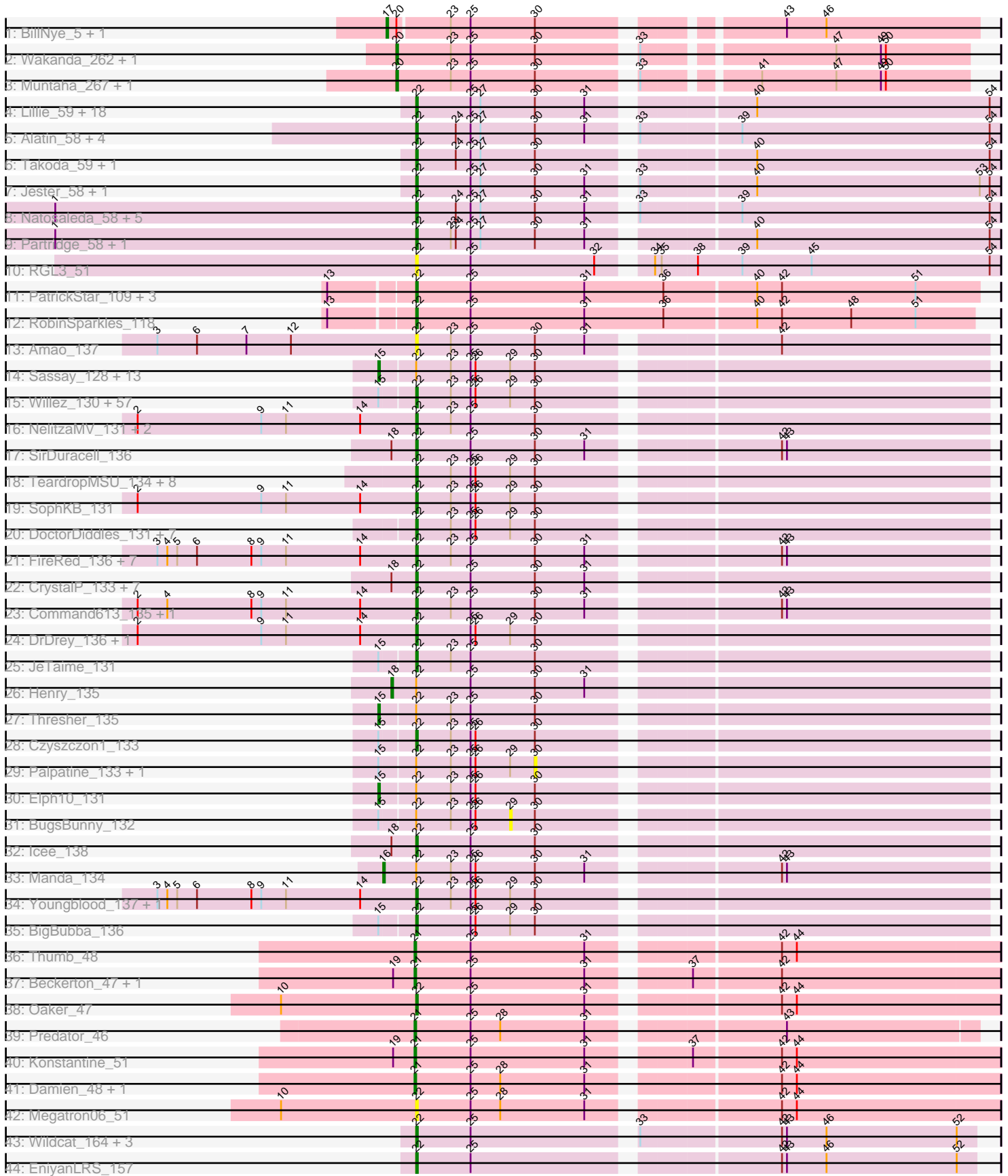


Pham 161591



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 161591 Report

This analysis was run 04/28/24 on database version 559.

Pham number 161591 has 190 members, 13 are drafts.

Phages represented in each track:

- Track 1 : BillNye_5, BillNye_251
- Track 2 : Wakanda_262, Wakanda_3
- Track 3 : Muntaha_267, Muntaha_4
- Track 4 : Lillie_59, Gollum_59, Nancinator_58, Shuman_60, Bryce_58, Phrankenstien_59, BobbyDazzler_59, Erik_59, Hiro_59, RER2_53, Bonanza_60, Alpacados_58, Yoncess_58, Swann_59, Yogi_60, CosmicSans_59, TWAMP_59, Rasputin_59, Rhodalysa_59
- Track 5 : Alatin_58, StCroix_58, Naiad_58, Krishelle_59, Bradshaw_59
- Track 6 : Takoda_59, AngryOrchard_56
- Track 7 : Jester_58, Harlequin_59
- Track 8 : Natosaleda_58, Belenaria_60, Espica_60, AppleCloud_56, RexFury_58, UhSalsa_59
- Track 9 : Partridge_58, Dinger_58
- Track 10 : RGL3_51
- Track 11 : PatrickStar_109, Orchid_108, Kampe_109, Gibbles_111
- Track 12 : RobinSparkles_118
- Track 13 : Amao_137
- Track 14 : Sassay_128, Cactus_141, MISSy_135, Tomaszewski_127, Dumbo_134, Kimchi_139, Bask21_138, Petra64142_135, Rimmer_130, Ukulele_128, Porky_135, Goku_132, Bruin_130, Goldilocks_139
- Track 15 : Willez_130, NoSleep_133, StolenFromERC_136, Cjw1_131, IHOP_137, OrionPax_129, Stank_137, Paperbeatsrock_132, Sotrice96_138, Nala_135, ShereKhan_133, GooberAzure_136, Eureka_133, Lilac_131, Contagion_129, Marshmallow_134, Phaja_137, Wiggin_136, Bench_135, Adnama_138, Mosby_130, ChosenOne_134, Lilpickle_133, Argent26_138, Elite2014_133, Pharsalus_131, GoldenSpark_138, Inca_132, 244_134, Miniwave_127, Cookies_134, Tarkin_132, Terminus_136, BaboJay_132, TBrady12_138, Toto_131, Maxxinista_135, Misfit_133, ShamWow_133, Kanye_130, RiverMonster_132, Xandras_134, ChotaBhai_137, MPhalcon_134, Moldemort_136, Quallification_134, AmericanBeauty_141, HanKaySha_133, Gemini_139, Easy2Say_135, Stark_131, MadamMonkfish_133, Buck_134, Lilizi_134, Nimrod_133, Hopey_132, Emmina_134, Pumpkin_133
- Track 16 : NelitzaMV_131, Rakim_134, Mindy_136
- Track 17 : SirDuracell_136
- Track 18 : TeardropMSU_134, ABCat_134, Dusk_134, Harella_139, Pat3_133, BadStone_134, Gator_135, Tuco_139, Glexan_137
- Track 19 : SophKB_131

- Track 20 : DoctorDiddles_131, Phrux_129, Murphy_132, Filch_135, Highbury_129, Saints25_129, Hoonter_136, Simpliphy_132
- Track 21 : FireRed_136, HufflyPuff_135, Holt_139, YassJohnny_129, Phaux_135, Murica_137, PhatBacter_136, Policronamos_136
- Track 22 : CrystalP_133, Daikon_135, Asriel_130, Balomoji_134, Barbarian_133, Flypotenuse_128, Traaww1_129, BilboSwaggins_131
- Track 23 : Command613_135, Kostya_134
- Track 24 : DrDrey_136, Myrale_134
- Track 25 : JeTaime_131
- Track 26 : Henry_135
- Track 27 : Thresher_135
- Track 28 : Czyszczonek_133
- Track 29 : Palpatine_133, StellaBean_129
- Track 30 : Elph10_131
- Track 31 : BugsBunny_132
- Track 32 : Icee_138
- Track 33 : Manda_134
- Track 34 : Youngblood_137, xkcd_137
- Track 35 : BigBubba_136
- Track 36 : Thumb_48
- Track 37 : Beckerton_47, Phreeze_46
- Track 38 : Oaker_47
- Track 39 : Predator_46
- Track 40 : Konstantine_51
- Track 41 : Damien_48, Cborch11_49
- Track 42 : Megatron06_51
- Track 43 : Wildcat_164, Azrael100_156, MaryV_150, Cosmo_165
- Track 44 : EniyanLRS_157

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

The start number called the most often in the published annotations is 22, it was called in 147 of the 177 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244_134, ABCat_134, Adnama_138, Alatin_58, Alpacados_58, Amao_137, AmericanBeauty_141, AngryOrchard_56, AppleCloud_56, Argent26_138, Asriel_130, Azrael100_156, BaboJay_132, BadStone_134, Balomoji_134, Barbarian_133, Belenaria_60, Bench_135, BigBubba_136, BilboSwaggins_131, BobbyDazzler_59, Bonanza_60, Bradshaw_59, Bryce_58, Buck_134, ChosenOne_134, ChotaBhai_137, Cjw1_131, Command613_135, Contagion_129, Cookies_134, CosmicSans_59, Cosmo_165, CrystalP_133, Czyszczonek_133, Daikon_135, Dinger_58, DoctorDiddles_131, DrDrey_136, Dusk_134, Easy2Say_135, Elite2014_133, Emmina_134, EniyanLRS_157, Erik_59, Espica_60, Eureka_133, Filch_135, FireRed_136, Flypotenuse_128, Gator_135, Gemini_139, Gibbles_111, Glexan_137, GoldenSpark_138, Gollum_59, GooberAzure_136, HanKaySha_133, Harella_139, Harlequin_59, Highbury_129, Hiro_59, Holt_139, Hoonter_136, Hopey_132, HufflyPuff_135, IHOP_137, Icee_138, Inca_132, JeTaime_131, Jester_58, Kampe_109, Kanye_130, Kostya_134, Krishelle_59, Lilac_131, Lilizi_134, Lillie_59, Lilpickle_133, MPhalcon_134, MadamMonkfish_133, Marshmallow_134, MaryV_150,

