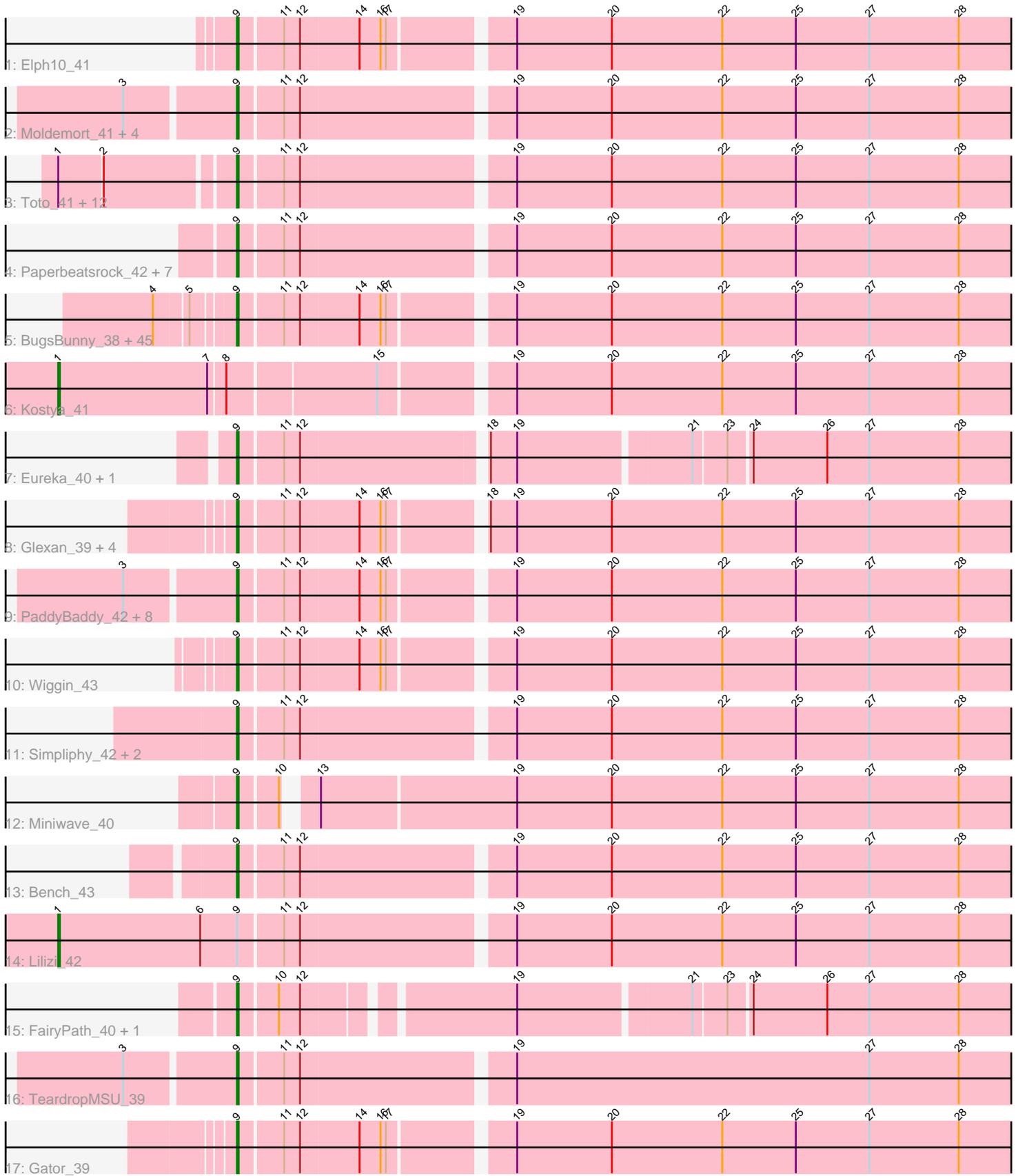


Pham 283663



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 283663 Report

This analysis was run 02/23/26 on database version 636.

Pham number 283663 has 101 members, 7 are drafts.

Phages represented in each track:

- Track 1 : Elph10_41
- Track 2 : Moldemort_41, MadamMonkfish_41, Bogg_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, Greep_41, 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, Thimble_41
- Track 6 : Kostya_41
- Track 7 : Eureka_40, Goku_40
- Track 8 : Glexan_39, Daikon_41, Traaww1_38, Balomoji_40, Harella_41
- Track 9 : PaddyBaddy_42, DrDrey_43, Phrux_41, JeTaime_43, 244_44, Hopey_43, Filch_43, Pumpkin_44, HanKaySha_42
- Track 10 : Wiggin_43
- Track 11 : Simpliphy_42, Saints25_42, Highbury_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 : Gator_39

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

The start number called the most often in the published annotations is 9, it was called in 92 of the 94 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, Bogg_41, BugsBunny_38, Cactus_41, Cjw1_41, Command613_41, CrystalP_42, Daikon_41, DrDrey_43, Dusk_41, 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, Greep_41, 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, PaddyBaddy_42, Palpatine_40, Paperbeatsrock_42, Phaja_40, Pharsalus_41, PhatBacter_40, Phaux_39, Phrux_41, Policronamos_40, Pumpkin_44, Qualification_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, Thimble_41, 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,

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 94
- Called 13.3% of time when present
- Phage (with cluster) where this start called: Kostya_41 (E), Lilizi_42 (E),

Start 9:

- Found in 100 of 101 (99.0%) of genes in pham
- Manual Annotations of this start: 92 of 94
- Called 99.0% 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), Bogg_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), 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), Greep_41 (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), PaddyBaddy_42 (E), Palpatine_40 (E), Paperbeatsrock_42 (E), Phaja_40 (E),

Pharsalus_41 (E), PhatBacter_40 (E), Phaux_39 (E), Phrux_41 (E), 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), Thimble_41 (E), Thresher_42 (E), Toto_41 (E), Traaww1_38 (E), Tuco_43 (E), Wiggin_43 (E), xkcd_41 (E),

Summary by clusters:

There is one cluster represented in this pham: E

Info for manual annotations of cluster E:

- Start number 1 was manually annotated 2 times for cluster E.
- Start number 9 was manually annotated 92 times for cluster E.

