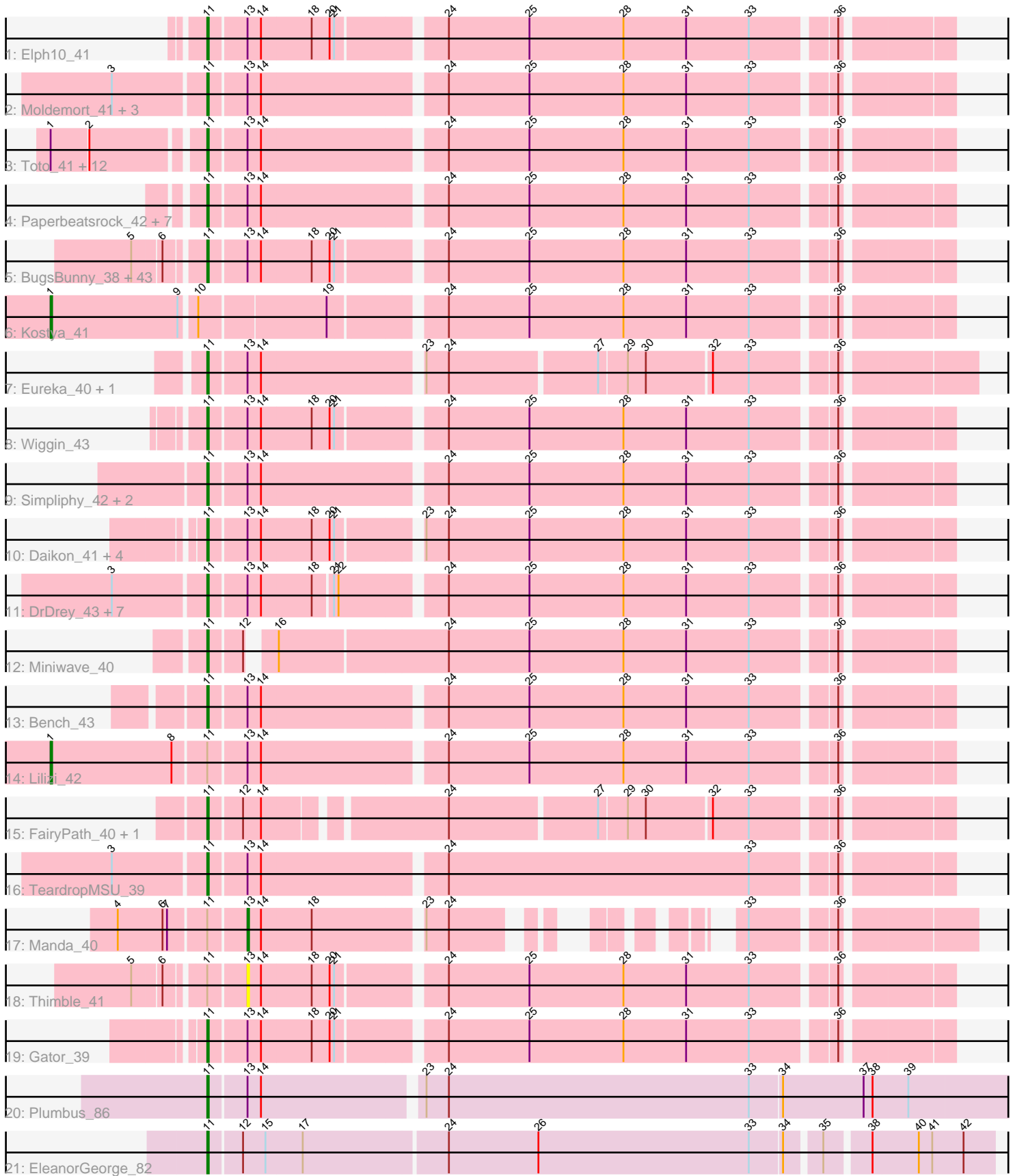


Pham 216034



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 216034 Report

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

Pham number 216034 has 101 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Elph10_41
- Track 2 : Moldemort_41, MadamMonkfish_41, OrionPax_42, AmericanBeauty_42
- Track 3 : Toto_41, BilboSwaggins_41, Marshmallow_41, IHOP_40, Tuco_43, CrystalP_42, Myrale_42, ShamWow_42, StellaBean_40, ABCat_40, Phaja_40, BaboJay_40, Inca_39
- Track 4 : Paperbeatsrock_42, SophKB_40, BadStone_41, Tarkin_42, NelitzaMV_40, Dusk_41, Pharsalus_41, Henry_42
- Track 5 : BugsBunny_38, MPhalcon_39, Cactus_41, Icee_39, PhatBacter_40, Argent26_42, GooberAzure_42, Asriel_39, HufflyPuff_39, Goldilocks_41, StolenFromERC_42, Gage_42, Murphy_41, NoSleep_41, Nala_40, Stank_43, xkcd_41, MISSy_39, Adnama_43, Gemini_43, Palpatine_40, Lilac_42, Nimrod_40, GoldenSpark_42, Rakim_41, Kimchi_42, Barbarian_39, Phaux_39, FireRed_40, Thresher_42, Misfit_40, Maxxinista_41, Murica_39, Command613_41, Becksu_40, Terminus_40, Sotrice96_40, Stark_41, RiverMonster_40, Bask21_40, Policronamos_40, Hoonter_42, TBrady12_42, Cjw1_41
- Track 6 : Kostya_41
- Track 7 : Eureka_40, Goku_40
- Track 8 : Wiggin_43
- Track 9 : Simpliphy_42, Saints25_42, Highbury_42
- Track 10 : Daikon_41, Traaww1_38, Glexan_39, Balomoji_40, Harella_41
- Track 11 : DrDrey_43, Phrux_41, JeTaime_43, 244_44, Hopey_43, Filch_43, Pumpkin_44, HanKaySha_42
- Track 12 : Miniwave_40
- Track 13 : Bench_43
- Track 14 : Lilizi_42
- Track 15 : FairyPath_40, Qualification_41
- Track 16 : TeardropMSU_39
- Track 17 : Manda_40
- Track 18 : Thimble_41
- Track 19 : Gator_39
- Track 20 : Plumbus_86
- Track 21 : EleanorGeorge_82