Maxxinista_135, Megatron06_51, Mindy_136, Miniwave_127, Misfit_133, Moldemort_136, Mosby_130, Murica_137, Murphy_132, Myrale_134, Naiad_58, Nala_135, Nancinator_58, Natosaleda_58, NelitzaMV_131, Nimrod_133, NoSleep_133, Oaker_47, Orchid_108, OrionPax_129, Paperbeatsrock_132, Partridge_58, Pat3_133, PatrickStar_109, Phaja_137, Pharsalus_131, PhatBacter_136, Phaux_135, Phrankenstein_59, Phrux_129, Policronamos_136, Pumpkin_133, Quallification_134, RER2_53, RGL3_51, Rakim_134, Rasputin_59, RexFury_58, Rhodalysa_59, RiverMonster_132, RobinSparkles_118, Saints25_129, ShamWow_133, ShereKhan_133, Shuman_60, Simpliphy_132, SirDuracell_136, SophKB_131, Sotrice96_138, StCroix_58, Stank_137, Stark_131, StolenFromERC_136, Swann_59, TBrady12_138, TWAMP_59, Takoda_59, Tarkin_132, TeardropMSU_134, Terminus_136, Toto_131, Traaww1_129, Tuco_139, UhSalsa_59, Wiggin_136, Wildcat_164, Willez_130, Xandras_134, YassJohnny_129, Yogi_60, Yoncess_58, Youngblood_137, xkcd_137,

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

- Bask21_138, Bruin_130, BugsBunny_132, Cactus_141, Dumbo_134, Elph10_131, Goku_132, Goldilocks_139, Henry_135, Kimchi_139, MISSy_135, Manda_134, Palpatine_133, Petra64142_135, Porky_135, Rimmer_130, Sassay_128, StellaBean_129, Thresher_135, Tomaszewski_127, Ukulele_128,

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

- Beckerton_47, BillNye_251, BillNye_5, Cborch11_49, Damien_48, Konstantine_51, Muntaha_267, Muntaha_4, Phreeze_46, Predator_46, Thumb_48, Wakanda_262, Wakanda_3,

Summary by start number:

Start 15:

- Found in 80 of 190 (42.1%) of genes in pham
- Manual Annotations of this start: 15 of 177
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Bask21_138 (E), Bruin_130 (E), Cactus_141 (E), Dumbo_134 (E), Elph10_131 (E), Goku_132 (E), Goldilocks_139 (E), Kimchi_139 (E), MISSy_135 (E), Petra64142_135 (E), Porky_135 (E), Rimmer_130 (E), Sassay_128 (E), Thresher_135 (E), Tomaszewski_127 (E), Ukulele_128 (E),

Start 16:

- Found in 1 of 190 (0.5%) of genes in pham
- Manual Annotations of this start: 1 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Manda_134 (E),

Start 17:

- Found in 2 of 190 (1.1%) of genes in pham
- Manual Annotations of this start: 2 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BillNye_251 (BK2), BillNye_5 (BK2),

Start 18:

- Found in 11 of 190 (5.8%) of genes in pham
- Manual Annotations of this start: 1 of 177

- Called 9.1% of time when present
- Phage (with cluster) where this start called: Henry_135 (E),

Start 20:

- Found in 6 of 190 (3.2%) of genes in pham
- Manual Annotations of this start: 4 of 177
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Muntaha_267 (BK2), Muntaha_4 (BK2), Wakanda_262 (BK2), Wakanda_3 (BK2),

Start 21:

- Found in 7 of 190 (3.7%) of genes in pham
- Manual Annotations of this start: 7 of 177
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beckerton_47 (H1), Cborch11_49 (H1), Damien_48 (H1), Konstantine_51 (H1), Phreeze_46 (H1), Predator_46 (H1), Thumb_48 (H1),

Start 22:

- Found in 177 of 190 (93.2%) of genes in pham
- Manual Annotations of this start: 147 of 177
- Called 88.1% of time when present
- Phage (with cluster) where this start called: 244_134 (E), ABCat_134 (E), Adnama_138 (E), Alatin_58 (CA), Alpacados_58 (CA), Amao_137 (E), AmericanBeauty_141 (E), AngryOrchard_56 (CA), AppleCloud_56 (CA), Argent26_138 (E), Asriel_130 (E), Azrael100_156 (V), BaboJay_132 (E), BadStone_134 (E), Balomoji_134 (E), Barbarian_133 (E), Belenaria_60 (CA), Bench_135 (E), BigBubba_136 (E), BilboSwaggins_131 (E), BobbyDazzler_59 (CA), Bonanza_60 (CA), Bradshaw_59 (CA), Bryce_58 (CA), Buck_134 (E), ChosenOne_134 (E), ChotaBhai_137 (E), Cjw1_131 (E), Command613_135 (E), Contagion_129 (E), Cookies_134 (E), CosmicSans_59 (CA), Cosmo_165 (V), CrystalP_133 (E), Czystczon1_133 (E), Daikon_135 (E), Dinger_58 (CA), DoctorDiddles_131 (E), DrDrey_136 (E), Dusk_134 (E), Easy2Say_135 (E), Elite2014_133 (E), Emmina_134 (E), EniyanLRS_157 (V), Erik_59 (CA), Espica_60 (CA), Eureka_133 (E), Filch_135 (E), FireRed_136 (E), Flypotenuse_128 (E), Gator_135 (E), Gemini_139 (E), Gibbles_111 (CX), Glexan_137 (E), GoldenSpark_138 (E), Gollum_59 (CA), GooberAzure_136 (E), HanKaySha_133 (E), Harella_139 (E), Harlequin_59 (CA), Highbury_129 (E), Hiro_59 (CA), Holt_139 (E), Hoonter_136 (E), Hopey_132 (E), HufflyPuff_135 (E), IHOP_137 (E), Icee_138 (E), Inca_132 (E), JeTaime_131 (E), Jester_58 (CA), Kampe_109 (CX), Kanye_130 (E), Kostya_134 (E), Krishelle_59 (CA), Lilac_131 (E), Lilizi_134 (E), Lillie_59 (CA), Lilpickle_133 (E), MPhalcon_134 (E), MadamMonkfish_133 (E), Marshmallow_134 (E), MaryV_150 (V), Maxxinista_135 (E), Megatron06_51 (H1), Mindy_136 (E), Miniwave_127 (E), Misfit_133 (E), Moldemort_136 (E), Mosby_130 (E), Murica_137 (E), Murphy_132 (E), Myrale_134 (E), Naiad_58 (CA), Nala_135 (E), Nancinator_58 (CA), Natosaleda_58 (CA), NelitzaMV_131 (E), Nimrod_133 (E), NoSleep_133 (E), Oaker_47 (H1), Orchid_108 (CX), OrionPax_129 (E), Paperbeatsrock_132 (E), Partridge_58 (CA), Pat3_133 (E), PatrickStar_109 (CX), Phaja_137 (E), Pharsalus_131 (E), PhatBacter_136 (E), Phaux_135 (E), Phrankenstein_59 (CA), Phrux_129 (E), Policronamos_136 (E), Pumpkin_133 (E), Quallification_134 (E), RER2_53 (CA), RGL3_51 (CA), Rakim_134 (E), Rasputin_59 (CA), RexFury_58 (CA), Rhodalysa_59 (CA), RiverMonster_132 (E), RobinSparkles_118 (CX), Saints25_129 (E), ShamWow_133 (E), ShereKhan_133 (E), Shuman_60 (CA),

Simpliphy_132 (E), SirDuracell_136 (E), SophKB_131 (E), Sotrice96_138 (E), StCroix_58 (CA), Stank_137 (E), Stark_131 (E), StolenFromERC_136 (E), Swann_59 (CA), TBrady12_138 (E), TWAMP_59 (CA), Takoda_59 (CA), Tarkin_132 (E), TeardropMSU_134 (E), Terminus_136 (E), Toto_131 (E), Traaww1_129 (E), Tuco_139 (E), UhSalsa_59 (CA), Wiggin_136 (E), Wildcat_164 (V), Willez_130 (E), Xandras_134 (E), YassJohnny_129 (E), Yogi_60 (CA), Yoncess_58 (CA), Youngblood_137 (E), xkcd_137 (E),

Start 29:

- Found in 98 of 190 (51.6%) of genes in pham
- No Manual Annotations of this start.
- Called 1.0% of time when present
- Phage (with cluster) where this start called: BugsBunny_132 (E),

Start 30:

- Found in 170 of 190 (89.5%) of genes in pham
- No Manual Annotations of this start.
- Called 1.2% of time when present
- Phage (with cluster) where this start called: Palpatine_133 (E), StellaBean_129 (E),

Summary by clusters:

There are 6 clusters represented in this pham: E, CA, H1, CX, BK2, V,

Info for manual annotations of cluster BK2:

- Start number 17 was manually annotated 2 times for cluster BK2.
- Start number 20 was manually annotated 4 times for cluster BK2.

Info for manual annotations of cluster CA:

- Start number 22 was manually annotated 35 times for cluster CA.

Info for manual annotations of cluster CX:

- Start number 22 was manually annotated 5 times for cluster CX.

Info for manual annotations of cluster E:

- Start number 15 was manually annotated 15 times for cluster E.
- Start number 16 was manually annotated 1 time for cluster E.
- Start number 18 was manually annotated 1 time for cluster E.
- Start number 22 was manually annotated 101 times for cluster E.

