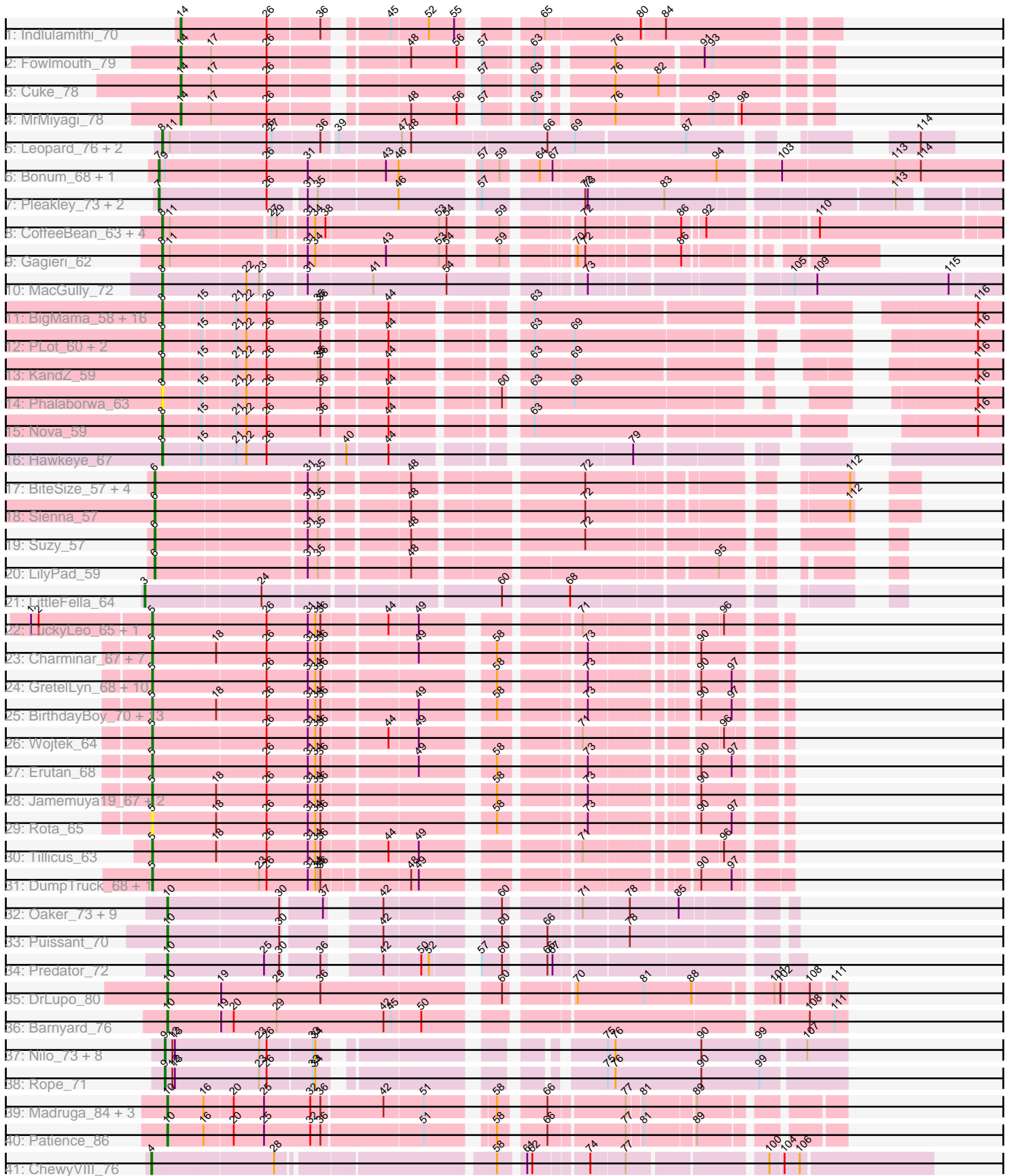


Pham 311369



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 311369 Report

This analysis was run 06/27/26 on database version 652.