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

The start number called the most often in the published annotations is 11, it was called in 92 of the 95 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- 244_44, ABCat_40, Adnama_43, AmericanBeauty_42, Argent26_42, Asriel_39, BaboJay_40, BadStone_41, Balomoji_40, Barbarian_39, Bask21_40, Becksu_40, Bench_43, BilboSwaggins_41, BugsBunny_38, Cactus_41, Cjw1_41, Command613_41, CrystalP_42, Daikon_41, DrDrey_43, Dusk_41, EleanorGeorge_82, Elph10_41, Eureka_40, FairyPath_40, Filch_43, FireRed_40, Gage_42, Gator_39, Gemini_43, Glexan_39, Goku_40, GoldenSpark_42, Goldilocks_41, GooberAzure_42, HanKaySha_42, Harella_41, Henry_42, Highbury_42, Hoonter_42, Hopey_43, HufflyPuff_39, IHOP_40, Icee_39, Inca_39, JeTaime_43, Kimchi_42, Lilac_42, MISSy_39, MPhalcon_39, MadamMonkfish_41, Marshmallow_41, Maxxinista_41, Miniwave_40, Misfit_40, Moldemort_41, Murica_39, Murphy_41, Myrale_42, Nala_40, NelitzaMV_40, Nimrod_40, NoSleep_41, OrionPax_42, Palpatine_40, Paperbeatsrock_42, Phaja_40, Pharsalus_41, PhatBacter_40, Phaux_39, Phrux_41, Plumbus_86, Policronamos_40, Pumpkin_44, Quallification_41, Rakim_41, RiverMonster_40, Saints25_42, ShamWow_42, Simpliphy_42, SophKB_40, Sotrice96_40, Stank_43, Stark_41, StellaBean_40, StolenFromERC_42, TBrady12_42, Tarkin_42, TeardropMSU_39, Terminus_40, Thresher_42, Toto_41, Traaww1_38, Tuco_43, Wiggin_43, xkcd_41,

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

- Lilizi_42, Manda_40, Thimble_41,

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

- Kostya_41,

Summary by start number:

Start 1:

- Found in 15 of 101 (14.9%) of genes in pham
- Manual Annotations of this start: 2 of 95
- Called 13.3% of time when present
- Phage (with cluster) where this start called: Kostya_41 (E), Lilizi_42 (E),

Start 11:

- Found in 100 of 101 (99.0%) of genes in pham
- Manual Annotations of this start: 92 of 95
- Called 97.0% of time when present
- Phage (with cluster) where this start called: 244_44 (E), ABCat_40 (E), Adnama_43 (E), AmericanBeauty_42 (E), Argent26_42 (E), Asriel_39 (E), BaboJay_40 (E), BadStone_41 (E), Balomoji_40 (E), Barbarian_39 (E), Bask21_40 (E), Becksu_40 (E), Bench_43 (E), BilboSwaggins_41 (E), BugsBunny_38 (E), Cactus_41 (E), Cjw1_41 (E), Command613_41 (E), CrystalP_42 (E), Daikon_41 (E), DrDrey_43 (E), Dusk_41 (E), EleanorGeorge_82 (F1), Elph10_41 (E), Eureka_40 (E), FairyPath_40 (E), Filch_43 (E), FireRed_40 (E), Gage_42 (E), Gator_39 (E), Gemini_43 (E), Glexan_39 (E), Goku_40 (E), GoldenSpark_42 (E), Goldilocks_41 (E), GooberAzure_42 (E), HanKaySha_42 (E), Harella_41 (E), Henry_42 (E), Highbury_42 (E), Hoonter_42 (E), Hopey_43 (E), HufflyPuff_39 (E), IHOP_40 (E), Icee_39 (E), Inca_39 (E), JeTaime_43 (E), Kimchi_42 (E), Lilac_42 (E), MISSy_39 (E), MPhalcon_39 (E), MadamMonkfish_41 (E), Marshmallow_41 (E), Maxxinista_41 (E), Miniwave_40 (E),

Misfit_40 (E), Moldemort_41 (E), Murica_39 (E), Murphy_41 (E), Myrale_42 (E), Nala_40 (E), NelitzaMV_40 (E), Nimrod_40 (E), NoSleep_41 (E), OrionPax_42 (E), Palpatine_40 (E), Paperbeatsrock_42 (E), Phaja_40 (E), Pharsalus_41 (E), PhatBacter_40 (E), Phaux_39 (E), Phrux_41 (E), Plumbus_86 (F1), Policronamos_40 (E), Pumpkin_44 (E), Quallification_41 (E), Rakim_41 (E), RiverMonster_40 (E), Saints25_42 (E), ShamWow_42 (E), Simpliphy_42 (E), SophKB_40 (E), Sotrice96_40 (E), Stank_43 (E), Stark_41 (E), StellaBean_40 (E), StolenFromERC_42 (E), TBrady12_42 (E), Tarkin_42 (E), TeardropMSU_39 (E), Terminus_40 (E), Thresher_42 (E), Toto_41 (E), Traaww1_38 (E), Tuco_43 (E), Wiggin_43 (E), xkcd_41 (E),

Start 13:

- Found in 96 of 101 (95.0%) of genes in pham
- Manual Annotations of this start: 1 of 95
- Called 2.1% of time when present
- Phage (with cluster) where this start called: Manda_40 (E), Thimble_41 (E),

Summary by clusters:

There are 2 clusters represented in this pham: F1, E,

Info for manual annotations of cluster E:

- Start number 1 was manually annotated 2 times for cluster E.
- Start number 11 was manually annotated 90 times for cluster E.
- Start number 13 was manually annotated 1 time for cluster E.

Info for manual annotations of cluster F1:

- Start number 11 was manually annotated 2 times for cluster F1.

Gene Information:

Gene: 244_44 Start: 35171, Stop: 34707, Start Num: 11

Candidate Starts for 244_44:

(3, 35231), (Start: 11 @35171 has 92 MA's), (Start: 13 @35147 has 1 MA's), (14, 35138), (18, 35105), (21, 35093), (22, 35090), (24, 35027), (25, 34973), (28, 34910), (31, 34868), (33, 34826), (36, 34775),

Gene: ABCat_40 Start: 35339, Stop: 34872, Start Num: 11

Candidate Starts for ABCat_40:

(Start: 1 @35432 has 2 MA's), (2, 35408), (Start: 11 @35339 has 92 MA's), (Start: 13 @35315 has 1 MA's), (14, 35306), (24, 35192), (25, 35138), (28, 35075), (31, 35033), (33, 34991), (36, 34940),

Gene: Adnama_43 Start: 35176, Stop: 34712, Start Num: 11

Candidate Starts for Adnama_43:

(5, 35215), (6, 35197), (Start: 11 @35176 has 92 MA's), (Start: 13 @35152 has 1 MA's), (14, 35143), (18, 35110), (20, 35098), (21, 35095), (24, 35032), (25, 34978), (28, 34915), (31, 34873), (33, 34831), (36, 34780),