Info for manual annotations of cluster H1:

- Start number 21 was manually annotated 7 times for cluster H1.
- Start number 22 was manually annotated 1 time for cluster H1.

Info for manual annotations of cluster V:

- Start number 22 was manually annotated 5 times for cluster V.

Gene Information:

Gene: 244_134 Start: 70917, Stop: 70588, Start Num: 22

Candidate Starts for 244_134:

(Start: 15 @70935 has 15 MA's), (Start: 22 @70917 has 147 MA's), (23, 70896), (25, 70884), (26, 70881), (29, 70860), (30, 70845),

Gene: ABCat_134 Start: 72465, Stop: 72136, Start Num: 22

Candidate Starts for ABCat_134:

(Start: 22 @72465 has 147 MA's), (23, 72444), (25, 72432), (26, 72429), (29, 72408), (30, 72393),

Gene: Adnama_138 Start: 71581, Stop: 71252, Start Num: 22

Candidate Starts for Adnama_138:

(Start: 15 @71599 has 15 MA's), (Start: 22 @71581 has 147 MA's), (23, 71560), (25, 71548), (26, 71545), (29, 71524), (30, 71509),

Gene: Alatin_58 Start: 41201, Stop: 40866, Start Num: 22

Candidate Starts for Alatin_58:

(Start: 22 @41201 has 147 MA's), (24, 41177), (25, 41168), (27, 41162), (30, 41129), (31, 41099), (33, 41078), (39, 41021), (54, 40871),

Gene: Alpacados_58 Start: 41024, Stop: 40689, Start Num: 22

Candidate Starts for Alpacados_58:

(Start: 22 @41024 has 147 MA's), (25, 40991), (27, 40985), (30, 40952), (31, 40922), (40, 40835), (54, 40694),

Gene: Amao_137 Start: 72289, Stop: 71960, Start Num: 22

Candidate Starts for Amao_137:

(3, 72445), (6, 72421), (7, 72391), (12, 72364), (Start: 22 @72289 has 147 MA's), (23, 72268), (25, 72256), (30, 72217), (31, 72187), (42, 72085),

Gene: AmericanBeauty_141 Start: 71623, Stop: 71294, Start Num: 22

Candidate Starts for AmericanBeauty_141:

(Start: 15 @71641 has 15 MA's), (Start: 22 @71623 has 147 MA's), (23, 71602), (25, 71590), (26, 71587), (29, 71566), (30, 71551),

Gene: AngryOrchard_56 Start: 41255, Stop: 40920, Start Num: 22

Candidate Starts for AngryOrchard_56:

(Start: 22 @41255 has 147 MA's), (24, 41231), (25, 41222), (27, 41216), (30, 41183), (40, 41066), (54, 40925),

Gene: AppleCloud_56 Start: 40918, Stop: 40583, Start Num: 22

Candidate Starts for AppleCloud_56:

(1, 41137), (Start: 22 @40918 has 147 MA's), (24, 40894), (25, 40885), (27, 40879), (30, 40846), (31, 40816), (33, 40795), (39, 40738), (54, 40588),

Gene: Argent26_138 Start: 71505, Stop: 71176, Start Num: 22

Candidate Starts for Argent26_138:

(Start: 15 @71523 has 15 MA's), (Start: 22 @71505 has 147 MA's), (23, 71484), (25, 71472), (26, 71469), (29, 71448), (30, 71433),

Gene: Asriel_130 Start: 69770, Stop: 69441, Start Num: 22

Candidate Starts for Asriel_130:

(Start: 18 @69785 has 1 MA's), (Start: 22 @69770 has 147 MA's), (25, 69737), (30, 69698), (31, 69668),

Gene: Azrael100_156 Start: 73905, Stop: 73585, Start Num: 22

Candidate Starts for Azrael100_156:

(Start: 22 @73905 has 147 MA's), (25, 73872), (33, 73782), (42, 73701), (43, 73698), (46, 73674), (52, 73596),

Gene: BaboJay_132 Start: 72084, Stop: 71755, Start Num: 22

Candidate Starts for BaboJay_132:

(Start: 15 @72102 has 15 MA's), (Start: 22 @72084 has 147 MA's), (23, 72063), (25, 72051), (26, 72048), (29, 72027), (30, 72012),

Gene: BadStone_134 Start: 72013, Stop: 71684, Start Num: 22

Candidate Starts for BadStone_134:

(Start: 22 @72013 has 147 MA's), (23, 71992), (25, 71980), (26, 71977), (29, 71956), (30, 71941),

Gene: Balomoji_134 Start: 71559, Stop: 71230, Start Num: 22

Candidate Starts for Balomoji_134:

(Start: 18 @71574 has 1 MA's), (Start: 22 @71559 has 147 MA's), (25, 71526), (30, 71487), (31, 71457),

Gene: Barbarian_133 Start: 69770, Stop: 69441, Start Num: 22

Candidate Starts for Barbarian_133:

(Start: 18 @69785 has 1 MA's), (Start: 22 @69770 has 147 MA's), (25, 69737), (30, 69698), (31, 69668),

Gene: Bask21_138 Start: 70954, Stop: 70607, Start Num: 15

Candidate Starts for Bask21_138:

(Start: 15 @70954 has 15 MA's), (Start: 22 @70936 has 147 MA's), (23, 70915), (25, 70903), (26, 70900), (29, 70879), (30, 70864),

Gene: Beckerton_47 Start: 40622, Stop: 40957, Start Num: 21

Candidate Starts for Beckerton_47:

(19, 40610), (Start: 21 @40622 has 7 MA's), (25, 40655), (31, 40724), (37, 40775), (42, 40826),

Gene: Belenaria_60 Start: 41066, Stop: 40731, Start Num: 22

Candidate Starts for Belenaria_60:

(1, 41285), (Start: 22 @41066 has 147 MA's), (24, 41042), (25, 41033), (27, 41027), (30, 40994), (31, 40964), (33, 40943), (39, 40886), (54, 40736),

Gene: Bench_135 Start: 71810, Stop: 71481, Start Num: 22

Candidate Starts for Bench_135:

(Start: 15 @71828 has 15 MA's), (Start: 22 @71810 has 147 MA's), (23, 71789), (25, 71777), (26, 71774), (29, 71753), (30, 71738),

Gene: BigBubba_136 Start: 71015, Stop: 70686, Start Num: 22

Candidate Starts for BigBubba_136:

(Start: 15 @71033 has 15 MA's), (Start: 22 @71015 has 147 MA's), (25, 70982), (26, 70979), (29, 70958), (30, 70943),

Gene: BilboSwaggins_131 Start: 72050, Stop: 71721, Start Num: 22

Candidate Starts for BilboSwaggins_131:

(Start: 18 @72065 has 1 MA's), (Start: 22 @72050 has 147 MA's), (25, 72017), (30, 71978), (31, 71948),

Gene: BillNye_5 Start: 1694, Stop: 2023, Start Num: 17

Candidate Starts for BillNye_5:

(Start: 17 @1694 has 2 MA's), (Start: 20 @1700 has 4 MA's), (23, 1730), (25, 1742), (30, 1781), (43, 1907), (46, 1931),

Gene: BillNye_251 Start: 126516, Stop: 126845, Start Num: 17

Candidate Starts for BillNye_251:

(Start: 17 @126516 has 2 MA's), (Start: 20 @126522 has 4 MA's), (23, 126552), (25, 126564), (30, 126603), (43, 126729), (46, 126753),

Gene: BobbyDazzler_59 Start: 41171, Stop: 40836, Start Num: 22

Candidate Starts for BobbyDazzler_59:

(Start: 22 @41171 has 147 MA's), (25, 41138), (27, 41132), (30, 41099), (31, 41069), (40, 40982), (54, 40841),

Gene: Bonanza_60 Start: 41476, Stop: 41141, Start Num: 22

Candidate Starts for Bonanza_60:

(Start: 22 @41476 has 147 MA's), (25, 41443), (27, 41437), (30, 41404), (31, 41374), (40, 41287), (54, 41146),

Gene: Bradshaw_59 Start: 41134, Stop: 40799, Start Num: 22

Candidate Starts for Bradshaw_59:

(Start: 22 @41134 has 147 MA's), (24, 41110), (25, 41101), (27, 41095), (30, 41062), (31, 41032), (33, 41011), (39, 40954), (54, 40804),

Gene: Bruin_130 Start: 70212, Stop: 69865, Start Num: 15

Candidate Starts for Bruin_130:

(Start: 15 @70212 has 15 MA's), (Start: 22 @70194 has 147 MA's), (23, 70173), (25, 70161), (26, 70158), (29, 70137), (30, 70122),

Gene: Bryce_58 Start: 40879, Stop: 40544, Start Num: 22

Candidate Starts for Bryce_58:

(Start: 22 @40879 has 147 MA's), (25, 40846), (27, 40840), (30, 40807), (31, 40777), (40, 40690), (54, 40549),

Gene: Buck_134 Start: 72463, Stop: 72134, Start Num: 22

Candidate Starts for Buck_134:

(Start: 15 @72481 has 15 MA's), (Start: 22 @72463 has 147 MA's), (23, 72442), (25, 72430), (26, 72427), (29, 72406), (30, 72391),

Gene: BugsBunny_132 Start: 71452, Stop: 71180, Start Num: 29

Candidate Starts for BugsBunny_132:

(Start: 15 @71527 has 15 MA's), (Start: 22 @71509 has 147 MA's), (23, 71488), (25, 71476), (26, 71473), (29, 71452), (30, 71437),

Gene: Cactus_141 Start: 71625, Stop: 71278, Start Num: 15

Candidate Starts for Cactus_141:

(Start: 15 @71625 has 15 MA's), (Start: 22 @71607 has 147 MA's), (23, 71586), (25, 71574), (26, 71571), (29, 71550), (30, 71535),

Gene: Cborch11_49 Start: 40138, Stop: 40473, Start Num: 21

Candidate Starts for Cborch11_49:

(Start: 21 @40138 has 7 MA's), (25, 40171), (28, 40189), (31, 40240), (42, 40342), (44, 40351),

Gene: ChosenOne_134 Start: 70987, Stop: 70658, Start Num: 22
Candidate Starts for ChosenOne_134:
(Start: 15 @71005 has 15 MA's), (Start: 22 @70987 has 147 MA's), (23, 70966), (25, 70954), (26, 70951), (29, 70930), (30, 70915),

Gene: ChotaBhai_137 Start: 71772, Stop: 71443, Start Num: 22
Candidate Starts for ChotaBhai_137:
(Start: 15 @71790 has 15 MA's), (Start: 22 @71772 has 147 MA's), (23, 71751), (25, 71739), (26, 71736), (29, 71715), (30, 71700),

Gene: Cjw1_131 Start: 72188, Stop: 71859, Start Num: 22
Candidate Starts for Cjw1_131:
(Start: 15 @72206 has 15 MA's), (Start: 22 @72188 has 147 MA's), (23, 72167), (25, 72155), (26, 72152), (29, 72131), (30, 72116),

Gene: Command613_135 Start: 71551, Stop: 71222, Start Num: 22
Candidate Starts for Command613_135:
(2, 71719), (4, 71701), (8, 71650), (9, 71644), (11, 71629), (14, 71584), (Start: 22 @71551 has 147 MA's), (23, 71530), (25, 71518), (30, 71479), (31, 71449), (42, 71347), (43, 71344),

Gene: Contagion_129 Start: 70556, Stop: 70227, Start Num: 22
Candidate Starts for Contagion_129:
(Start: 15 @70574 has 15 MA's), (Start: 22 @70556 has 147 MA's), (23, 70535), (25, 70523), (26, 70520), (29, 70499), (30, 70484),

Gene: Cookies_134 Start: 72098, Stop: 71769, Start Num: 22
Candidate Starts for Cookies_134:
(Start: 15 @72116 has 15 MA's), (Start: 22 @72098 has 147 MA's), (23, 72077), (25, 72065), (26, 72062), (29, 72041), (30, 72026),

Gene: CosmicSans_59 Start: 41125, Stop: 40790, Start Num: 22
Candidate Starts for CosmicSans_59:
(Start: 22 @41125 has 147 MA's), (25, 41092), (27, 41086), (30, 41053), (31, 41023), (40, 40936), (54, 40795),

Gene: Cosmo_165 Start: 74069, Stop: 73749, Start Num: 22
Candidate Starts for Cosmo_165:
(Start: 22 @74069 has 147 MA's), (25, 74036), (33, 73946), (42, 73865), (43, 73862), (46, 73838), (52, 73760),

Gene: CrystalP_133 Start: 72050, Stop: 71721, Start Num: 22
Candidate Starts for CrystalP_133:
(Start: 18 @72065 has 1 MA's), (Start: 22 @72050 has 147 MA's), (25, 72017), (30, 71978), (31, 71948),

Gene: Czyszczone1_133 Start: 71002, Stop: 70673, Start Num: 22
Candidate Starts for Czyszczone1_133:
(Start: 15 @71020 has 15 MA's), (Start: 22 @71002 has 147 MA's), (23, 70981), (25, 70969), (26, 70966), (30, 70930),

Gene: Daikon_135 Start: 70855, Stop: 70526, Start Num: 22
Candidate Starts for Daikon_135:

(Start: 18 @70870 has 1 MA's), (Start: 22 @70855 has 147 MA's), (25, 70822), (30, 70783), (31, 70753),

Gene: Damien_48 Start: 40101, Stop: 40436, Start Num: 21

Candidate Starts for Damien_48:

(Start: 21 @40101 has 7 MA's), (25, 40134), (28, 40152), (31, 40203), (42, 40305), (44, 40314),

Gene: Dinger_58 Start: 41269, Stop: 40934, Start Num: 22

Candidate Starts for Dinger_58:

(1, 41488), (Start: 22 @41269 has 147 MA's), (23, 41248), (24, 41245), (25, 41236), (27, 41230), (30, 41197), (31, 41167), (40, 41080), (54, 40939),

Gene: DoctorDiddles_131 Start: 70509, Stop: 70180, Start Num: 22

Candidate Starts for DoctorDiddles_131:

(Start: 22 @70509 has 147 MA's), (23, 70488), (25, 70476), (26, 70473), (29, 70452), (30, 70437),

Gene: DrDrey_136 Start: 73246, Stop: 72917, Start Num: 22

Candidate Starts for DrDrey_136:

(2, 73414), (9, 73339), (11, 73324), (14, 73279), (Start: 22 @73246 has 147 MA's), (25, 73213), (26, 73210), (29, 73189), (30, 73174),

Gene: Dumbo_134 Start: 71215, Stop: 70868, Start Num: 15

Candidate Starts for Dumbo_134:

(Start: 15 @71215 has 15 MA's), (Start: 22 @71197 has 147 MA's), (23, 71176), (25, 71164), (26, 71161), (29, 71140), (30, 71125),

Gene: Dusk_134 Start: 71673, Stop: 71344, Start Num: 22

Candidate Starts for Dusk_134:

(Start: 22 @71673 has 147 MA's), (23, 71652), (25, 71640), (26, 71637), (29, 71616), (30, 71601),

Gene: Easy2Say_135 Start: 71971, Stop: 71642, Start Num: 22

Candidate Starts for Easy2Say_135:

(Start: 15 @71989 has 15 MA's), (Start: 22 @71971 has 147 MA's), (23, 71950), (25, 71938), (26, 71935), (29, 71914), (30, 71899),

Gene: Elite2014_133 Start: 70986, Stop: 70657, Start Num: 22

Candidate Starts for Elite2014_133:

(Start: 15 @71004 has 15 MA's), (Start: 22 @70986 has 147 MA's), (23, 70965), (25, 70953), (26, 70950), (29, 70929), (30, 70914),

Gene: Elph10_131 Start: 70322, Stop: 69975, Start Num: 15

Candidate Starts for Elph10_131:

(Start: 15 @70322 has 15 MA's), (Start: 22 @70304 has 147 MA's), (23, 70283), (25, 70271), (26, 70268), (30, 70232),

Gene: Emmina_134 Start: 70923, Stop: 70594, Start Num: 22

Candidate Starts for Emmina_134:

(Start: 15 @70941 has 15 MA's), (Start: 22 @70923 has 147 MA's), (23, 70902), (25, 70890), (26, 70887), (29, 70866), (30, 70851),

Gene: EniyanLRS_157 Start: 74396, Stop: 74076, Start Num: 22

Candidate Starts for EniyanLRS_157:

(Start: 22 @74396 has 147 MA's), (25, 74363), (42, 74192), (43, 74189), (46, 74165), (52, 74087),

Gene: Erik_59 Start: 40956, Stop: 40621, Start Num: 22

Candidate Starts for Erik_59:

(Start: 22 @40956 has 147 MA's), (25, 40923), (27, 40917), (30, 40884), (31, 40854), (40, 40767), (54, 40626),

Gene: Espica_60 Start: 41066, Stop: 40731, Start Num: 22

Candidate Starts for Espica_60:

(1, 41285), (Start: 22 @41066 has 147 MA's), (24, 41042), (25, 41033), (27, 41027), (30, 40994), (31, 40964), (33, 40943), (39, 40886), (54, 40736),

Gene: Eureka_133 Start: 71851, Stop: 71522, Start Num: 22

Candidate Starts for Eureka_133:

(Start: 15 @71869 has 15 MA's), (Start: 22 @71851 has 147 MA's), (23, 71830), (25, 71818), (26, 71815), (29, 71794), (30, 71779),

Gene: Filch_135 Start: 71126, Stop: 70797, Start Num: 22

Candidate Starts for Filch_135:

(Start: 22 @71126 has 147 MA's), (23, 71105), (25, 71093), (26, 71090), (29, 71069), (30, 71054),

Gene: FireRed_136 Start: 71634, Stop: 71305, Start Num: 22

Candidate Starts for FireRed_136:

(3, 71790), (4, 71784), (5, 71778), (6, 71766), (8, 71733), (9, 71727), (11, 71712), (14, 71667), (Start: 22 @71634 has 147 MA's), (23, 71613), (25, 71601), (30, 71562), (31, 71532), (42, 71430), (43, 71427),

Gene: Flypotenuse_128 Start: 70424, Stop: 70095, Start Num: 22

Candidate Starts for Flypotenuse_128:

(Start: 18 @70439 has 1 MA's), (Start: 22 @70424 has 147 MA's), (25, 70391), (30, 70352), (31, 70322),

Gene: Gator_135 Start: 71964, Stop: 71635, Start Num: 22

Candidate Starts for Gator_135:

(Start: 22 @71964 has 147 MA's), (23, 71943), (25, 71931), (26, 71928), (29, 71907), (30, 71892),

Gene: Gemini_139 Start: 72022, Stop: 71693, Start Num: 22

Candidate Starts for Gemini_139:

(Start: 15 @72040 has 15 MA's), (Start: 22 @72022 has 147 MA's), (23, 72001), (25, 71989), (26, 71986), (29, 71965), (30, 71950),

Gene: Gibbles_111 Start: 76317, Stop: 75979, Start Num: 22

Candidate Starts for Gibbles_111:

(13, 76365), (Start: 22 @76317 has 147 MA's), (25, 76284), (31, 76215), (36, 76167), (40, 76113), (42, 76098), (51, 76017),