Gene Information:

Gene: 244_44 Start: 35171, Stop: 34707, Start Num: 9

Candidate Starts for 244_44:

(3, 35231), (Start: 9 @35171 has 92 MA's), (11, 35147), (12, 35138), (14, 35105), (16, 35093), (17, 35090), (19, 35027), (20, 34973), (22, 34910), (25, 34868), (27, 34826), (28, 34775),

Gene: ABCat_40 Start: 35339, Stop: 34872, Start Num: 9

Candidate Starts for ABCat_40:

(Start: 1 @35432 has 2 MA's), (2, 35408), (Start: 9 @35339 has 92 MA's), (11, 35315), (12, 35306), (19, 35192), (20, 35138), (22, 35075), (25, 35033), (27, 34991), (28, 34940),

Gene: Adnama_43 Start: 35176, Stop: 34712, Start Num: 9

Candidate Starts for Adnama_43:

(4, 35215), (5, 35197), (Start: 9 @35176 has 92 MA's), (11, 35152), (12, 35143), (14, 35110), (16, 35098), (17, 35095), (19, 35032), (20, 34978), (22, 34915), (25, 34873), (27, 34831), (28, 34780),

Gene: AmericanBeauty_42 Start: 34659, Stop: 34192, Start Num: 9

Candidate Starts for AmericanBeauty_42:

(3, 34719), (Start: 9 @34659 has 92 MA's), (11, 34635), (12, 34626), (19, 34512), (20, 34458), (22, 34395), (25, 34353), (27, 34311), (28, 34260),

Gene: Argent26_42 Start: 34659, Stop: 34195, Start Num: 9

Candidate Starts for Argent26_42:

(4, 34698), (5, 34680), (Start: 9 @34659 has 92 MA's), (11, 34635), (12, 34626), (14, 34593), (16, 34581), (17, 34578), (19, 34515), (20, 34461), (22, 34398), (25, 34356), (27, 34314), (28, 34263),

Gene: Asriel_39 Start: 33513, Stop: 33049, Start Num: 9

Candidate Starts for Asriel_39:

(4, 33552), (5, 33534), (Start: 9 @33513 has 92 MA's), (11, 33489), (12, 33480), (14, 33447), (16, 33435), (17, 33432), (19, 33369), (20, 33315), (22, 33252), (25, 33210), (27, 33168), (28, 33117),

Gene: BaboJay_40 Start: 34740, Stop: 34270, Start Num: 9

Candidate Starts for BaboJay_40:

(Start: 1 @34833 has 2 MA's), (2, 34809), (Start: 9 @34740 has 92 MA's), (11, 34713), (12, 34704), (19, 34590), (20, 34536), (22, 34473), (25, 34431), (27, 34389), (28, 34338),

Gene: BadStone_41 Start: 35477, Stop: 35010, Start Num: 9

Candidate Starts for BadStone_41:

(Start: 9 @35477 has 92 MA's), (11, 35453), (12, 35444), (19, 35330), (20, 35276), (22, 35213), (25, 35171), (27, 35129), (28, 35078),

Gene: Balomoji_40 Start: 35070, Stop: 34606, Start Num: 9

Candidate Starts for Balomoji_40:

(Start: 9 @35070 has 92 MA's), (11, 35046), (12, 35037), (14, 35004), (16, 34992), (17, 34989), (18, 34941), (19, 34926), (20, 34872), (22, 34809), (25, 34767), (27, 34725), (28, 34674),

Gene: Barbarian_39 Start: 33513, Stop: 33049, Start Num: 9

Candidate Starts for Barbarian_39:

(4, 33552), (5, 33534), (Start: 9 @33513 has 92 MA's), (11, 33489), (12, 33480), (14, 33447), (16, 33435), (17, 33432), (19, 33369), (20, 33315), (22, 33252), (25, 33210), (27, 33168), (28, 33117),

Gene: Bask21_40 Start: 33847, Stop: 33383, Start Num: 9

Candidate Starts for Bask21_40:

(4, 33886), (5, 33868), (Start: 9 @33847 has 92 MA's), (11, 33823), (12, 33814), (14, 33781), (16, 33769), (17, 33766), (19, 33703), (20, 33649), (22, 33586), (25, 33544), (27, 33502), (28, 33451),

Gene: Becksu_40 Start: 34835, Stop: 34371, Start Num: 9

Candidate Starts for Becksu_40:

(4, 34874), (5, 34856), (Start: 9 @34835 has 92 MA's), (11, 34811), (12, 34802), (14, 34769), (16, 34757), (17, 34754), (19, 34691), (20, 34637), (22, 34574), (25, 34532), (27, 34490), (28, 34439),

Gene: Bench_43 Start: 34755, Stop: 34288, Start Num: 9

Candidate Starts for Bench_43:

(Start: 9 @34755 has 92 MA's), (11, 34731), (12, 34722), (19, 34608), (20, 34554), (22, 34491), (25, 34449), (27, 34407), (28, 34356),