Gene: AmericanBeauty_42 Start: 34659, Stop: 34192, Start Num: 11

Candidate Starts for AmericanBeauty_42:

(3, 34719), (Start: 11 @34659 has 92 MA's), (Start: 13 @34635 has 1 MA's), (14, 34626), (24, 34512), (25, 34458), (28, 34395), (31, 34353), (33, 34311), (36, 34260),

Gene: Argent26_42 Start: 34659, Stop: 34195, Start Num: 11

Candidate Starts for Argent26_42:

(5, 34698), (6, 34680), (Start: 11 @34659 has 92 MA's), (Start: 13 @34635 has 1 MA's), (14, 34626), (18, 34593), (20, 34581), (21, 34578), (24, 34515), (25, 34461), (28, 34398), (31, 34356), (33, 34314), (36, 34263),

Gene: Asriel_39 Start: 33513, Stop: 33049, Start Num: 11

Candidate Starts for Asriel_39:

(5, 33552), (6, 33534), (Start: 11 @33513 has 92 MA's), (Start: 13 @33489 has 1 MA's), (14, 33480), (18, 33447), (20, 33435), (21, 33432), (24, 33369), (25, 33315), (28, 33252), (31, 33210), (33, 33168), (36, 33117),

Gene: BaboJay_40 Start: 34740, Stop: 34270, Start Num: 11

Candidate Starts for BaboJay_40:

(Start: 1 @34833 has 2 MA's), (2, 34809), (Start: 11 @34740 has 92 MA's), (Start: 13 @34713 has 1 MA's), (14, 34704), (24, 34590), (25, 34536), (28, 34473), (31, 34431), (33, 34389), (36, 34338),

Gene: BadStone_41 Start: 35477, Stop: 35010, Start Num: 11

Candidate Starts for BadStone_41:

(Start: 11 @35477 has 92 MA's), (Start: 13 @35453 has 1 MA's), (14, 35444), (24, 35330), (25, 35276), (28, 35213), (31, 35171), (33, 35129), (36, 35078),

Gene: Balomoji_40 Start: 35070, Stop: 34606, Start Num: 11

Candidate Starts for Balomoji_40:

(Start: 11 @35070 has 92 MA's), (Start: 13 @35046 has 1 MA's), (14, 35037), (18, 35004), (20, 34992), (21, 34989), (23, 34941), (24, 34926), (25, 34872), (28, 34809), (31, 34767), (33, 34725), (36, 34674),

Gene: Barbarian_39 Start: 33513, Stop: 33049, Start Num: 11

Candidate Starts for Barbarian_39:

(5, 33552), (6, 33534), (Start: 11 @33513 has 92 MA's), (Start: 13 @33489 has 1 MA's), (14, 33480), (18, 33447), (20, 33435), (21, 33432), (24, 33369), (25, 33315), (28, 33252), (31, 33210), (33, 33168), (36, 33117),

Gene: Bask21_40 Start: 33847, Stop: 33383, Start Num: 11

Candidate Starts for Bask21_40:

(5, 33886), (6, 33868), (Start: 11 @33847 has 92 MA's), (Start: 13 @33823 has 1 MA's), (14, 33814), (18, 33781), (20, 33769), (21, 33766), (24, 33703), (25, 33649), (28, 33586), (31, 33544), (33, 33502), (36, 33451),

Gene: Becksu_40 Start: 34835, Stop: 34371, Start Num: 11

Candidate Starts for Becksu_40:

(5, 34874), (6, 34856), (Start: 11 @34835 has 92 MA's), (Start: 13 @34811 has 1 MA's), (14, 34802), (18, 34769), (20, 34757), (21, 34754), (24, 34691), (25, 34637), (28, 34574), (31, 34532), (33, 34490), (36, 34439),

Gene: Bench_43 Start: 34755, Stop: 34288, Start Num: 11

Candidate Starts for Bench_43:

(Start: 11 @34755 has 92 MA's), (Start: 13 @34731 has 1 MA's), (14, 34722), (24, 34608), (25, 34554), (28, 34491), (31, 34449), (33, 34407), (36, 34356),

Gene: BilboSwaggins_41 Start: 35347, Stop: 34880, Start Num: 11

Candidate Starts for BilboSwaggins_41:

(Start: 1 @35440 has 2 MA's), (2, 35416), (Start: 11 @35347 has 92 MA's), (Start: 13 @35323 has 1 MA's), (14, 35314), (24, 35200), (25, 35146), (28, 35083), (31, 35041), (33, 34999), (36, 34948),

Gene: BugsBunny_38 Start: 34241, Stop: 33777, Start Num: 11

Candidate Starts for BugsBunny_38:

(5, 34280), (6, 34262), (Start: 11 @34241 has 92 MA's), (Start: 13 @34217 has 1 MA's), (14, 34208), (18, 34175), (20, 34163), (21, 34160), (24, 34097), (25, 34043), (28, 33980), (31, 33938), (33, 33896), (36, 33845),

Gene: Cactus_41 Start: 33880, Stop: 33416, Start Num: 11

Candidate Starts for Cactus_41:

(5, 33919), (6, 33901), (Start: 11 @33880 has 92 MA's), (Start: 13 @33856 has 1 MA's), (14, 33847), (18, 33814), (20, 33802), (21, 33799), (24, 33736), (25, 33682), (28, 33619), (31, 33577), (33, 33535), (36, 33484),

Gene: Cjw1_41 Start: 35651, Stop: 35187, Start Num: 11

Candidate Starts for Cjw1_41:

(5, 35690), (6, 35672), (Start: 11 @35651 has 92 MA's), (Start: 13 @35627 has 1 MA's), (14, 35618), (18, 35585), (20, 35573), (21, 35570), (24, 35507), (25, 35453), (28, 35390), (31, 35348), (33, 35306), (36, 35255),

Gene: Command613_41 Start: 34919, Stop: 34455, Start Num: 11

Candidate Starts for Command613_41:

(5, 34958), (6, 34940), (Start: 11 @34919 has 92 MA's), (Start: 13 @34895 has 1 MA's), (14, 34886), (18, 34853), (20, 34841), (21, 34838), (24, 34775), (25, 34721), (28, 34658), (31, 34616), (33, 34574), (36, 34523),

Gene: CrystalP_42 Start: 35347, Stop: 34880, Start Num: 11

Candidate Starts for CrystalP_42:

(Start: 1 @35440 has 2 MA's), (2, 35416), (Start: 11 @35347 has 92 MA's), (Start: 13 @35323 has 1 MA's), (14, 35314), (24, 35200), (25, 35146), (28, 35083), (31, 35041), (33, 34999), (36, 34948),