Gene: Glexan_137 Start: 72114, Stop: 71785, Start Num: 22

Candidate Starts for Glexan_137:

(Start: 22 @72114 has 147 MA's), (23, 72093), (25, 72081), (26, 72078), (29, 72057), (30, 72042),

Gene: Goku_132 Start: 72178, Stop: 71831, Start Num: 15

Candidate Starts for Goku_132:

(Start: 15 @72178 has 15 MA's), (Start: 22 @72160 has 147 MA's), (23, 72139), (25, 72127), (26, 72124), (29, 72103), (30, 72088),

Gene: GoldenSpark_138 Start: 71505, Stop: 71176, Start Num: 22

Candidate Starts for GoldenSpark_138:

(Start: 15 @71523 has 15 MA's), (Start: 22 @71505 has 147 MA's), (23, 71484), (25, 71472), (26, 71469), (29, 71448), (30, 71433),

Gene: Goldilocks_139 Start: 72119, Stop: 71772, Start Num: 15

Candidate Starts for Goldilocks_139:

(Start: 15 @72119 has 15 MA's), (Start: 22 @72101 has 147 MA's), (23, 72080), (25, 72068), (26, 72065), (29, 72044), (30, 72029),

Gene: Gollum_59 Start: 41067, Stop: 40732, Start Num: 22

Candidate Starts for Gollum_59:

(Start: 22 @41067 has 147 MA's), (25, 41034), (27, 41028), (30, 40995), (31, 40965), (40, 40878), (54, 40737),

Gene: GooberAzure_136 Start: 71505, Stop: 71176, Start Num: 22

Candidate Starts for GooberAzure_136:

(Start: 15 @71523 has 15 MA's), (Start: 22 @71505 has 147 MA's), (23, 71484), (25, 71472), (26, 71469), (29, 71448), (30, 71433),

Gene: HanKaySha_133 Start: 71459, Stop: 71130, Start Num: 22

Candidate Starts for HanKaySha_133:

(Start: 15 @71477 has 15 MA's), (Start: 22 @71459 has 147 MA's), (23, 71438), (25, 71426), (26, 71423), (29, 71402), (30, 71387),

Gene: Harella_139 Start: 72630, Stop: 72301, Start Num: 22

Candidate Starts for Harella_139:

(Start: 22 @72630 has 147 MA's), (23, 72609), (25, 72597), (26, 72594), (29, 72573), (30, 72558),

Gene: Harlequin_59 Start: 40914, Stop: 40579, Start Num: 22

Candidate Starts for Harlequin_59:

(Start: 22 @40914 has 147 MA's), (25, 40881), (27, 40875), (30, 40842), (31, 40812), (33, 40791), (40, 40725), (53, 40590), (54, 40584),

Gene: Henry_135 Start: 71930, Stop: 71586, Start Num: 18

Candidate Starts for Henry_135:

(Start: 18 @71930 has 1 MA's), (Start: 22 @71915 has 147 MA's), (25, 71882), (30, 71843), (31, 71813),

Gene: Highbury_129 Start: 69399, Stop: 69070, Start Num: 22

Candidate Starts for Highbury_129:

(Start: 22 @69399 has 147 MA's), (23, 69378), (25, 69366), (26, 69363), (29, 69342), (30, 69327),

Gene: Hiro_59 Start: 41385, Stop: 41050, Start Num: 22

Candidate Starts for Hiro_59:

(Start: 22 @41385 has 147 MA's), (25, 41352), (27, 41346), (30, 41313), (31, 41283), (40, 41196), (54, 41055),

Gene: Holt_139 Start: 72058, Stop: 71729, Start Num: 22

Candidate Starts for Holt_139:

(3, 72214), (4, 72208), (5, 72202), (6, 72190), (8, 72157), (9, 72151), (11, 72136), (14, 72091), (Start: 22 @72058 has 147 MA's), (23, 72037), (25, 72025), (30, 71986), (31, 71956), (42, 71854), (43,

71851),

Gene: Hoonter_136 Start: 71546, Stop: 71217, Start Num: 22

Candidate Starts for Hoonter_136:

(Start: 22 @71546 has 147 MA's), (23, 71525), (25, 71513), (26, 71510), (29, 71489), (30, 71474),

Gene: Hopecy_132 Start: 71553, Stop: 71224, Start Num: 22

Candidate Starts for Hopecy_132:

(Start: 15 @71571 has 15 MA's), (Start: 22 @71553 has 147 MA's), (23, 71532), (25, 71520), (26, 71517), (29, 71496), (30, 71481),

Gene: HufflyPuff_135 Start: 71860, Stop: 71531, Start Num: 22

Candidate Starts for HufflyPuff_135:

(3, 72016), (4, 72010), (5, 72004), (6, 71992), (8, 71959), (9, 71953), (11, 71938), (14, 71893), (Start: 22 @71860 has 147 MA's), (23, 71839), (25, 71827), (30, 71788), (31, 71758), (42, 71656), (43, 71653),

Gene: IHOP_137 Start: 71489, Stop: 71160, Start Num: 22

Candidate Starts for IHOP_137:

(Start: 15 @71507 has 15 MA's), (Start: 22 @71489 has 147 MA's), (23, 71468), (25, 71456), (26, 71453), (29, 71432), (30, 71417),

Gene: Icee_138 Start: 71365, Stop: 71036, Start Num: 22

Candidate Starts for Icee_138:

(Start: 18 @71380 has 1 MA's), (Start: 22 @71365 has 147 MA's), (25, 71332), (30, 71293),

Gene: Inca_132 Start: 69509, Stop: 69180, Start Num: 22

Candidate Starts for Inca_132:

(Start: 15 @69527 has 15 MA's), (Start: 22 @69509 has 147 MA's), (23, 69488), (25, 69476), (26, 69473), (29, 69452), (30, 69437),

Gene: JeTaime_131 Start: 71025, Stop: 70696, Start Num: 22

Candidate Starts for JeTaime_131:

(Start: 15 @71043 has 15 MA's), (Start: 22 @71025 has 147 MA's), (23, 71004), (25, 70992), (30, 70953),

Gene: Jester_58 Start: 40845, Stop: 40510, Start Num: 22

Candidate Starts for Jester_58:

(Start: 22 @40845 has 147 MA's), (25, 40812), (27, 40806), (30, 40773), (31, 40743), (33, 40722), (40, 40656), (53, 40521), (54, 40515),

Gene: Kampe_109 Start: 75739, Stop: 75401, Start Num: 22

Candidate Starts for Kampe_109:

(13, 75787), (Start: 22 @75739 has 147 MA's), (25, 75706), (31, 75637), (36, 75589), (40, 75535), (42, 75520), (51, 75439),

Gene: Kanye_130 Start: 71520, Stop: 71191, Start Num: 22

Candidate Starts for Kanye_130:

(Start: 15 @71538 has 15 MA's), (Start: 22 @71520 has 147 MA's), (23, 71499), (25, 71487), (26, 71484), (29, 71463), (30, 71448),

Gene: Kimchi_139 Start: 72244, Stop: 71897, Start Num: 15

Candidate Starts for Kimchi_139:

(Start: 15 @72244 has 15 MA's), (Start: 22 @72226 has 147 MA's), (23, 72205), (25, 72193), (26, 72190), (29, 72169), (30, 72154),

Gene: Konstantine_51 Start: 40932, Stop: 41267, Start Num: 21

Candidate Starts for Konstantine_51:

(19, 40920), (Start: 21 @40932 has 7 MA's), (25, 40965), (31, 41034), (37, 41085), (42, 41136), (44, 41145),

Gene: Kostya_134 Start: 71590, Stop: 71261, Start Num: 22

Candidate Starts for Kostya_134:

(2, 71758), (4, 71740), (8, 71689), (9, 71683), (11, 71668), (14, 71623), (Start: 22 @71590 has 147 MA's), (23, 71569), (25, 71557), (30, 71518), (31, 71488), (42, 71386), (43, 71383),

Gene: Krishelle_59 Start: 41494, Stop: 41159, Start Num: 22

Candidate Starts for Krishelle_59:

(Start: 22 @41494 has 147 MA's), (24, 41470), (25, 41461), (27, 41455), (30, 41422), (31, 41392), (33, 41371), (39, 41314), (54, 41164),

Gene: Lilac_131 Start: 72003, Stop: 71674, Start Num: 22

Candidate Starts for Lilac_131:

(Start: 15 @72021 has 15 MA's), (Start: 22 @72003 has 147 MA's), (23, 71982), (25, 71970), (26, 71967), (29, 71946), (30, 71931),

Gene: Lilizi_134 Start: 71733, Stop: 71404, Start Num: 22

Candidate Starts for Lilizi_134:

(Start: 15 @71751 has 15 MA's), (Start: 22 @71733 has 147 MA's), (23, 71712), (25, 71700), (26, 71697), (29, 71676), (30, 71661),

Gene: Lillie_59 Start: 41125, Stop: 40790, Start Num: 22

Candidate Starts for Lillie_59:

(Start: 22 @41125 has 147 MA's), (25, 41092), (27, 41086), (30, 41053), (31, 41023), (40, 40936), (54, 40795),

Gene: Lilpickle_133 Start: 70986, Stop: 70657, Start Num: 22

Candidate Starts for Lilpickle_133:

(Start: 15 @71004 has 15 MA's), (Start: 22 @70986 has 147 MA's), (23, 70965), (25, 70953), (26, 70950), (29, 70929), (30, 70914),

Gene: MISSy_135 Start: 71918, Stop: 71571, Start Num: 15

Candidate Starts for MISSy_135:

(Start: 15 @71918 has 15 MA's), (Start: 22 @71900 has 147 MA's), (23, 71879), (25, 71867), (26, 71864), (29, 71843), (30, 71828),