Gene: BilboSwaggins_41 Start: 35347, Stop: 34880, Start Num: 9

Candidate Starts for BilboSwaggins_41:

(Start: 1 @35440 has 2 MA's), (2, 35416), (Start: 9 @35347 has 92 MA's), (11, 35323), (12, 35314), (19, 35200), (20, 35146), (22, 35083), (25, 35041), (27, 34999), (28, 34948),

Gene: Bogg_41 Start: 34087, Stop: 33620, Start Num: 9

Candidate Starts for Bogg_41:

(3, 34147), (Start: 9 @34087 has 92 MA's), (11, 34063), (12, 34054), (19, 33940), (20, 33886), (22, 33823), (25, 33781), (27, 33739), (28, 33688),

Gene: BugsBunny_38 Start: 34241, Stop: 33777, Start Num: 9

Candidate Starts for BugsBunny_38:

(4, 34280), (5, 34262), (Start: 9 @34241 has 92 MA's), (11, 34217), (12, 34208), (14, 34175), (16, 34163), (17, 34160), (19, 34097), (20, 34043), (22, 33980), (25, 33938), (27, 33896), (28, 33845),

Gene: Cactus_41 Start: 33880, Stop: 33416, Start Num: 9

Candidate Starts for Cactus_41:

(4, 33919), (5, 33901), (Start: 9 @33880 has 92 MA's), (11, 33856), (12, 33847), (14, 33814), (16, 33802), (17, 33799), (19, 33736), (20, 33682), (22, 33619), (25, 33577), (27, 33535), (28, 33484),

Gene: Cjw1_41 Start: 35651, Stop: 35187, Start Num: 9

Candidate Starts for Cjw1_41:

(4, 35690), (5, 35672), (Start: 9 @35651 has 92 MA's), (11, 35627), (12, 35618), (14, 35585), (16, 35573), (17, 35570), (19, 35507), (20, 35453), (22, 35390), (25, 35348), (27, 35306), (28, 35255),

Gene: Command613_41 Start: 34919, Stop: 34455, Start Num: 9

Candidate Starts for Command613_41:

(4, 34958), (5, 34940), (Start: 9 @34919 has 92 MA's), (11, 34895), (12, 34886), (14, 34853), (16, 34841), (17, 34838), (19, 34775), (20, 34721), (22, 34658), (25, 34616), (27, 34574), (28, 34523),

Gene: CrystalP_42 Start: 35347, Stop: 34880, Start Num: 9

Candidate Starts for CrystalP_42:

(Start: 1 @35440 has 2 MA's), (2, 35416), (Start: 9 @35347 has 92 MA's), (11, 35323), (12, 35314), (19, 35200), (20, 35146), (22, 35083), (25, 35041), (27, 34999), (28, 34948),

Gene: Daikon_41 Start: 35091, Stop: 34627, Start Num: 9

Candidate Starts for Daikon_41:

(Start: 9 @35091 has 92 MA's), (11, 35067), (12, 35058), (14, 35025), (16, 35013), (17, 35010), (18, 34962), (19, 34947), (20, 34893), (22, 34830), (25, 34788), (27, 34746), (28, 34695),

Gene: DrDrey_43 Start: 35973, Stop: 35509, Start Num: 9

Candidate Starts for DrDrey_43:

(3, 36033), (Start: 9 @35973 has 92 MA's), (11, 35949), (12, 35940), (14, 35907), (16, 35895), (17, 35892), (19, 35829), (20, 35775), (22, 35712), (25, 35670), (27, 35628), (28, 35577),

Gene: Dusk_41 Start: 35137, Stop: 34670, Start Num: 9

Candidate Starts for Dusk_41:

(Start: 9 @35137 has 92 MA's), (11, 35113), (12, 35104), (19, 34990), (20, 34936), (22, 34873), (25, 34831), (27, 34789), (28, 34738),

Gene: Elph10_41 Start: 34122, Stop: 33658, Start Num: 9

Candidate Starts for Elph10_41:

(Start: 9 @34122 has 92 MA's), (11, 34098), (12, 34089), (14, 34056), (16, 34044), (17, 34041), (19, 33978), (20, 33924), (22, 33861), (25, 33819), (27, 33777), (28, 33726),

Gene: Eureka_40 Start: 34965, Stop: 34495, Start Num: 9

Candidate Starts for Eureka_40:

(Start: 9 @34965 has 92 MA's), (11, 34941), (12, 34932), (18, 34833), (19, 34818), (21, 34725), (23, 34707), (24, 34695), (26, 34653), (27, 34629), (28, 34578),

Gene: FairyPath_40 Start: 34849, Stop: 34400, Start Num: 9

Candidate Starts for FairyPath_40:

(Start: 9 @34849 has 92 MA's), (10, 34828), (12, 34816), (19, 34708), (21, 34615), (23, 34597), (24, 34585), (26, 34543), (27, 34519), (28, 34468),

Gene: Filch_43 Start: 34650, Stop: 34186, Start Num: 9

Candidate Starts for Filch_43:

(3, 34710), (Start: 9 @34650 has 92 MA's), (11, 34626), (12, 34617), (14, 34584), (16, 34572), (17, 34569), (19, 34506), (20, 34452), (22, 34389), (25, 34347), (27, 34305), (28, 34254),

Gene: FireRed_40 Start: 34680, Stop: 34216, Start Num: 9

Candidate Starts for FireRed_40:

(4, 34719), (5, 34701), (Start: 9 @34680 has 92 MA's), (11, 34656), (12, 34647), (14, 34614), (16, 34602), (17, 34599), (19, 34536), (20, 34482), (22, 34419), (25, 34377), (27, 34335), (28, 34284),

Gene: Gage_42 Start: 34659, Stop: 34195, Start Num: 9

Candidate Starts for Gage_42:

(4, 34698), (5, 34680), (Start: 9 @34659 has 92 MA's), (11, 34635), (12, 34626), (14, 34593), (16, 34581), (17, 34578), (19, 34515), (20, 34461), (22, 34398), (25, 34356), (27, 34314), (28, 34263),

Gene: Gator_39 Start: 34961, Stop: 34497, Start Num: 9

Candidate Starts for Gator_39:

(Start: 9 @34961 has 92 MA's), (11, 34937), (12, 34928), (14, 34895), (16, 34883), (17, 34880), (19, 34817), (20, 34763), (22, 34700), (25, 34658), (27, 34616), (28, 34565),

Gene: Gemini_43 Start: 35176, Stop: 34712, Start Num: 9

Candidate Starts for Gemini_43:

(4, 35215), (5, 35197), (Start: 9 @35176 has 92 MA's), (11, 35152), (12, 35143), (14, 35110), (16, 35098), (17, 35095), (19, 35032), (20, 34978), (22, 34915), (25, 34873), (27, 34831), (28, 34780),

Gene: Glexan_39 Start: 34949, Stop: 34485, Start Num: 9

Candidate Starts for Glexan_39:

(Start: 9 @34949 has 92 MA's), (11, 34925), (12, 34916), (14, 34883), (16, 34871), (17, 34868), (18, 34820), (19, 34805), (20, 34751), (22, 34688), (25, 34646), (27, 34604), (28, 34553),

Gene: Goku_40 Start: 34694, Stop: 34224, Start Num: 9

Candidate Starts for Goku_40:

(Start: 9 @34694 has 92 MA's), (11, 34670), (12, 34661), (18, 34562), (19, 34547), (21, 34454), (23, 34436), (24, 34424), (26, 34382), (27, 34358), (28, 34307),

Gene: GoldenSpark_42 Start: 34659, Stop: 34195, Start Num: 9

Candidate Starts for GoldenSpark_42:

(4, 34698), (5, 34680), (Start: 9 @34659 has 92 MA's), (11, 34635), (12, 34626), (14, 34593), (16, 34581), (17, 34578), (19, 34515), (20, 34461), (22, 34398), (25, 34356), (27, 34314), (28, 34263),

Gene: Goldilocks_41 Start: 34161, Stop: 33697, Start Num: 9

Candidate Starts for Goldilocks_41:

(4, 34200), (5, 34182), (Start: 9 @34161 has 92 MA's), (11, 34137), (12, 34128), (14, 34095), (16, 34083), (17, 34080), (19, 34017), (20, 33963), (22, 33900), (25, 33858), (27, 33816), (28, 33765),

Gene: GooberAzure_42 Start: 34659, Stop: 34195, Start Num: 9

Candidate Starts for GooberAzure_42:

(4, 34698), (5, 34680), (Start: 9 @34659 has 92 MA's), (11, 34635), (12, 34626), (14, 34593), (16, 34581), (17, 34578), (19, 34515), (20, 34461), (22, 34398), (25, 34356), (27, 34314), (28, 34263),

Gene: Greep_41 Start: 34972, Stop: 34508, Start Num: 9

Candidate Starts for Greep_41:

(4, 35011), (5, 34993), (Start: 9 @34972 has 92 MA's), (11, 34948), (12, 34939), (14, 34906), (16, 34894), (17, 34891), (19, 34828), (20, 34774), (22, 34711), (25, 34669), (27, 34627), (28, 34576),

Gene: HanKaySha_42 Start: 34633, Stop: 34169, Start Num: 9

Candidate Starts for HanKaySha_42:

(3, 34693), (Start: 9 @34633 has 92 MA's), (11, 34609), (12, 34600), (14, 34567), (16, 34555), (17, 34552), (19, 34489), (20, 34435), (22, 34372), (25, 34330), (27, 34288), (28, 34237),

Gene: Harella_41 Start: 35465, Stop: 35001, Start Num: 9

Candidate Starts for Harella_41:

(Start: 9 @35465 has 92 MA's), (11, 35441), (12, 35432), (14, 35399), (16, 35387), (17, 35384), (18, 35336), (19, 35321), (20, 35267), (22, 35204), (25, 35162), (27, 35120), (28, 35069),

Gene: Henry_42 Start: 35356, Stop: 34889, Start Num: 9

Candidate Starts for Henry_42:

(Start: 9 @35356 has 92 MA's), (11, 35332), (12, 35323), (19, 35209), (20, 35155), (22, 35092), (25, 35050), (27, 35008), (28, 34957),

Gene: Highbury_42 Start: 34424, Stop: 33957, Start Num: 9

Candidate Starts for Highbury_42:

(Start: 9 @34424 has 92 MA's), (11, 34400), (12, 34391), (19, 34277), (20, 34223), (22, 34160), (25, 34118), (27, 34076), (28, 34025),

Gene: Hoonter_42 Start: 34659, Stop: 34195, Start Num: 9

Candidate Starts for Hoonter_42:

(4, 34698), (5, 34680), (Start: 9 @34659 has 92 MA's), (11, 34635), (12, 34626), (14, 34593), (16, 34581), (17, 34578), (19, 34515), (20, 34461), (22, 34398), (25, 34356), (27, 34314), (28, 34263),