Gene: Daikon_41 Start: 35091, Stop: 34627, Start Num: 11

Candidate Starts for Daikon_41:

(Start: 11 @35091 has 92 MA's), (Start: 13 @35067 has 1 MA's), (14, 35058), (18, 35025), (20, 35013), (21, 35010), (23, 34962), (24, 34947), (25, 34893), (28, 34830), (31, 34788), (33, 34746), (36, 34695),

Gene: DrDrey_43 Start: 35973, Stop: 35509, Start Num: 11

Candidate Starts for DrDrey_43:

(3, 36033), (Start: 11 @35973 has 92 MA's), (Start: 13 @35949 has 1 MA's), (14, 35940), (18, 35907), (21, 35895), (22, 35892), (24, 35829), (25, 35775), (28, 35712), (31, 35670), (33, 35628), (36, 35577),

Gene: Dusk_41 Start: 35137, Stop: 34670, Start Num: 11

Candidate Starts for Dusk_41:

(Start: 11 @35137 has 92 MA's), (Start: 13 @35113 has 1 MA's), (14, 35104), (24, 34990), (25, 34936), (28, 34873), (31, 34831), (33, 34789), (36, 34738),

Gene: EleanorGeorge_82 Start: 49312, Stop: 49815, Start Num: 11

Candidate Starts for EleanorGeorge_82:

(Start: 11 @49312 has 92 MA's), (12, 49333), (15, 49348), (17, 49372), (24, 49465), (26, 49525), (33, 49666), (34, 49687), (35, 49708), (38, 49735), (40, 49765), (41, 49774), (42, 49795),

Gene: Elph10_41 Start: 34122, Stop: 33658, Start Num: 11

Candidate Starts for Elph10_41:

(Start: 11 @34122 has 92 MA's), (Start: 13 @34098 has 1 MA's), (14, 34089), (18, 34056), (20, 34044), (21, 34041), (24, 33978), (25, 33924), (28, 33861), (31, 33819), (33, 33777), (36, 33726),

Gene: Eureka_40 Start: 34965, Stop: 34495, Start Num: 11

Candidate Starts for Eureka_40:

(Start: 11 @34965 has 92 MA's), (Start: 13 @34941 has 1 MA's), (14, 34932), (23, 34833), (24, 34818), (27, 34725), (29, 34707), (30, 34695), (32, 34653), (33, 34629), (36, 34578),

Gene: FairyPath_40 Start: 34849, Stop: 34400, Start Num: 11

Candidate Starts for FairyPath_40:

(Start: 11 @34849 has 92 MA's), (12, 34828), (14, 34816), (24, 34708), (27, 34615), (29, 34597), (30, 34585), (32, 34543), (33, 34519), (36, 34468),

Gene: Filch_43 Start: 34650, Stop: 34186, Start Num: 11

Candidate Starts for Filch_43:

(3, 34710), (Start: 11 @34650 has 92 MA's), (Start: 13 @34626 has 1 MA's), (14, 34617), (18, 34584), (21, 34572), (22, 34569), (24, 34506), (25, 34452), (28, 34389), (31, 34347), (33, 34305), (36, 34254),

Gene: FireRed_40 Start: 34680, Stop: 34216, Start Num: 11

Candidate Starts for FireRed_40:

(5, 34719), (6, 34701), (Start: 11 @34680 has 92 MA's), (Start: 13 @34656 has 1 MA's), (14, 34647), (18, 34614), (20, 34602), (21, 34599), (24, 34536), (25, 34482), (28, 34419), (31, 34377), (33, 34335), (36, 34284),

Gene: Gage_42 Start: 34659, Stop: 34195, Start Num: 11

Candidate Starts for Gage_42:

(5, 34698), (6, 34680), (Start: 11 @34659 has 92 MA's), (Start: 13 @34635 has 1 MA's), (14, 34626), (18, 34593), (20, 34581), (21, 34578), (24, 34515), (25, 34461), (28, 34398), (31, 34356), (33, 34314), (36, 34263),

Gene: Gator_39 Start: 34961, Stop: 34497, Start Num: 11

Candidate Starts for Gator_39:

(Start: 11 @34961 has 92 MA's), (Start: 13 @34937 has 1 MA's), (14, 34928), (18, 34895), (20, 34883), (21, 34880), (24, 34817), (25, 34763), (28, 34700), (31, 34658), (33, 34616), (36, 34565),

Gene: Gemini_43 Start: 35176, Stop: 34712, Start Num: 11

Candidate Starts for Gemini_43:

(5, 35215), (6, 35197), (Start: 11 @35176 has 92 MA's), (Start: 13 @35152 has 1 MA's), (14, 35143), (18, 35110), (20, 35098), (21, 35095), (24, 35032), (25, 34978), (28, 34915), (31, 34873), (33, 34831), (36, 34780),

Gene: Glexan_39 Start: 34949, Stop: 34485, Start Num: 11

Candidate Starts for Glexan_39:

(Start: 11 @34949 has 92 MA's), (Start: 13 @34925 has 1 MA's), (14, 34916), (18, 34883), (20, 34871), (21, 34868), (23, 34820), (24, 34805), (25, 34751), (28, 34688), (31, 34646), (33, 34604), (36, 34553),

Gene: Goku_40 Start: 34694, Stop: 34224, Start Num: 11

Candidate Starts for Goku_40:

(Start: 11 @34694 has 92 MA's), (Start: 13 @34670 has 1 MA's), (14, 34661), (23, 34562), (24, 34547), (27, 34454), (29, 34436), (30, 34424), (32, 34382), (33, 34358), (36, 34307),

Gene: GoldenSpark_42 Start: 34659, Stop: 34195, Start Num: 11

Candidate Starts for GoldenSpark_42:

(5, 34698), (6, 34680), (Start: 11 @34659 has 92 MA's), (Start: 13 @34635 has 1 MA's), (14, 34626), (18, 34593), (20, 34581), (21, 34578), (24, 34515), (25, 34461), (28, 34398), (31, 34356), (33, 34314), (36, 34263),

Gene: Goldilocks_41 Start: 34161, Stop: 33697, Start Num: 11

Candidate Starts for Goldilocks_41:

(5, 34200), (6, 34182), (Start: 11 @34161 has 92 MA's), (Start: 13 @34137 has 1 MA's), (14, 34128), (18, 34095), (20, 34083), (21, 34080), (24, 34017), (25, 33963), (28, 33900), (31, 33858), (33, 33816), (36, 33765),

Gene: GooberAzure_42 Start: 34659, Stop: 34195, Start Num: 11

Candidate Starts for GooberAzure_42:

(5, 34698), (6, 34680), (Start: 11 @34659 has 92 MA's), (Start: 13 @34635 has 1 MA's), (14, 34626), (18, 34593), (20, 34581), (21, 34578), (24, 34515), (25, 34461), (28, 34398), (31, 34356), (33, 34314), (36, 34263),

Gene: HanKaySha_42 Start: 34633, Stop: 34169, Start Num: 11

Candidate Starts for HanKaySha_42:

(3, 34693), (Start: 11 @34633 has 92 MA's), (Start: 13 @34609 has 1 MA's), (14, 34600), (18, 34567), (21, 34555), (22, 34552), (24, 34489), (25, 34435), (28, 34372), (31, 34330), (33, 34288), (36, 34237),

Gene: Harella_41 Start: 35465, Stop: 35001, Start Num: 11

Candidate Starts for Harella_41:

(Start: 11 @35465 has 92 MA's), (Start: 13 @35441 has 1 MA's), (14, 35432), (18, 35399), (20, 35387), (21, 35384), (23, 35336), (24, 35321), (25, 35267), (28, 35204), (31, 35162), (33, 35120), (36, 35069),

Gene: Henry_42 Start: 35356, Stop: 34889, Start Num: 11

Candidate Starts for Henry_42:

(Start: 11 @35356 has 92 MA's), (Start: 13 @35332 has 1 MA's), (14, 35323), (24, 35209), (25, 35155), (28, 35092), (31, 35050), (33, 35008), (36, 34957),

Gene: Highbury_42 Start: 34424, Stop: 33957, Start Num: 11

Candidate Starts for Highbury_42:

(Start: 11 @34424 has 92 MA's), (Start: 13 @34400 has 1 MA's), (14, 34391), (24, 34277), (25, 34223), (28, 34160), (31, 34118), (33, 34076), (36, 34025),

Gene: Hoonter_42 Start: 34659, Stop: 34195, Start Num: 11

Candidate Starts for Hoonter_42:

(5, 34698), (6, 34680), (Start: 11 @34659 has 92 MA's), (Start: 13 @34635 has 1 MA's), (14, 34626), (18, 34593), (20, 34581), (21, 34578), (24, 34515), (25, 34461), (28, 34398), (31, 34356), (33, 34314), (36, 34263),

Gene: Hokey_43 Start: 35168, Stop: 34704, Start Num: 11

Candidate Starts for Hokey_43:

(3, 35228), (Start: 11 @35168 has 92 MA's), (Start: 13 @35144 has 1 MA's), (14, 35135), (18, 35102), (21, 35090), (22, 35087), (24, 35024), (25, 34970), (28, 34907), (31, 34865), (33, 34823), (36, 34772),

Gene: HufflyPuff_39 Start: 34636, Stop: 34172, Start Num: 11

Candidate Starts for HufflyPuff_39:

(5, 34675), (6, 34657), (Start: 11 @34636 has 92 MA's), (Start: 13 @34612 has 1 MA's), (14, 34603), (18, 34570), (20, 34558), (21, 34555), (24, 34492), (25, 34438), (28, 34375), (31, 34333), (33, 34291), (36, 34240),

Gene: IHOP_40 Start: 34911, Stop: 34444, Start Num: 11

Candidate Starts for IHOP_40:

(Start: 1 @35004 has 2 MA's), (2, 34980), (Start: 11 @34911 has 92 MA's), (Start: 13 @34887 has 1 MA's), (14, 34878), (24, 34764), (25, 34710), (28, 34647), (31, 34605), (33, 34563), (36, 34512),

Gene: Icee_39 Start: 34327, Stop: 33863, Start Num: 11

Candidate Starts for Icee_39:

(5, 34366), (6, 34348), (Start: 11 @34327 has 92 MA's), (Start: 13 @34303 has 1 MA's), (14, 34294), (18, 34261), (20, 34249), (21, 34246), (24, 34183), (25, 34129), (28, 34066), (31, 34024), (33, 33982), (36, 33931),

Gene: Inca_39 Start: 33436, Stop: 32969, Start Num: 11

Candidate Starts for Inca_39:

(Start: 1 @33529 has 2 MA's), (2, 33505), (Start: 11 @33436 has 92 MA's), (Start: 13 @33412 has 1 MA's), (14, 33403), (24, 33289), (25, 33235), (28, 33172), (31, 33130), (33, 33088), (36, 33037),

Gene: JeTaime_43 Start: 35692, Stop: 35228, Start Num: 11

Candidate Starts for JeTaime_43:

(3, 35752), (Start: 11 @35692 has 92 MA's), (Start: 13 @35668 has 1 MA's), (14, 35659), (18, 35626), (21, 35614), (22, 35611), (24, 35548), (25, 35494), (28, 35431), (31, 35389), (33, 35347), (36, 35296),

Gene: Kimchi_42 Start: 34662, Stop: 34198, Start Num: 11

Candidate Starts for Kimchi_42:

(5, 34701), (6, 34683), (Start: 11 @34662 has 92 MA's), (Start: 13 @34638 has 1 MA's), (14, 34629), (18, 34596), (20, 34584), (21, 34581), (24, 34518), (25, 34464), (28, 34401), (31, 34359), (33, 34317), (36, 34266),

Gene: Kostya_41 Start: 34766, Stop: 34206, Start Num: 1

Candidate Starts for Kostya_41:

(Start: 1 @34766 has 2 MA's), (9, 34682), (10, 34673), (19, 34592), (24, 34526), (25, 34472), (28, 34409), (31, 34367), (33, 34325), (36, 34274),

Gene: Lilac_42 Start: 34149, Stop: 33685, Start Num: 11

Candidate Starts for Lilac_42:

(5, 34188), (6, 34170), (Start: 11 @34149 has 92 MA's), (Start: 13 @34125 has 1 MA's), (14, 34116), (18, 34083), (20, 34071), (21, 34068), (24, 34005), (25, 33951), (28, 33888), (31, 33846), (33, 33804), (36, 33753),

Gene: Lilizi_42 Start: 34462, Stop: 33893, Start Num: 1

Candidate Starts for Lilizi_42:

(Start: 1 @34462 has 2 MA's), (8, 34381), (Start: 11 @34360 has 92 MA's), (Start: 13 @34336 has 1 MA's), (14, 34327), (24, 34213), (25, 34159), (28, 34096), (31, 34054), (33, 34012), (36, 33961),

Gene: MISSy_39 Start: 34165, Stop: 33701, Start Num: 11

Candidate Starts for MISSy_39:

(5, 34204), (6, 34186), (Start: 11 @34165 has 92 MA's), (Start: 13 @34141 has 1 MA's), (14, 34132), (18, 34099), (20, 34087), (21, 34084), (24, 34021), (25, 33967), (28, 33904), (31, 33862), (33, 33820), (36, 33769),

