stop: 65731, Start Num: 21
Candidate Starts for StellaBean_112:

(13, 65411), (Start: 21 @65489 has 124 MA's), (31, 65597), (40, 65675),

Gene: StolenFromERC_116 Start: 65031, Stop: 65273, Start Num: 21

Candidate Starts for StolenFromERC_116:

(13, 64953), (Start: 21 @65031 has 124 MA's), (31, 65139), (40, 65217),

Gene: StormChicken_116 Start: 65956, Stop: 66198, Start Num: 21

Candidate Starts for StormChicken_116:

(13, 65878), (Start: 21 @65956 has 124 MA's), (31, 66064), (40, 66142),

Gene: TBrady12_118 Start: 65123, Stop: 65365, Start Num: 21

Candidate Starts for TBrady12_118:

(13, 65045), (Start: 21 @65123 has 124 MA's), (31, 65231), (40, 65309),

Gene: Tarkin_113 Start: 65932, Stop: 66174, Start Num: 21

Candidate Starts for Tarkin_113:

(13, 65854), (Start: 21 @65932 has 124 MA's), (31, 66040), (40, 66118),

Gene: TeardropMSU_114 Start: 65293, Stop: 65535, Start Num: 21

Candidate Starts for TeardropMSU_114:

(Start: 21 @65293 has 124 MA's), (31, 65401), (40, 65479),

Gene: Teaspoon_115 Start: 65671, Stop: 65913, Start Num: 21

Candidate Starts for Teaspoon_115:

(13, 65593), (Start: 21 @65671 has 124 MA's), (31, 65779), (40, 65857),

Gene: Terminus_117 Start: 66332, Stop: 66574, Start Num: 21

Candidate Starts for Terminus_117:

(13, 66254), (Start: 21 @66332 has 124 MA's), (31, 66440), (40, 66518),

Gene: Thimble_116 Start: 64293, Stop: 64535, Start Num: 21

Candidate Starts for Thimble_116:

(13, 64215), (Start: 21 @64293 has 124 MA's), (31, 64401), (40, 64479),

Gene: Thresher_115 Start: 65972, Stop: 66214, Start Num: 21

Candidate Starts for Thresher_115:

(13, 65894), (Start: 21 @65972 has 124 MA's), (31, 66080), (40, 66158),

Gene: Tomaszewski_109 Start: 64870, Stop: 65112, Start Num: 21

Candidate Starts for Tomaszewski_109:

(13, 64792), (Start: 21 @64870 has 124 MA's), (31, 64978), (40, 65056),

Gene: Toto_113 Start: 66124, Stop: 66366, Start Num: 21

Candidate Starts for Toto_113:

(13, 66046), (Start: 21 @66124 has 124 MA's), (31, 66232), (40, 66310),

Gene: Tourach_82 Start: 54727, Stop: 54957, Start Num: 23

Candidate Starts for Tourach_82:

(2, 54400), (3, 54433), (16, 54679), (Start: 23 @54727 has 38 MA's), (27, 54766), (29, 54805),

Gene: Traaww1_111 Start: 64673, Stop: 64915, Start Num: 21

Candidate Starts for Traaww1_111:

(13, 64595), (Start: 21 @64673 has 124 MA's), (31, 64781), (40, 64859),

Gene: TriFive_81 Start: 54373, Stop: 54627, Start Num: 23
Candidate Starts for TriFive_81:
(18, 54328), (Start: 23 @54373 has 38 MA's), (29, 54451), (32, 54481), (44, 54604),

Gene: Tuco_119 Start: 67352, Stop: 67594, Start Num: 21
Candidate Starts for Tuco_119:
(Start: 21 @67352 has 124 MA's), (31, 67460), (40, 67538),

Gene: Tyson_81 Start: 52979, Stop: 53221, Start Num: 22
Candidate Starts for Tyson_81:
(Start: 22 @52979 has 19 MA's), (27, 53018), (29, 53060), (33, 53096), (44, 53204),

Gene: UPIE_79 Start: 52575, Stop: 52817, Start Num: 22
Candidate Starts for UPIE_79:
(Start: 22 @52575 has 19 MA's), (27, 52614), (29, 52656), (33, 52692), (44, 52800),

Gene: Ukulele_109 Start: 64689, Stop: 64931, Start Num: 21
Candidate Starts for Ukulele_109:
(13, 64611), (Start: 21 @64689 has 124 MA's), (31, 64797), (40, 64875),

Gene: Underpass_74 Start: 49480, Stop: 49710, Start Num: 23
Candidate Starts for Underpass_74:
(16, 49432), (Start: 23 @49480 has 38 MA's), (27, 49519), (29, 49558),

Gene: Wamburgexpress_80 Start: 53014, Stop: 53256, Start Num: 22
Candidate Starts for Wamburgexpress_80:
(Start: 22 @53014 has 19 MA's), (27, 53053), (29, 53095), (33, 53131), (44, 53239),

Gene: Whirlwind_82 Start: 54612, Stop: 54866, Start Num: 23
Candidate Starts for Whirlwind_82:
(18, 54567), (Start: 23 @54612 has 38 MA's), (28, 54672), (29, 54690), (32, 54720), (37, 54762), (44, 54843),

Gene: Wiggin_117 Start: 65116, Stop: 65358, Start Num: 21
Candidate Starts for Wiggin_117:
(13, 65038), (Start: 21 @65116 has 124 MA's), (31, 65224), (40, 65302),

Gene: Willez_109 Start: 63658, Stop: 63900, Start Num: 21
Candidate Starts for Willez_109:
(13, 63580), (Start: 21 @63658 has 124 MA's), (31, 63766), (40, 63844),

Gene: Winky_83 Start: 54609, Stop: 54839, Start Num: 23
Candidate Starts for Winky_83:
(15, 54552), (16, 54561), (Start: 23 @54609 has 38 MA's), (27, 54648), (29, 54687),

Gene: Wyatt2_81 Start: 52977, Stop: 53219, Start Num: 22
Candidate Starts for Wyatt2_81:
(Start: 22 @52977 has 19 MA's), (27, 53016), (29, 53058), (33, 53094), (44, 53202),

Gene: Xandras_114 Start: 64939, Stop: 65181, Start Num: 21
Candidate Starts for Xandras_114:
(13, 64861), (Start: 21 @64939 has 124 MA's), (31, 65047), (40, 65125),

Gene: YassJohnny_111 Start: 63679, Stop: 63921, Start Num: 21
Candidate Starts for YassJohnny_111:
(13, 63601), (Start: 21 @63679 has 124 MA's), (31, 63787), (40, 63865),

Gene: Youngblood_118 Start: 65828, Stop: 66070, Start Num: 21
Candidate Starts for Youngblood_118:
(13, 65750), (Start: 21 @65828 has 124 MA's), (31, 65936), (40, 66014),

Gene: Zaria_81 Start: 52429, Stop: 52671, Start Num: 22
Candidate Starts for Zaria_81:
(Start: 22 @52429 has 19 MA's), (27, 52468), (29, 52510), (33, 52546), (44, 52654),

Gene: ZhongYanYuan_80 Start: 54062, Stop: 54292, Start Num: 23
Candidate Starts for ZhongYanYuan_80:
(12, 53960), (16, 54014), (Start: 23 @54062 has 38 MA's), (27, 54101), (29, 54140),

Gene: xkcd_118 Start: 66013, Stop: 66255, Start Num: 21
Candidate Starts for xkcd_118:
(13, 65935), (Start: 21 @66013 has 124 MA's), (31, 66121), (40, 66199),