Gene: Hokey_43 Start: 35168, Stop: 34704, Start Num: 9

Candidate Starts for Hokey_43:

(3, 35228), (Start: 9 @35168 has 92 MA's), (11, 35144), (12, 35135), (14, 35102), (16, 35090), (17, 35087), (19, 35024), (20, 34970), (22, 34907), (25, 34865), (27, 34823), (28, 34772),

Gene: HufflyPuff_39 Start: 34636, Stop: 34172, Start Num: 9

Candidate Starts for HufflyPuff_39:

(4, 34675), (5, 34657), (Start: 9 @34636 has 92 MA's), (11, 34612), (12, 34603), (14, 34570), (16, 34558), (17, 34555), (19, 34492), (20, 34438), (22, 34375), (25, 34333), (27, 34291), (28, 34240),

Gene: IHOP_40 Start: 34911, Stop: 34444, Start Num: 9

Candidate Starts for IHOP_40:

(Start: 1 @35004 has 2 MA's), (2, 34980), (Start: 9 @34911 has 92 MA's), (11, 34887), (12, 34878), (19, 34764), (20, 34710), (22, 34647), (25, 34605), (27, 34563), (28, 34512),

Gene: Icee_39 Start: 34327, Stop: 33863, Start Num: 9

Candidate Starts for Icee_39:

(4, 34366), (5, 34348), (Start: 9 @34327 has 92 MA's), (11, 34303), (12, 34294), (14, 34261), (16, 34249), (17, 34246), (19, 34183), (20, 34129), (22, 34066), (25, 34024), (27, 33982), (28, 33931),

Gene: Inca_39 Start: 33436, Stop: 32969, Start Num: 9

Candidate Starts for Inca_39:

(Start: 1 @33529 has 2 MA's), (2, 33505), (Start: 9 @33436 has 92 MA's), (11, 33412), (12, 33403), (19, 33289), (20, 33235), (22, 33172), (25, 33130), (27, 33088), (28, 33037),

Gene: JeTaime_43 Start: 35692, Stop: 35228, Start Num: 9

Candidate Starts for JeTaime_43:

(3, 35752), (Start: 9 @35692 has 92 MA's), (11, 35668), (12, 35659), (14, 35626), (16, 35614), (17, 35611), (19, 35548), (20, 35494), (22, 35431), (25, 35389), (27, 35347), (28, 35296),

Gene: Kimchi_42 Start: 34662, Stop: 34198, Start Num: 9

Candidate Starts for Kimchi_42:

(4, 34701), (5, 34683), (Start: 9 @34662 has 92 MA's), (11, 34638), (12, 34629), (14, 34596), (16, 34584), (17, 34581), (19, 34518), (20, 34464), (22, 34401), (25, 34359), (27, 34317), (28, 34266),

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

Candidate Starts for Kostya_41:

(Start: 1 @34766 has 2 MA's), (7, 34682), (8, 34673), (15, 34592), (19, 34526), (20, 34472), (22, 34409), (25, 34367), (27, 34325), (28, 34274),

Gene: Lilac_42 Start: 34149, Stop: 33685, Start Num: 9

Candidate Starts for Lilac_42:

(4, 34188), (5, 34170), (Start: 9 @34149 has 92 MA's), (11, 34125), (12, 34116), (14, 34083), (16, 34071), (17, 34068), (19, 34005), (20, 33951), (22, 33888), (25, 33846), (27, 33804), (28, 33753),

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

Candidate Starts for Lilizi_42:

(Start: 1 @34462 has 2 MA's), (6, 34381), (Start: 9 @34360 has 92 MA's), (11, 34336), (12, 34327), (19, 34213), (20, 34159), (22, 34096), (25, 34054), (27, 34012), (28, 33961),

Gene: MISSy_39 Start: 34165, Stop: 33701, Start Num: 9

Candidate Starts for MISSy_39:

(4, 34204), (5, 34186), (Start: 9 @34165 has 92 MA's), (11, 34141), (12, 34132), (14, 34099), (16, 34087), (17, 34084), (19, 34021), (20, 33967), (22, 33904), (25, 33862), (27, 33820), (28, 33769),

Gene: MPhalcon_39 Start: 34158, Stop: 33694, Start Num: 9

Candidate Starts for MPhalcon_39:

(4, 34197), (5, 34179), (Start: 9 @34158 has 92 MA's), (11, 34134), (12, 34125), (14, 34092), (16, 34080), (17, 34077), (19, 34014), (20, 33960), (22, 33897), (25, 33855), (27, 33813), (28, 33762),

Gene: MadamMonkfish_41 Start: 34185, Stop: 33718, Start Num: 9

Candidate Starts for MadamMonkfish_41:

(3, 34245), (Start: 9 @34185 has 92 MA's), (11, 34161), (12, 34152), (19, 34038), (20, 33984), (22, 33921), (25, 33879), (27, 33837), (28, 33786),

Gene: Marshmallow_41 Start: 35345, Stop: 34878, Start Num: 9

Candidate Starts for Marshmallow_41:

(Start: 1 @35438 has 2 MA's), (2, 35414), (Start: 9 @35345 has 92 MA's), (11, 35321), (12, 35312), (19, 35198), (20, 35144), (22, 35081), (25, 35039), (27, 34997), (28, 34946),

Gene: Maxxinista_41 Start: 34119, Stop: 33655, Start Num: 9

Candidate Starts for Maxxinista_41:

(4, 34158), (5, 34140), (Start: 9 @34119 has 92 MA's), (11, 34095), (12, 34086), (14, 34053), (16, 34041), (17, 34038), (19, 33975), (20, 33921), (22, 33858), (25, 33816), (27, 33774), (28, 33723),