Gene: MPhalcon_39 Start: 34158, Stop: 33694, Start Num: 11

Candidate Starts for MPhalcon_39:

(5, 34197), (6, 34179), (Start: 11 @34158 has 92 MA's), (Start: 13 @34134 has 1 MA's), (14, 34125), (18, 34092), (20, 34080), (21, 34077), (24, 34014), (25, 33960), (28, 33897), (31, 33855), (33, 33813), (36, 33762),

Gene: MadamMonkfish_41 Start: 34185, Stop: 33718, Start Num: 11

Candidate Starts for MadamMonkfish_41:

(3, 34245), (Start: 11 @34185 has 92 MA's), (Start: 13 @34161 has 1 MA's), (14, 34152), (24, 34038), (25, 33984), (28, 33921), (31, 33879), (33, 33837), (36, 33786),

Gene: Manda_40 Start: 34836, Stop: 34465, Start Num: 13

Candidate Starts for Manda_40:

(4, 34917), (6, 34887), (7, 34884), (Start: 11 @34860 has 92 MA's), (Start: 13 @34836 has 1 MA's), (14, 34827), (18, 34794), (23, 34728), (24, 34713), (33, 34599), (36, 34548),

Gene: Marshmallow_41 Start: 35345, Stop: 34878, Start Num: 11

Candidate Starts for Marshmallow_41:

(Start: 1 @35438 has 2 MA's), (2, 35414), (Start: 11 @35345 has 92 MA's), (Start: 13 @35321 has 1 MA's), (14, 35312), (24, 35198), (25, 35144), (28, 35081), (31, 35039), (33, 34997), (36, 34946),

Gene: Maxxinista_41 Start: 34119, Stop: 33655, Start Num: 11

Candidate Starts for Maxxinista_41:

(5, 34158), (6, 34140), (Start: 11 @34119 has 92 MA's), (Start: 13 @34095 has 1 MA's), (14, 34086), (18, 34053), (20, 34041), (21, 34038), (24, 33975), (25, 33921), (28, 33858), (31, 33816), (33, 33774), (36, 33723),

Gene: Miniwave_40 Start: 34863, Stop: 34402, Start Num: 11

Candidate Starts for Miniwave_40:

(Start: 11 @34863 has 92 MA's), (12, 34842), (16, 34830), (24, 34722), (25, 34668), (28, 34605), (31, 34563), (33, 34521), (36, 34470),

Gene: Misfit_40 Start: 34739, Stop: 34275, Start Num: 11

Candidate Starts for Misfit_40:

(5, 34778), (6, 34760), (Start: 11 @34739 has 92 MA's), (Start: 13 @34715 has 1 MA's), (14, 34706), (18, 34673), (20, 34661), (21, 34658), (24, 34595), (25, 34541), (28, 34478), (31, 34436), (33, 34394), (36, 34343),

Gene: Moldemort_41 Start: 34414, Stop: 33947, Start Num: 11

Candidate Starts for Moldemort_41:

(3, 34474), (Start: 11 @34414 has 92 MA's), (Start: 13 @34390 has 1 MA's), (14, 34381), (24, 34267), (25, 34213), (28, 34150), (31, 34108), (33, 34066), (36, 34015),

Gene: Murica_39 Start: 34636, Stop: 34172, Start Num: 11

Candidate Starts for Murica_39:

(5, 34675), (6, 34657), (Start: 11 @34636 has 92 MA's), (Start: 13 @34612 has 1 MA's), (14, 34603), (18, 34570), (20, 34558), (21, 34555), (24, 34492), (25, 34438), (28, 34375), (31, 34333), (33, 34291), (36, 34240),

Gene: Murphy_41 Start: 34631, Stop: 34167, Start Num: 11

Candidate Starts for Murphy_41:

(5, 34670), (6, 34652), (Start: 11 @34631 has 92 MA's), (Start: 13 @34607 has 1 MA's), (14, 34598), (18, 34565), (20, 34553), (21, 34550), (24, 34487), (25, 34433), (28, 34370), (31, 34328), (33, 34286), (36, 34235),

Gene: Myrale_42 Start: 35210, Stop: 34743, Start Num: 11

Candidate Starts for Myrale_42:

(Start: 1 @35303 has 2 MA's), (2, 35279), (Start: 11 @35210 has 92 MA's), (Start: 13 @35186 has 1 MA's), (14, 35177), (24, 35063), (25, 35009), (28, 34946), (31, 34904), (33, 34862), (36, 34811),

Gene: Nala_40 Start: 34670, Stop: 34206, Start Num: 11

Candidate Starts for Nala_40:

(5, 34709), (6, 34691), (Start: 11 @34670 has 92 MA's), (Start: 13 @34646 has 1 MA's), (14, 34637), (18, 34604), (20, 34592), (21, 34589), (24, 34526), (25, 34472), (28, 34409), (31, 34367), (33, 34325), (36, 34274),

Gene: NelitzaMV_40 Start: 34723, Stop: 34256, Start Num: 11

Candidate Starts for NelitzaMV_40:

(Start: 11 @34723 has 92 MA's), (Start: 13 @34699 has 1 MA's), (14, 34690), (24, 34576), (25, 34522), (28, 34459), (31, 34417), (33, 34375), (36, 34324),

Gene: Nimrod_40 Start: 34894, Stop: 34430, Start Num: 11

Candidate Starts for Nimrod_40:

(5, 34933), (6, 34915), (Start: 11 @34894 has 92 MA's), (Start: 13 @34870 has 1 MA's), (14, 34861), (18, 34828), (20, 34816), (21, 34813), (24, 34750), (25, 34696), (28, 34633), (31, 34591), (33, 34549), (36, 34498),

Gene: NoSleep_41 Start: 34391, Stop: 33927, Start Num: 11

Candidate Starts for NoSleep_41:

(5, 34430), (6, 34412), (Start: 11 @34391 has 92 MA's), (Start: 13 @34367 has 1 MA's), (14, 34358), (18, 34325), (20, 34313), (21, 34310), (24, 34247), (25, 34193), (28, 34130), (31, 34088), (33, 34046), (36, 33995),

Gene: OrionPax_42 Start: 34639, Stop: 34172, Start Num: 11

Candidate Starts for OrionPax_42:

(3, 34699), (Start: 11 @34639 has 92 MA's), (Start: 13 @34615 has 1 MA's), (14, 34606), (24, 34492), (25, 34438), (28, 34375), (31, 34333), (33, 34291), (36, 34240),

Gene: Palpatine_40 Start: 34666, Stop: 34202, Start Num: 11

Candidate Starts for Palpatine_40:

(5, 34705), (6, 34687), (Start: 11 @34666 has 92 MA's), (Start: 13 @34642 has 1 MA's), (14, 34633), (18, 34600), (20, 34588), (21, 34585), (24, 34522), (25, 34468), (28, 34405), (31, 34363), (33, 34321), (36, 34270),

Gene: Paperbeatsrock_42 Start: 35652, Stop: 35185, Start Num: 11

Candidate Starts for Paperbeatsrock_42:

(Start: 11 @35652 has 92 MA's), (Start: 13 @35628 has 1 MA's), (14, 35619), (24, 35505), (25, 35451), (28, 35388), (31, 35346), (33, 35304), (36, 35253),

Gene: Phaja_40 Start: 34910, Stop: 34443, Start Num: 11

Candidate Starts for Phaja_40:

(Start: 1 @35003 has 2 MA's), (2, 34979), (Start: 11 @34910 has 92 MA's), (Start: 13 @34886 has 1 MA's), (14, 34877), (24, 34763), (25, 34709), (28, 34646), (31, 34604), (33, 34562), (36, 34511),

Gene: Pharsalus_41 Start: 35452, Stop: 34985, Start Num: 11

Candidate Starts for Pharsalus_41:

(Start: 11 @35452 has 92 MA's), (Start: 13 @35428 has 1 MA's), (14, 35419), (24, 35305), (25, 35251), (28, 35188), (31, 35146), (33, 35104), (36, 35053),

Gene: PhatBacter_40 Start: 34680, Stop: 34216, Start Num: 11

Candidate Starts for PhatBacter_40:

(5, 34719), (6, 34701), (Start: 11 @34680 has 92 MA's), (Start: 13 @34656 has 1 MA's), (14, 34647), (18, 34614), (20, 34602), (21, 34599), (24, 34536), (25, 34482), (28, 34419), (31, 34377), (33, 34335), (36, 34284),

Gene: Phaux_39 Start: 34678, Stop: 34214, Start Num: 11

Candidate Starts for Phaux_39:

(5, 34717), (6, 34699), (Start: 11 @34678 has 92 MA's), (Start: 13 @34654 has 1 MA's), (14, 34645), (18, 34612), (20, 34600), (21, 34597), (24, 34534), (25, 34480), (28, 34417), (31, 34375), (33, 34333), (36, 34282),

Gene: Phrux_41 Start: 34632, Stop: 34168, Start Num: 11

Candidate Starts for Phrux_41:

(3, 34692), (Start: 11 @34632 has 92 MA's), (Start: 13 @34608 has 1 MA's), (14, 34599), (18, 34566), (21, 34554), (22, 34551), (24, 34488), (25, 34434), (28, 34371), (31, 34329), (33, 34287), (36, 34236),

Gene: Plumbus_86 Start: 47486, Stop: 48037, Start Num: 11

Candidate Starts for Plumbus_86:

(Start: 11 @47486 has 92 MA's), (Start: 13 @47510 has 1 MA's), (14, 47519), (23, 47618), (24, 47633), (33, 47834), (34, 47855), (37, 47909), (38, 47915), (39, 47939),

Gene: Policronamos_40 Start: 34678, Stop: 34214, Start Num: 11

Candidate Starts for Policronamos_40:

(5, 34717), (6, 34699), (Start: 11 @34678 has 92 MA's), (Start: 13 @34654 has 1 MA's), (14, 34645), (18, 34612), (20, 34600), (21, 34597), (24, 34534), (25, 34480), (28, 34417), (31, 34375), (33, 34333), (36, 34282),

Gene: Pumpkin_44 Start: 35558, Stop: 35094, Start Num: 11

Candidate Starts for Pumpkin_44:

(3, 35618), (Start: 11 @35558 has 92 MA's), (Start: 13 @35534 has 1 MA's), (14, 35525), (18, 35492), (21, 35480), (22, 35477), (24, 35414), (25, 35360), (28, 35297), (31, 35255), (33, 35213), (36, 35162),

Gene: Quallification_41 Start: 34860, Stop: 34411, Start Num: 11

Candidate Starts for Quallification_41:

(Start: 11 @34860 has 92 MA's), (12, 34839), (14, 34827), (24, 34719), (27, 34626), (29, 34608), (30, 34596), (32, 34554), (33, 34530), (36, 34479),

Gene: Rakim_41 Start: 34775, Stop: 34311, Start Num: 11

Candidate Starts for Rakim_41:

(5, 34814), (6, 34796), (Start: 11 @34775 has 92 MA's), (Start: 13 @34751 has 1 MA's), (14, 34742), (18, 34709), (20, 34697), (21, 34694), (24, 34631), (25, 34577), (28, 34514), (31, 34472), (33, 34430), (36, 34379),

Gene: RiverMonster_40 Start: 34407, Stop: 33943, Start Num: 11

Candidate Starts for RiverMonster_40:

(5, 34446), (6, 34428), (Start: 11 @34407 has 92 MA's), (Start: 13 @34383 has 1 MA's), (14, 34374), (18, 34341), (20, 34329), (21, 34326), (24, 34263), (25, 34209), (28, 34146), (31, 34104), (33, 34062), (36, 34011),

Gene: Saints25_42 Start: 34424, Stop: 33957, Start Num: 11

Candidate Starts for Saints25_42:

(Start: 11 @34424 has 92 MA's), (Start: 13 @34400 has 1 MA's), (14, 34391), (24, 34277), (25, 34223), (28, 34160), (31, 34118), (33, 34076), (36, 34025),

Gene: ShamWow_42 Start: 35347, Stop: 34880, Start Num: 11

Candidate Starts for ShamWow_42:

(Start: 1 @35440 has 2 MA's), (2, 35416), (Start: 11 @35347 has 92 MA's), (Start: 13 @35323 has 1 MA's), (14, 35314), (24, 35200), (25, 35146), (28, 35083), (31, 35041), (33, 34999), (36, 34948),

Gene: Simpliphy_42 Start: 34499, Stop: 34032, Start Num: 11

Candidate Starts for Simpliphy_42:

(Start: 11 @34499 has 92 MA's), (Start: 13 @34475 has 1 MA's), (14, 34466), (24, 34352), (25, 34298), (28, 34235), (31, 34193), (33, 34151), (36, 34100),

Gene: SophKB_40 Start: 34671, Stop: 34204, Start Num: 11

Candidate Starts for SophKB_40:

(Start: 11 @34671 has 92 MA's), (Start: 13 @34647 has 1 MA's), (14, 34638), (24, 34524), (25, 34470), (28, 34407), (31, 34365), (33, 34323), (36, 34272),