Gene: MPhalcon_134 Start: 71318, Stop: 70989, Start Num: 22

Candidate Starts for MPhalcon_134:

(Start: 15 @71336 has 15 MA's), (Start: 22 @71318 has 147 MA's), (23, 71297), (25, 71285), (26, 71282), (29, 71261), (30, 71246),

Gene: MadamMonkfish_133 Start: 70994, Stop: 70665, Start Num: 22

Candidate Starts for MadamMonkfish_133:

(Start: 15 @71012 has 15 MA's), (Start: 22 @70994 has 147 MA's), (23, 70973), (25, 70961), (26, 70958), (29, 70937), (30, 70922),

Gene: Manda_134 Start: 71452, Stop: 71105, Start Num: 16

Candidate Starts for Manda_134:

(Start: 16 @71452 has 1 MA's), (Start: 22 @71434 has 147 MA's), (23, 71413), (25, 71401), (26, 71398), (30, 71362), (31, 71332), (42, 71230), (43, 71227),

Gene: Marshmallow_134 Start: 72179, Stop: 71850, Start Num: 22

Candidate Starts for Marshmallow_134:

(Start: 15 @72197 has 15 MA's), (Start: 22 @72179 has 147 MA's), (23, 72158), (25, 72146), (26, 72143), (29, 72122), (30, 72107),

Gene: MaryV_150 Start: 72246, Stop: 71926, Start Num: 22

Candidate Starts for MaryV_150:

(Start: 22 @72246 has 147 MA's), (25, 72213), (33, 72123), (42, 72042), (43, 72039), (46, 72015), (52, 71937),

Gene: Maxxinista_135 Start: 70947, Stop: 70618, Start Num: 22

Candidate Starts for Maxxinista_135:

(Start: 15 @70965 has 15 MA's), (Start: 22 @70947 has 147 MA's), (23, 70926), (25, 70914), (26, 70911), (29, 70890), (30, 70875),

Gene: Megatron06_51 Start: 40677, Stop: 41012, Start Num: 22

Candidate Starts for Megatron06_51:

(10, 40596), (Start: 22 @40677 has 147 MA's), (25, 40710), (28, 40728), (31, 40779), (42, 40881), (44, 40890),

Gene: Mindy_136 Start: 71343, Stop: 71014, Start Num: 22

Candidate Starts for Mindy_136:

(2, 71511), (9, 71436), (11, 71421), (14, 71376), (Start: 22 @71343 has 147 MA's), (23, 71322), (25, 71310), (30, 71271),

Gene: Miniwave_127 Start: 71043, Stop: 70714, Start Num: 22

Candidate Starts for Miniwave_127:

(Start: 15 @71061 has 15 MA's), (Start: 22 @71043 has 147 MA's), (23, 71022), (25, 71010), (26, 71007), (29, 70986), (30, 70971),

Gene: Misfit_133 Start: 72192, Stop: 71863, Start Num: 22

Candidate Starts for Misfit_133:

(Start: 15 @72210 has 15 MA's), (Start: 22 @72192 has 147 MA's), (23, 72171), (25, 72159), (26, 72156), (29, 72135), (30, 72120),

Gene: Moldemort_136 Start: 71613, Stop: 71284, Start Num: 22

Candidate Starts for Moldemort_136:

(Start: 15 @71631 has 15 MA's), (Start: 22 @71613 has 147 MA's), (23, 71592), (25, 71580), (26, 71577), (29, 71556), (30, 71541),

Gene: Mosby_130 Start: 70556, Stop: 70227, Start Num: 22

Candidate Starts for Mosby_130:

(Start: 15 @70574 has 15 MA's), (Start: 22 @70556 has 147 MA's), (23, 70535), (25, 70523), (26, 70520), (29, 70499), (30, 70484),

Gene: Muntaha_267 Start: 126982, Stop: 127302, Start Num: 20

Candidate Starts for Muntaha_267:

(Start: 20 @126982 has 4 MA's), (23, 127015), (25, 127027), (30, 127066), (33, 127117), (41, 127177), (47, 127222), (49, 127249), (50, 127252),

Gene: Muntaha_4 Start: 1305, Stop: 1625, Start Num: 20

Candidate Starts for Muntaha_4:

(Start: 20 @1305 has 4 MA's), (23, 1338), (25, 1350), (30, 1389), (33, 1440), (41, 1500), (47, 1545), (49, 1572), (50, 1575),

Gene: Murica_137 Start: 72894, Stop: 72565, Start Num: 22

Candidate Starts for Murica_137:

(3, 73050), (4, 73044), (5, 73038), (6, 73026), (8, 72993), (9, 72987), (11, 72972), (14, 72927), (Start: 22 @72894 has 147 MA's), (23, 72873), (25, 72861), (30, 72822), (31, 72792), (42, 72690), (43, 72687),

Gene: Murphy_132 Start: 71321, Stop: 70992, Start Num: 22

Candidate Starts for Murphy_132:

(Start: 22 @71321 has 147 MA's), (23, 71300), (25, 71288), (26, 71285), (29, 71264), (30, 71249),

Gene: Myrale_134 Start: 72286, Stop: 71957, Start Num: 22

Candidate Starts for Myrale_134:

(2, 72454), (9, 72379), (11, 72364), (14, 72319), (Start: 22 @72286 has 147 MA's), (25, 72253), (26, 72250), (29, 72229), (30, 72214),

Gene: Naiad_58 Start: 41147, Stop: 40812, Start Num: 22

Candidate Starts for Naiad_58:

(Start: 22 @41147 has 147 MA's), (24, 41123), (25, 41114), (27, 41108), (30, 41075), (31, 41045), (33, 41024), (39, 40967), (54, 40817),

Gene: Nala_135 Start: 71607, Stop: 71278, Start Num: 22

Candidate Starts for Nala_135:

(Start: 15 @71625 has 15 MA's), (Start: 22 @71607 has 147 MA's), (23, 71586), (25, 71574), (26, 71571), (29, 71550), (30, 71535),

Gene: Nancinator_58 Start: 40464, Stop: 40129, Start Num: 22

Candidate Starts for Nancinator_58:

(Start: 22 @40464 has 147 MA's), (25, 40431), (27, 40425), (30, 40392), (31, 40362), (40, 40275), (54, 40134),

Gene: Natosaleda_58 Start: 41065, Stop: 40730, Start Num: 22

Candidate Starts for Natosaleda_58:

(1, 41284), (Start: 22 @41065 has 147 MA's), (24, 41041), (25, 41032), (27, 41026), (30, 40993), (31, 40963), (33, 40942), (39, 40885), (54, 40735),

Gene: NelitzaMV_131 Start: 69650, Stop: 69321, Start Num: 22

Candidate Starts for NelitzaMV_131:

(2, 69818), (9, 69743), (11, 69728), (14, 69683), (Start: 22 @69650 has 147 MA's), (23, 69629), (25, 69617), (30, 69578),

Gene: Nimrod_133 Start: 72106, Stop: 71777, Start Num: 22

Candidate Starts for Nimrod_133:

(Start: 15 @72124 has 15 MA's), (Start: 22 @72106 has 147 MA's), (23, 72085), (25, 72073), (26, 72070), (29, 72049), (30, 72034),

Gene: NoSleep_133 Start: 70872, Stop: 70543, Start Num: 22

Candidate Starts for NoSleep_133:

(Start: 15 @70890 has 15 MA's), (Start: 22 @70872 has 147 MA's), (23, 70851), (25, 70839), (26, 70836), (29, 70815), (30, 70800),

Gene: Oaker_47 Start: 40392, Stop: 40727, Start Num: 22

Candidate Starts for Oaker_47:

(10, 40311), (Start: 22 @40392 has 147 MA's), (25, 40425), (31, 40494), (42, 40596), (44, 40605),

Gene: Orchid_108 Start: 75740, Stop: 75402, Start Num: 22

Candidate Starts for Orchid_108:

(13, 75788), (Start: 22 @75740 has 147 MA's), (25, 75707), (31, 75638), (36, 75590), (40, 75536), (42, 75521), (51, 75440),

Gene: OrionPax_129 Start: 70552, Stop: 70223, Start Num: 22

Candidate Starts for OrionPax_129:

(Start: 15 @70570 has 15 MA's), (Start: 22 @70552 has 147 MA's), (23, 70531), (25, 70519), (26, 70516), (29, 70495), (30, 70480),

Gene: Palpatine_133 Start: 72040, Stop: 71783, Start Num: 30

Candidate Starts for Palpatine_133:

(Start: 15 @72130 has 15 MA's), (Start: 22 @72112 has 147 MA's), (23, 72091), (25, 72079), (26, 72076), (29, 72055), (30, 72040),

Gene: Paperbeatsrock_132 Start: 71721, Stop: 71392, Start Num: 22

Candidate Starts for Paperbeatsrock_132:

(Start: 15 @71739 has 15 MA's), (Start: 22 @71721 has 147 MA's), (23, 71700), (25, 71688), (26, 71685), (29, 71664), (30, 71649),

Gene: Partridge_58 Start: 41426, Stop: 41091, Start Num: 22

Candidate Starts for Partridge_58:

(1, 41645), (Start: 22 @41426 has 147 MA's), (23, 41405), (24, 41402), (25, 41393), (27, 41387), (30, 41354), (31, 41324), (40, 41237), (54, 41096),

Gene: Pat3_133 Start: 71258, Stop: 70929, Start Num: 22

Candidate Starts for Pat3_133:

(Start: 22 @71258 has 147 MA's), (23, 71237), (25, 71225), (26, 71222), (29, 71201), (30, 71186),