Gene: Miniwave_40 Start: 34863, Stop: 34402, Start Num: 9

Candidate Starts for Miniwave_40:

(Start: 9 @34863 has 92 MA's), (10, 34842), (13, 34830), (19, 34722), (20, 34668), (22, 34605), (25, 34563), (27, 34521), (28, 34470),

Gene: Misfit_40 Start: 34739, Stop: 34275, Start Num: 9

Candidate Starts for Misfit_40:

(4, 34778), (5, 34760), (Start: 9 @34739 has 92 MA's), (11, 34715), (12, 34706), (14, 34673), (16, 34661), (17, 34658), (19, 34595), (20, 34541), (22, 34478), (25, 34436), (27, 34394), (28, 34343),

Gene: Moldemort_41 Start: 34414, Stop: 33947, Start Num: 9

Candidate Starts for Moldemort_41:

(3, 34474), (Start: 9 @34414 has 92 MA's), (11, 34390), (12, 34381), (19, 34267), (20, 34213), (22, 34150), (25, 34108), (27, 34066), (28, 34015),

Gene: Murica_39 Start: 34636, Stop: 34172, Start Num: 9

Candidate Starts for Murica_39:

(4, 34675), (5, 34657), (Start: 9 @34636 has 92 MA's), (11, 34612), (12, 34603), (14, 34570), (16, 34558), (17, 34555), (19, 34492), (20, 34438), (22, 34375), (25, 34333), (27, 34291), (28, 34240),

Gene: Murphy_41 Start: 34631, Stop: 34167, Start Num: 9

Candidate Starts for Murphy_41:

(4, 34670), (5, 34652), (Start: 9 @34631 has 92 MA's), (11, 34607), (12, 34598), (14, 34565), (16, 34553), (17, 34550), (19, 34487), (20, 34433), (22, 34370), (25, 34328), (27, 34286), (28, 34235),

Gene: Myrale_42 Start: 35210, Stop: 34743, Start Num: 9

Candidate Starts for Myrale_42:

(Start: 1 @35303 has 2 MA's), (2, 35279), (Start: 9 @35210 has 92 MA's), (11, 35186), (12, 35177), (19, 35063), (20, 35009), (22, 34946), (25, 34904), (27, 34862), (28, 34811),

Gene: Nala_40 Start: 34670, Stop: 34206, Start Num: 9

Candidate Starts for Nala_40:

(4, 34709), (5, 34691), (Start: 9 @34670 has 92 MA's), (11, 34646), (12, 34637), (14, 34604), (16, 34592), (17, 34589), (19, 34526), (20, 34472), (22, 34409), (25, 34367), (27, 34325), (28, 34274),

Gene: NelitzaMV_40 Start: 34723, Stop: 34256, Start Num: 9

Candidate Starts for NelitzaMV_40:

(Start: 9 @34723 has 92 MA's), (11, 34699), (12, 34690), (19, 34576), (20, 34522), (22, 34459), (25, 34417), (27, 34375), (28, 34324),

Gene: Nimrod_40 Start: 34894, Stop: 34430, Start Num: 9

Candidate Starts for Nimrod_40:

(4, 34933), (5, 34915), (Start: 9 @34894 has 92 MA's), (11, 34870), (12, 34861), (14, 34828), (16, 34816), (17, 34813), (19, 34750), (20, 34696), (22, 34633), (25, 34591), (27, 34549), (28, 34498),

Gene: NoSleep_41 Start: 34391, Stop: 33927, Start Num: 9

Candidate Starts for NoSleep_41:

(4, 34430), (5, 34412), (Start: 9 @34391 has 92 MA's), (11, 34367), (12, 34358), (14, 34325), (16, 34313), (17, 34310), (19, 34247), (20, 34193), (22, 34130), (25, 34088), (27, 34046), (28, 33995),

Gene: OrionPax_42 Start: 34639, Stop: 34172, Start Num: 9

Candidate Starts for OrionPax_42:

(3, 34699), (Start: 9 @34639 has 92 MA's), (11, 34615), (12, 34606), (19, 34492), (20, 34438), (22, 34375), (25, 34333), (27, 34291), (28, 34240),

Gene: PaddyBaddy_42 Start: 34646, Stop: 34182, Start Num: 9

Candidate Starts for PaddyBaddy_42:

(3, 34706), (Start: 9 @34646 has 92 MA's), (11, 34622), (12, 34613), (14, 34580), (16, 34568), (17, 34565), (19, 34502), (20, 34448), (22, 34385), (25, 34343), (27, 34301), (28, 34250),

Gene: Palpatine_40 Start: 34666, Stop: 34202, Start Num: 9

Candidate Starts for Palpatine_40:

(4, 34705), (5, 34687), (Start: 9 @34666 has 92 MA's), (11, 34642), (12, 34633), (14, 34600), (16, 34588), (17, 34585), (19, 34522), (20, 34468), (22, 34405), (25, 34363), (27, 34321), (28, 34270),

Gene: Paperbeatsrock_42 Start: 35652, Stop: 35185, Start Num: 9

Candidate Starts for Paperbeatsrock_42:

(Start: 9 @35652 has 92 MA's), (11, 35628), (12, 35619), (19, 35505), (20, 35451), (22, 35388), (25, 35346), (27, 35304), (28, 35253),

Gene: Phaja_40 Start: 34910, Stop: 34443, Start Num: 9

Candidate Starts for Phaja_40:

(Start: 1 @35003 has 2 MA's), (2, 34979), (Start: 9 @34910 has 92 MA's), (11, 34886), (12, 34877), (19, 34763), (20, 34709), (22, 34646), (25, 34604), (27, 34562), (28, 34511),

Gene: Pharsalus_41 Start: 35452, Stop: 34985, Start Num: 9

Candidate Starts for Pharsalus_41:

(Start: 9 @35452 has 92 MA's), (11, 35428), (12, 35419), (19, 35305), (20, 35251), (22, 35188), (25, 35146), (27, 35104), (28, 35053),

Gene: PhatBacter_40 Start: 34680, Stop: 34216, Start Num: 9

Candidate Starts for PhatBacter_40:

(4, 34719), (5, 34701), (Start: 9 @34680 has 92 MA's), (11, 34656), (12, 34647), (14, 34614), (16, 34602), (17, 34599), (19, 34536), (20, 34482), (22, 34419), (25, 34377), (27, 34335), (28, 34284),

Gene: Phaux_39 Start: 34678, Stop: 34214, Start Num: 9

Candidate Starts for Phaux_39:

(4, 34717), (5, 34699), (Start: 9 @34678 has 92 MA's), (11, 34654), (12, 34645), (14, 34612), (16, 34600), (17, 34597), (19, 34534), (20, 34480), (22, 34417), (25, 34375), (27, 34333), (28, 34282),

Gene: Phrux_41 Start: 34632, Stop: 34168, Start Num: 9

Candidate Starts for Phrux_41:

(3, 34692), (Start: 9 @34632 has 92 MA's), (11, 34608), (12, 34599), (14, 34566), (16, 34554), (17, 34551), (19, 34488), (20, 34434), (22, 34371), (25, 34329), (27, 34287), (28, 34236),

Gene: Policronamos_40 Start: 34678, Stop: 34214, Start Num: 9

Candidate Starts for Policronamos_40:

(4, 34717), (5, 34699), (Start: 9 @34678 has 92 MA's), (11, 34654), (12, 34645), (14, 34612), (16, 34600), (17, 34597), (19, 34534), (20, 34480), (22, 34417), (25, 34375), (27, 34333), (28, 34282),

Gene: Pumpkin_44 Start: 35558, Stop: 35094, Start Num: 9

Candidate Starts for Pumpkin_44:

(3, 35618), (Start: 9 @35558 has 92 MA's), (11, 35534), (12, 35525), (14, 35492), (16, 35480), (17, 35477), (19, 35414), (20, 35360), (22, 35297), (25, 35255), (27, 35213), (28, 35162),

Gene: Quallification_41 Start: 34860, Stop: 34411, Start Num: 9

Candidate Starts for Quallification_41:

(Start: 9 @34860 has 92 MA's), (10, 34839), (12, 34827), (19, 34719), (21, 34626), (23, 34608), (24, 34596), (26, 34554), (27, 34530), (28, 34479),

Gene: Rakim_41 Start: 34775, Stop: 34311, Start Num: 9

Candidate Starts for Rakim_41:

(4, 34814), (5, 34796), (Start: 9 @34775 has 92 MA's), (11, 34751), (12, 34742), (14, 34709), (16, 34697), (17, 34694), (19, 34631), (20, 34577), (22, 34514), (25, 34472), (27, 34430), (28, 34379),

Gene: RiverMonster_40 Start: 34407, Stop: 33943, Start Num: 9

Candidate Starts for RiverMonster_40:

(4, 34446), (5, 34428), (Start: 9 @34407 has 92 MA's), (11, 34383), (12, 34374), (14, 34341), (16, 34329), (17, 34326), (19, 34263), (20, 34209), (22, 34146), (25, 34104), (27, 34062), (28, 34011),

Gene: Saints25_42 Start: 34424, Stop: 33957, Start Num: 9

Candidate Starts for Saints25_42:

(Start: 9 @34424 has 92 MA's), (11, 34400), (12, 34391), (19, 34277), (20, 34223), (22, 34160), (25, 34118), (27, 34076), (28, 34025),

Gene: ShamWow_42 Start: 35347, Stop: 34880, Start Num: 9

Candidate Starts for ShamWow_42:

(Start: 1 @35440 has 2 MA's), (2, 35416), (Start: 9 @35347 has 92 MA's), (11, 35323), (12, 35314), (19, 35200), (20, 35146), (22, 35083), (25, 35041), (27, 34999), (28, 34948),

Gene: Simpliphy_42 Start: 34499, Stop: 34032, Start Num: 9

Candidate Starts for Simpliphy_42:

(Start: 9 @34499 has 92 MA's), (11, 34475), (12, 34466), (19, 34352), (20, 34298), (22, 34235), (25, 34193), (27, 34151), (28, 34100),

Gene: SophKB_40 Start: 34671, Stop: 34204, Start Num: 9

Candidate Starts for SophKB_40:

(Start: 9 @34671 has 92 MA's), (11, 34647), (12, 34638), (19, 34524), (20, 34470), (22, 34407), (25, 34365), (27, 34323), (28, 34272),

Gene: Sotrice96_40 Start: 34623, Stop: 34159, Start Num: 9

Candidate Starts for Sotrice96_40:

(4, 34662), (5, 34644), (Start: 9 @34623 has 92 MA's), (11, 34599), (12, 34590), (14, 34557), (16, 34545), (17, 34542), (19, 34479), (20, 34425), (22, 34362), (25, 34320), (27, 34278), (28, 34227),

Gene: Stank_43 Start: 35175, Stop: 34711, Start Num: 9

Candidate Starts for Stank_43:

(4, 35214), (5, 35196), (Start: 9 @35175 has 92 MA's), (11, 35151), (12, 35142), (14, 35109), (16, 35097), (17, 35094), (19, 35031), (20, 34977), (22, 34914), (25, 34872), (27, 34830), (28, 34779),

Gene: Stark_41 Start: 34410, Stop: 33946, Start Num: 9

Candidate Starts for Stark_41:

(4, 34449), (5, 34431), (Start: 9 @34410 has 92 MA's), (11, 34386), (12, 34377), (14, 34344), (16, 34332), (17, 34329), (19, 34266), (20, 34212), (22, 34149), (25, 34107), (27, 34065), (28, 34014),

Gene: StellaBean_40 Start: 34671, Stop: 34204, Start Num: 9

Candidate Starts for StellaBean_40:

(Start: 1 @34764 has 2 MA's), (2, 34740), (Start: 9 @34671 has 92 MA's), (11, 34647), (12, 34638), (19, 34524), (20, 34470), (22, 34407), (25, 34365), (27, 34323), (28, 34272),

Gene: StolenFromERC_42 Start: 34659, Stop: 34195, Start Num: 9

Candidate Starts for StolenFromERC_42:

(4, 34698), (5, 34680), (Start: 9 @34659 has 92 MA's), (11, 34635), (12, 34626), (14, 34593), (16, 34581), (17, 34578), (19, 34515), (20, 34461), (22, 34398), (25, 34356), (27, 34314), (28, 34263),

Gene: TBrady12_42 Start: 34659, Stop: 34195, Start Num: 9

Candidate Starts for TBrady12_42:

(4, 34698), (5, 34680), (Start: 9 @34659 has 92 MA's), (11, 34635), (12, 34626), (14, 34593), (16, 34581), (17, 34578), (19, 34515), (20, 34461), (22, 34398), (25, 34356), (27, 34314), (28, 34263),

Gene: Tarkin_42 Start: 35661, Stop: 35194, Start Num: 9

Candidate Starts for Tarkin_42:

(Start: 9 @35661 has 92 MA's), (11, 35637), (12, 35628), (19, 35514), (20, 35460), (22, 35397), (25, 35355), (27, 35313), (28, 35262),

Gene: TeardropMSU_39 Start: 34571, Stop: 34104, Start Num: 9

Candidate Starts for TeardropMSU_39:

(3, 34631), (Start: 9 @34571 has 92 MA's), (11, 34547), (12, 34538), (19, 34424), (27, 34223), (28, 34172),

Gene: Terminus_40 Start: 34739, Stop: 34275, Start Num: 9

Candidate Starts for Terminus_40:

(4, 34778), (5, 34760), (Start: 9 @34739 has 92 MA's), (11, 34715), (12, 34706), (14, 34673), (16, 34661), (17, 34658), (19, 34595), (20, 34541), (22, 34478), (25, 34436), (27, 34394), (28, 34343),

Gene: Thimble_41 Start: 33841, Stop: 33377, Start Num: 9

Candidate Starts for Thimble_41:

(4, 33880), (5, 33862), (Start: 9 @33841 has 92 MA's), (11, 33817), (12, 33808), (14, 33775), (16, 33763), (17, 33760), (19, 33697), (20, 33643), (22, 33580), (25, 33538), (27, 33496), (28, 33445),

Gene: Thresher_42 Start: 35645, Stop: 35181, Start Num: 9

Candidate Starts for Thresher_42:

(4, 35684), (5, 35666), (Start: 9 @35645 has 92 MA's), (11, 35621), (12, 35612), (14, 35579), (16, 35567), (17, 35564), (19, 35501), (20, 35447), (22, 35384), (25, 35342), (27, 35300), (28, 35249),

Gene: Toto_41 Start: 35347, Stop: 34880, Start Num: 9

Candidate Starts for Toto_41:

(Start: 1 @35440 has 2 MA's), (2, 35416), (Start: 9 @35347 has 92 MA's), (11, 35323), (12, 35314), (19, 35200), (20, 35146), (22, 35083), (25, 35041), (27, 34999), (28, 34948),

Gene: Traaww1_38 Start: 34290, Stop: 33826, Start Num: 9

Candidate Starts for Traaww1_38:

(Start: 9 @34290 has 92 MA's), (11, 34266), (12, 34257), (14, 34224), (16, 34212), (17, 34209), (18, 34161), (19, 34146), (20, 34092), (22, 34029), (25, 33987), (27, 33945), (28, 33894),

Gene: Tuco_43 Start: 35855, Stop: 35388, Start Num: 9

Candidate Starts for Tuco_43:

(Start: 1 @35948 has 2 MA's), (2, 35924), (Start: 9 @35855 has 92 MA's), (11, 35831), (12, 35822), (19, 35708), (20, 35654), (22, 35591), (25, 35549), (27, 35507), (28, 35456),

Gene: Wiggin_43 Start: 35173, Stop: 34709, Start Num: 9

Candidate Starts for Wiggin_43:

(Start: 9 @35173 has 92 MA's), (11, 35149), (12, 35140), (14, 35107), (16, 35095), (17, 35092), (19, 35029), (20, 34975), (22, 34912), (25, 34870), (27, 34828), (28, 34777),

Gene: xkcd_41 Start: 34821, Stop: 34357, Start Num: 9

Candidate Starts for xkcd_41:

(4, 34860), (5, 34842), (Start: 9 @34821 has 92 MA's), (11, 34797), (12, 34788), (14, 34755), (16, 34743), (17, 34740), (19, 34677), (20, 34623), (22, 34560), (25, 34518), (27, 34476), (28, 34425),