Gene: Sotrice96_40 Start: 34623, Stop: 34159, Start Num: 11

Candidate Starts for Sotrice96_40:

(5, 34662), (6, 34644), (Start: 11 @34623 has 92 MA's), (Start: 13 @34599 has 1 MA's), (14, 34590), (18, 34557), (20, 34545), (21, 34542), (24, 34479), (25, 34425), (28, 34362), (31, 34320), (33, 34278), (36, 34227),

Gene: Stank_43 Start: 35175, Stop: 34711, Start Num: 11

Candidate Starts for Stank_43:

(5, 35214), (6, 35196), (Start: 11 @35175 has 92 MA's), (Start: 13 @35151 has 1 MA's), (14, 35142), (18, 35109), (20, 35097), (21, 35094), (24, 35031), (25, 34977), (28, 34914), (31, 34872), (33, 34830), (36, 34779),

Gene: Stark_41 Start: 34410, Stop: 33946, Start Num: 11

Candidate Starts for Stark_41:

(5, 34449), (6, 34431), (Start: 11 @34410 has 92 MA's), (Start: 13 @34386 has 1 MA's), (14, 34377), (18, 34344), (20, 34332), (21, 34329), (24, 34266), (25, 34212), (28, 34149), (31, 34107), (33, 34065), (36, 34014),

Gene: StellaBean_40 Start: 34671, Stop: 34204, Start Num: 11

Candidate Starts for StellaBean_40:

(Start: 1 @34764 has 2 MA's), (2, 34740), (Start: 11 @34671 has 92 MA's), (Start: 13 @34647 has 1 MA's), (14, 34638), (24, 34524), (25, 34470), (28, 34407), (31, 34365), (33, 34323), (36, 34272),

Gene: StolenFromERC_42 Start: 34659, Stop: 34195, Start Num: 11

Candidate Starts for StolenFromERC_42:

(5, 34698), (6, 34680), (Start: 11 @34659 has 92 MA's), (Start: 13 @34635 has 1 MA's), (14, 34626), (18, 34593), (20, 34581), (21, 34578), (24, 34515), (25, 34461), (28, 34398), (31, 34356), (33, 34314), (36, 34263),

Gene: TBrady12_42 Start: 34659, Stop: 34195, Start Num: 11

Candidate Starts for TBrady12_42:

(5, 34698), (6, 34680), (Start: 11 @34659 has 92 MA's), (Start: 13 @34635 has 1 MA's), (14, 34626), (18, 34593), (20, 34581), (21, 34578), (24, 34515), (25, 34461), (28, 34398), (31, 34356), (33, 34314), (36, 34263),

Gene: Tarkin_42 Start: 35661, Stop: 35194, Start Num: 11

Candidate Starts for Tarkin_42:

(Start: 11 @35661 has 92 MA's), (Start: 13 @35637 has 1 MA's), (14, 35628), (24, 35514), (25, 35460), (28, 35397), (31, 35355), (33, 35313), (36, 35262),

Gene: TeardropMSU_39 Start: 34571, Stop: 34104, Start Num: 11

Candidate Starts for TeardropMSU_39:

(3, 34631), (Start: 11 @34571 has 92 MA's), (Start: 13 @34547 has 1 MA's), (14, 34538), (24, 34424), (33, 34223), (36, 34172),

Gene: Terminus_40 Start: 34739, Stop: 34275, Start Num: 11

Candidate Starts for Terminus_40:

(5, 34778), (6, 34760), (Start: 11 @34739 has 92 MA's), (Start: 13 @34715 has 1 MA's), (14, 34706), (18, 34673), (20, 34661), (21, 34658), (24, 34595), (25, 34541), (28, 34478), (31, 34436), (33, 34394), (36, 34343),

Gene: Thimble_41 Start: 33817, Stop: 33377, Start Num: 13

Candidate Starts for Thimble_41:

(5, 33880), (6, 33862), (Start: 11 @33841 has 92 MA's), (Start: 13 @33817 has 1 MA's), (14, 33808), (18, 33775), (20, 33763), (21, 33760), (24, 33697), (25, 33643), (28, 33580), (31, 33538), (33, 33496), (36, 33445),

Gene: Thresher_42 Start: 35645, Stop: 35181, Start Num: 11

Candidate Starts for Thresher_42:

(5, 35684), (6, 35666), (Start: 11 @35645 has 92 MA's), (Start: 13 @35621 has 1 MA's), (14, 35612), (18, 35579), (20, 35567), (21, 35564), (24, 35501), (25, 35447), (28, 35384), (31, 35342), (33, 35300), (36, 35249),

Gene: Toto_41 Start: 35347, Stop: 34880, Start Num: 11

Candidate Starts for Toto_41:

(Start: 1 @35440 has 2 MA's), (2, 35416), (Start: 11 @35347 has 92 MA's), (Start: 13 @35323 has 1 MA's), (14, 35314), (24, 35200), (25, 35146), (28, 35083), (31, 35041), (33, 34999), (36, 34948),

Gene: Traaww1_38 Start: 34290, Stop: 33826, Start Num: 11

Candidate Starts for Traaww1_38:

(Start: 11 @34290 has 92 MA's), (Start: 13 @34266 has 1 MA's), (14, 34257), (18, 34224), (20, 34212), (21, 34209), (23, 34161), (24, 34146), (25, 34092), (28, 34029), (31, 33987), (33, 33945), (36, 33894),

Gene: Tuco_43 Start: 35855, Stop: 35388, Start Num: 11

Candidate Starts for Tuco_43:

(Start: 1 @35948 has 2 MA's), (2, 35924), (Start: 11 @35855 has 92 MA's), (Start: 13 @35831 has 1 MA's), (14, 35822), (24, 35708), (25, 35654), (28, 35591), (31, 35549), (33, 35507), (36, 35456),

Gene: Wiggin_43 Start: 35173, Stop: 34709, Start Num: 11

Candidate Starts for Wiggin_43:

(Start: 11 @35173 has 92 MA's), (Start: 13 @35149 has 1 MA's), (14, 35140), (18, 35107), (20, 35095), (21, 35092), (24, 35029), (25, 34975), (28, 34912), (31, 34870), (33, 34828), (36, 34777),

Gene: xkcd_41 Start: 34821, Stop: 34357, Start Num: 11

Candidate Starts for xkcd_41:

(5, 34860), (6, 34842), (Start: 11 @34821 has 92 MA's), (Start: 13 @34797 has 1 MA's), (14, 34788), (18, 34755), (20, 34743), (21, 34740), (24, 34677), (25, 34623), (28, 34560), (31, 34518), (33, 34476), (36, 34425),