Gene: PatrickStar_109 Start: 75819, Stop: 75481, Start Num: 22

Candidate Starts for PatrickStar_109:

(13, 75867), (Start: 22 @75819 has 147 MA's), (25, 75786), (31, 75717), (36, 75669), (40, 75615), (42, 75600), (51, 75519),

Gene: Petra64142_135 Start: 71754, Stop: 71407, Start Num: 15

Candidate Starts for Petra64142_135:

(Start: 15 @71754 has 15 MA's), (Start: 22 @71736 has 147 MA's), (23, 71715), (25, 71703), (26, 71700), (29, 71679), (30, 71664),

Gene: Phaja_137 Start: 71494, Stop: 71165, Start Num: 22

Candidate Starts for Phaja_137:

(Start: 15 @71512 has 15 MA's), (Start: 22 @71494 has 147 MA's), (23, 71473), (25, 71461), (26, 71458), (29, 71437), (30, 71422),

Gene: Pharsalus_131 Start: 71861, Stop: 71532, Start Num: 22

Candidate Starts for Pharsalus_131:

(Start: 15 @71879 has 15 MA's), (Start: 22 @71861 has 147 MA's), (23, 71840), (25, 71828), (26, 71825), (29, 71804), (30, 71789),

Gene: PhatBacter_136 Start: 71634, Stop: 71305, Start Num: 22

Candidate Starts for PhatBacter_136:

(3, 71790), (4, 71784), (5, 71778), (6, 71766), (8, 71733), (9, 71727), (11, 71712), (14, 71667), (Start: 22 @71634 has 147 MA's), (23, 71613), (25, 71601), (30, 71562), (31, 71532), (42, 71430), (43, 71427),

Gene: Phaux_135 Start: 72260, Stop: 71931, Start Num: 22

Candidate Starts for Phaux_135:

(3, 72416), (4, 72410), (5, 72404), (6, 72392), (8, 72359), (9, 72353), (11, 72338), (14, 72293), (Start: 22 @72260 has 147 MA's), (23, 72239), (25, 72227), (30, 72188), (31, 72158), (42, 72056), (43, 72053),

Gene: Phrankenstein_59 Start: 41071, Stop: 40736, Start Num: 22

Candidate Starts for Phrankenstein_59:

(Start: 22 @41071 has 147 MA's), (25, 41038), (27, 41032), (30, 40999), (31, 40969), (40, 40882), (54, 40741),

Gene: Phreeze_46 Start: 39698, Stop: 40033, Start Num: 21

Candidate Starts for Phreeze_46:

(19, 39686), (Start: 21 @39698 has 7 MA's), (25, 39731), (31, 39800), (37, 39851), (42, 39902),

Gene: Phrux_129 Start: 70339, Stop: 70010, Start Num: 22

Candidate Starts for Phrux_129:

(Start: 22 @70339 has 147 MA's), (23, 70318), (25, 70306), (26, 70303), (29, 70282), (30, 70267),

Gene: Policronamos_136 Start: 71964, Stop: 71635, Start Num: 22

Candidate Starts for Policronamos_136:

(3, 72120), (4, 72114), (5, 72108), (6, 72096), (8, 72063), (9, 72057), (11, 72042), (14, 71997), (Start: 22 @71964 has 147 MA's), (23, 71943), (25, 71931), (30, 71892), (31, 71862), (42, 71760), (43, 71757),

Gene: Porky_135 Start: 71958, Stop: 71611, Start Num: 15

Candidate Starts for Porky_135:

(Start: 15 @71958 has 15 MA's), (Start: 22 @71940 has 147 MA's), (23, 71919), (25, 71907), (26, 71904), (29, 71883), (30, 71868),

Gene: Predator_46 Start: 37954, Stop: 38274, Start Num: 21

Candidate Starts for Predator_46:

(Start: 21 @37954 has 7 MA's), (25, 37987), (28, 38005), (31, 38056), (43, 38161),

Gene: Pumpkin_133 Start: 70615, Stop: 70286, Start Num: 22

Candidate Starts for Pumpkin_133:

(Start: 15 @70633 has 15 MA's), (Start: 22 @70615 has 147 MA's), (23, 70594), (25, 70582), (26, 70579), (29, 70558), (30, 70543),

Gene: Quallification_134 Start: 72199, Stop: 71870, Start Num: 22

Candidate Starts for Quallification_134:

(Start: 15 @72217 has 15 MA's), (Start: 22 @72199 has 147 MA's), (23, 72178), (25, 72166), (26, 72163), (29, 72142), (30, 72127),

Gene: RER2_53 Start: 37997, Stop: 37662, Start Num: 22

Candidate Starts for RER2_53:

(Start: 22 @37997 has 147 MA's), (25, 37964), (27, 37958), (30, 37925), (31, 37895), (40, 37808), (54, 37667),

Gene: RGL3_51 Start: 38672, Stop: 38334, Start Num: 22

Candidate Starts for RGL3_51:

(Start: 22 @38672 has 147 MA's), (25, 38639), (32, 38564), (34, 38540), (35, 38537), (38, 38516), (39, 38489), (45, 38447), (54, 38339),

Gene: Rakim_134 Start: 71173, Stop: 70844, Start Num: 22

Candidate Starts for Rakim_134:

(2, 71341), (9, 71266), (11, 71251), (14, 71206), (Start: 22 @71173 has 147 MA's), (23, 71152), (25, 71140), (30, 71101),

Gene: Rasputin_59 Start: 41095, Stop: 40760, Start Num: 22

Candidate Starts for Rasputin_59:

(Start: 22 @41095 has 147 MA's), (25, 41062), (27, 41056), (30, 41023), (31, 40993), (40, 40906), (54, 40765),

Gene: RexFury_58 Start: 41155, Stop: 40820, Start Num: 22

Candidate Starts for RexFury_58:

(1, 41374), (Start: 22 @41155 has 147 MA's), (24, 41131), (25, 41122), (27, 41116), (30, 41083), (31, 41053), (33, 41032), (39, 40975), (54, 40825),

Gene: Rhodalysa_59 Start: 41125, Stop: 40790, Start Num: 22

Candidate Starts for Rhodalysa_59:

(Start: 22 @41125 has 147 MA's), (25, 41092), (27, 41086), (30, 41053), (31, 41023), (40, 40936), (54, 40795),

Gene: Rimmer_130 Start: 71092, Stop: 70745, Start Num: 15

Candidate Starts for Rimmer_130:

(Start: 15 @71092 has 15 MA's), (Start: 22 @71074 has 147 MA's), (23, 71053), (25, 71041), (26, 71038), (29, 71017), (30, 71002),

Gene: RiverMonster_132 Start: 71234, Stop: 70905, Start Num: 22

Candidate Starts for RiverMonster_132:

(Start: 15 @71252 has 15 MA's), (Start: 22 @71234 has 147 MA's), (23, 71213), (25, 71201), (26, 71198), (29, 71177), (30, 71162),

Gene: RobinSparkles_118 Start: 76904, Stop: 76569, Start Num: 22

Candidate Starts for RobinSparkles_118:

(13, 76952), (Start: 22 @76904 has 147 MA's), (25, 76871), (31, 76802), (36, 76754), (40, 76700), (42, 76685), (48, 76643), (51, 76604),

Gene: Saints25_129 Start: 69399, Stop: 69070, Start Num: 22

Candidate Starts for Saints25_129:

(Start: 22 @69399 has 147 MA's), (23, 69378), (25, 69366), (26, 69363), (29, 69342), (30, 69327),

Gene: Sassay_128 Start: 69536, Stop: 69189, Start Num: 15

Candidate Starts for Sassay_128:

(Start: 15 @69536 has 15 MA's), (Start: 22 @69518 has 147 MA's), (23, 69497), (25, 69485), (26, 69482), (29, 69461), (30, 69446),

Gene: ShamWow_133 Start: 72051, Stop: 71722, Start Num: 22

Candidate Starts for ShamWow_133:

(Start: 15 @72069 has 15 MA's), (Start: 22 @72051 has 147 MA's), (23, 72030), (25, 72018), (26, 72015), (29, 71994), (30, 71979),

Gene: ShereKhan_133 Start: 72445, Stop: 72116, Start Num: 22

Candidate Starts for ShereKhan_133:

(Start: 15 @72463 has 15 MA's), (Start: 22 @72445 has 147 MA's), (23, 72424), (25, 72412), (26, 72409), (29, 72388), (30, 72373),

Gene: Shuman_60 Start: 41076, Stop: 40741, Start Num: 22

Candidate Starts for Shuman_60:

(Start: 22 @41076 has 147 MA's), (25, 41043), (27, 41037), (30, 41004), (31, 40974), (40, 40887), (54, 40746),

Gene: Simpliphy_132 Start: 70805, Stop: 70476, Start Num: 22

Candidate Starts for Simpliphy_132:

(Start: 22 @70805 has 147 MA's), (23, 70784), (25, 70772), (26, 70769), (29, 70748), (30, 70733),

Gene: SirDuracell_136 Start: 71666, Stop: 71337, Start Num: 22

Candidate Starts for SirDuracell_136:

(Start: 18 @71681 has 1 MA's), (Start: 22 @71666 has 147 MA's), (25, 71633), (30, 71594), (31, 71564), (42, 71462), (43, 71459),

Gene: SophKB_131 Start: 71150, Stop: 70821, Start Num: 22

Candidate Starts for SophKB_131:

(2, 71318), (9, 71243), (11, 71228), (14, 71183), (Start: 22 @71150 has 147 MA's), (23, 71129), (25, 71117), (26, 71114), (29, 71093), (30, 71078),

Gene: Sotrice96_138 Start: 72351, Stop: 72022, Start Num: 22

Candidate Starts for Sotrice96_138:

(Start: 15 @72369 has 15 MA's), (Start: 22 @72351 has 147 MA's), (23, 72330), (25, 72318), (26, 72315), (29, 72294), (30, 72279),

Gene: StCroix_58 Start: 41147, Stop: 40812, Start Num: 22

Candidate Starts for StCroix_58:

(Start: 22 @41147 has 147 MA's), (24, 41123), (25, 41114), (27, 41108), (30, 41075), (31, 41045), (33, 41024), (39, 40967), (54, 40817),

Gene: Stank_137 Start: 72298, Stop: 71969, Start Num: 22

Candidate Starts for Stank_137:

(Start: 15 @72316 has 15 MA's), (Start: 22 @72298 has 147 MA's), (23, 72277), (25, 72265), (26, 72262), (29, 72241), (30, 72226),

Gene: Stark_131 Start: 71053, Stop: 70724, Start Num: 22

Candidate Starts for Stark_131:

(Start: 15 @71071 has 15 MA's), (Start: 22 @71053 has 147 MA's), (23, 71032), (25, 71020), (26, 71017), (29, 70996), (30, 70981),

Gene: StellaBean_129 Start: 71731, Stop: 71474, Start Num: 30

Candidate Starts for StellaBean_129:

(Start: 15 @71821 has 15 MA's), (Start: 22 @71803 has 147 MA's), (23, 71782), (25, 71770), (26, 71767), (29, 71746), (30, 71731),

Gene: StolenFromERC_136 Start: 71643, Stop: 71314, Start Num: 22

Candidate Starts for StolenFromERC_136:

(Start: 15 @71661 has 15 MA's), (Start: 22 @71643 has 147 MA's), (23, 71622), (25, 71610), (26, 71607), (29, 71586), (30, 71571),

Gene: Swann_59 Start: 41123, Stop: 40788, Start Num: 22

Candidate Starts for Swann_59:

(Start: 22 @41123 has 147 MA's), (25, 41090), (27, 41084), (30, 41051), (31, 41021), (40, 40934), (54, 40793),

Gene: TBrady12_138 Start: 71735, Stop: 71406, Start Num: 22

Candidate Starts for TBrady12_138:

(Start: 15 @71753 has 15 MA's), (Start: 22 @71735 has 147 MA's), (23, 71714), (25, 71702), (26, 71699), (29, 71678), (30, 71663),

Gene: TWAMP_59 Start: 41125, Stop: 40790, Start Num: 22

Candidate Starts for TWAMP_59:

(Start: 22 @41125 has 147 MA's), (25, 41092), (27, 41086), (30, 41053), (31, 41023), (40, 40936), (54, 40795),

Gene: Takoda_59 Start: 41309, Stop: 40974, Start Num: 22

Candidate Starts for Takoda_59:

(Start: 22 @41309 has 147 MA's), (24, 41285), (25, 41276), (27, 41270), (30, 41237), (40, 41120), (54, 40979),

Gene: Tarkin_132 Start: 72310, Stop: 71981, Start Num: 22

Candidate Starts for Tarkin_132:

(Start: 15 @72328 has 15 MA's), (Start: 22 @72310 has 147 MA's), (23, 72289), (25, 72277), (26, 72274), (29, 72253), (30, 72238),

Gene: TeardropMSU_134 Start: 71219, Stop: 70890, Start Num: 22

Candidate Starts for TeardropMSU_134:

(Start: 22 @71219 has 147 MA's), (23, 71198), (25, 71186), (26, 71183), (29, 71162), (30, 71147),

Gene: Terminus_136 Start: 72192, Stop: 71863, Start Num: 22

Candidate Starts for Terminus_136:

(Start: 15 @72210 has 15 MA's), (Start: 22 @72192 has 147 MA's), (23, 72171), (25, 72159), (26, 72156), (29, 72135), (30, 72120),

Gene: Thresher_135 Start: 72137, Stop: 71790, Start Num: 15

Candidate Starts for Thresher_135:

(Start: 15 @72137 has 15 MA's), (Start: 22 @72119 has 147 MA's), (23, 72098), (25, 72086), (30, 72047),

Gene: Thumb_48 Start: 40133, Stop: 40468, Start Num: 21

Candidate Starts for Thumb_48:

(Start: 21 @40133 has 7 MA's), (25, 40166), (31, 40235), (42, 40337), (44, 40346),

Gene: Tomaszewski_127 Start: 70748, Stop: 70401, Start Num: 15

Candidate Starts for Tomaszewski_127:

(Start: 15 @70748 has 15 MA's), (Start: 22 @70730 has 147 MA's), (23, 70709), (25, 70697), (26, 70694), (29, 70673), (30, 70658),

Gene: Toto_131 Start: 72051, Stop: 71722, Start Num: 22

Candidate Starts for Toto_131:

(Start: 15 @72069 has 15 MA's), (Start: 22 @72051 has 147 MA's), (23, 72030), (25, 72018), (26, 72015), (29, 71994), (30, 71979),

Gene: Traaww1_129 Start: 70599, Stop: 70270, Start Num: 22

Candidate Starts for Traaww1_129:

(Start: 18 @70614 has 1 MA's), (Start: 22 @70599 has 147 MA's), (25, 70566), (30, 70527), (31, 70497),

Gene: Tuco_139 Start: 73278, Stop: 72949, Start Num: 22

Candidate Starts for Tuco_139:

(Start: 22 @73278 has 147 MA's), (23, 73257), (25, 73245), (26, 73242), (29, 73221), (30, 73206),

Gene: UhSalsa_59 Start: 41066, Stop: 40731, Start Num: 22

Candidate Starts for UhSalsa_59:

(1, 41285), (Start: 22 @41066 has 147 MA's), (24, 41042), (25, 41033), (27, 41027), (30, 40994), (31, 40964), (33, 40943), (39, 40886), (54, 40736),

Gene: Ukulele_128 Start: 70632, Stop: 70285, Start Num: 15

Candidate Starts for Ukulele_128:

(Start: 15 @70632 has 15 MA's), (Start: 22 @70614 has 147 MA's), (23, 70593), (25, 70581), (26, 70578), (29, 70557), (30, 70542),

Gene: Wakanda_262 Start: 126045, Stop: 126365, Start Num: 20

Candidate Starts for Wakanda_262:

(Start: 20 @126045 has 4 MA's), (23, 126078), (25, 126090), (30, 126129), (33, 126180), (47, 126285), (49, 126312), (50, 126315),

Gene: Wakanda_3 Start: 1204, Stop: 1524, Start Num: 20

Candidate Starts for Wakanda_3:

(Start: 20 @1204 has 4 MA's), (23, 1237), (25, 1249), (30, 1288), (33, 1339), (47, 1444), (49, 1471), (50, 1474),

Gene: Wiggin_136 Start: 71276, Stop: 70947, Start Num: 22

Candidate Starts for Wiggin_136:

(Start: 15 @71294 has 15 MA's), (Start: 22 @71276 has 147 MA's), (23, 71255), (25, 71243), (26, 71240), (29, 71219), (30, 71204),

Gene: Wildcat_164 Start: 74139, Stop: 73819, Start Num: 22

Candidate Starts for Wildcat_164:

(Start: 22 @74139 has 147 MA's), (25, 74106), (33, 74016), (42, 73935), (43, 73932), (46, 73908), (52, 73830),

Gene: Willez_130 Start: 70373, Stop: 70044, Start Num: 22

Candidate Starts for Willez_130:

(Start: 15 @70391 has 15 MA's), (Start: 22 @70373 has 147 MA's), (23, 70352), (25, 70340), (26, 70337), (29, 70316), (30, 70301),

Gene: Xandras_134 Start: 71552, Stop: 71223, Start Num: 22

Candidate Starts for Xandras_134:

(Start: 15 @71570 has 15 MA's), (Start: 22 @71552 has 147 MA's), (23, 71531), (25, 71519), (26, 71516), (29, 71495), (30, 71480),

Gene: YassJohnny_129 Start: 69538, Stop: 69209, Start Num: 22

Candidate Starts for YassJohnny_129:

(3, 69694), (4, 69688), (5, 69682), (6, 69670), (8, 69637), (9, 69631), (11, 69616), (14, 69571), (Start: 22 @69538 has 147 MA's), (23, 69517), (25, 69505), (30, 69466), (31, 69436), (42, 69334), (43, 69331),

Gene: Yogi_60 Start: 41476, Stop: 41141, Start Num: 22

Candidate Starts for Yogi_60:

(Start: 22 @41476 has 147 MA's), (25, 41443), (27, 41437), (30, 41404), (31, 41374), (40, 41287), (54, 41146),

Gene: Yoncess_58 Start: 40879, Stop: 40544, Start Num: 22

Candidate Starts for Yoncess_58:

(Start: 22 @40879 has 147 MA's), (25, 40846), (27, 40840), (30, 40807), (31, 40777), (40, 40690), (54, 40549),

Gene: Youngblood_137 Start: 71689, Stop: 71360, Start Num: 22

Candidate Starts for Youngblood_137:

(3, 71845), (4, 71839), (5, 71833), (6, 71821), (8, 71788), (9, 71782), (11, 71767), (14, 71722), (Start: 22 @71689 has 147 MA's), (23, 71668), (25, 71656), (26, 71653), (29, 71632), (30, 71617),

Gene: xkcd_137 Start: 72326, Stop: 71997, Start Num: 22

Candidate Starts for xkcd_137:

(3, 72482), (4, 72476), (5, 72470), (6, 72458), (8, 72425), (9, 72419), (11, 72404), (14, 72359), (Start: 22 @72326 has 147 MA's), (23, 72305), (25, 72293), (26, 72290), (29, 72269), (30, 72254),