Pham number 311369 has 126 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Indlulamithi_70
- Track 2 : Fowlmouth_79
- Track 3 : Cuke_78
- Track 4 : MrMiyagi_78
- Track 5 : Leopard_76, Aikoy_77, Onyinye_77
- Track 6 : Bonum_68, Kabluna_67
- Track 7 : Pleakley_73, Fury_73, Scuba_74
- Track 8 : CoffeeBean_63, Maselop_63, Apiary_63, Braxoaddie_63, Polyyuki_63
- Track 9 : Gagieri_62
- Track 10 : MacGully_72
- Track 11 : BigMama_58, Prager_60, Helpful_63, Visconti_61, SirHarley_62, Butterscotch_59, Gumball_60, PBI1_57, Delton_61, WaldoWhy_62, Penelope2018_60, Adjutor_59, Thoth_60, Chill_62, Troll4_60, Giuseppe_61, Mopey_61
- Track 12 : PLOT_60, Erk16_59, SuperheroCarly_61
- Track 13 : KandZ_59
- Track 14 : Phalaborwa_63
- Track 15 : Nova_59
- Track 16 : Hawkeye_67
- Track 17 : BiteSize_57, Terapin_58, Beyoncage_57, Djokovic_57, Madi_57
- Track 18 : Sienna_57
- Track 19 : Suzy_57
- Track 20 : LilyPad_59
- Track 21 : LittleFella_64
- Track 22 : LuckyLeo_65, Apeppi_63
- Track 23 : Charminar_67, RazorC_68, NovaSharks_70, Stormer_68, Astralis_68, Genamy16_71, Alyssamiracle_71, Rumi_69
- Track 24 : GretelLyn_68, Mima20_68, DoobyDoo_67, Zany_66, Pywacket_65, Jalebi_67, LavAbarElk_68, Yikes_70, Sadboi_69, MoiGyank_71, Sampudon_68
- Track 25 : BirthdayBoy_70, Patos_72, Rukungu_70, Ranch_68, Gibbin_70, OtterstedtS21_68, NorManre_72, DaviePasture_68, Alephilan_69, Fulcrum_68, Lambo_66, ParvusTarda_67, Lila22_69, GOATification_68
- Track 26 : Wojtek_64
- Track 27 : Erutan_68
- Track 28 : Jamemuya19_67, Riduram_67, Avian_66
- Track 29 : Rota_65
- Track 30 : Tillicus_63

- Track 31 : DumpTruck_68, Xenia2_68
- Track 32 : Oaker_73, Konstantine_77, Megatron06_74, Nish23_75, Damien_73, Thumb_74, BobtimousPrime_76, Cborch11_75, Phreeze_72, Beckerton_72
- Track 33 : Puissant_70
- Track 34 : Predator_72
- Track 35 : DrLupo_80
- Track 36 : Barnyard_76
- Track 37 : Nilo_73, Papyrus_71, Riparian_73, Yelo_70, Zenon_73, Send513_71, Candle_69, Weiss13_71, MontyDev_73
- Track 38 : Rope_71
- Track 39 : Madruga_84, Demikore_87, Labelle_85, SuperSonics_89
- Track 40 : Patience_86
- Track 41 : ChewyVIII_76

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

The start number called the most often in the published annotations is 5, it was called in 39 of the 116 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alephilan_69, Alyssamiracle_71, Apeppi_63, Astralis_68, Avian_66, BirthdayBoy_70, Charminar_67, DaviePasture_68, DoobyDoo_67, DumpTruck_68, Erutan_68, Fulcrum_68, GOATification_68, Genamy16_71, Gibbin_70, GretellLyn_68, Jalebi_67, Jamemuya19_67, Lambo_66, LavAbarElk_68, Lila22_69, LuckyLeo_65, Mima20_68, MoiGyank_71, NorManre_72, NovaSharks_70, OtterstedtS21_68, ParvusTarda_67, Patos_72, Pywacket_65, Ranch_68, RazorC_68, Riduram_67, Rota_65, Rukungu_70, Rumi_69, Sadboi_69, Sampudon_68, Stormer_68, Tillicus_63, Wojtek_64, Xenia2_68, Yikes_70, Zany_66,

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

-

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

- Adjutor_59, Aikoy_77, Apiary_63, Barnyard_76, Beckerton_72, Beyoncage_57, BigMama_58, BiteSize_57, BobtimousPrime_76, Bonum_68, Braxoaddie_63, Butterscotch_59, Candle_69, Cborch11_75, ChewyVIII_76, Chill_62, CoffeeBean_63, Cuke_78, Damien_73, Delton_61, Demikore_87, Djokovic_57, DrLupo_80, Erk16_59, Fowlmouth_79, Fury_73, Gagieri_62, Giuseppe_61, Gumball_60, Hawkeye_67, Helpful_63, Inlulamithi_70, Kabluna_67, KandZ_59, Konstantine_77, Labelle_85, Leopard_76, LilyPad_59, LittleFella_64, MacGully_72, Madi_57, Madruga_84, Maselop_63, Megatron06_74, MontyDev_73, Mopey_61, MrMiyagi_78, Nilo_73, Nish23_75, Nova_59, Oaker_73, Onyinye_77, PBI1_57, PLot_60, Papyrus_71, Patience_86, Penelope2018_60, Phalaborwa_63, Phreeze_72, Pleakley_73, Polyuyuki_63, Prager_60, Predator_72, Puissant_70, Riparian_73, Rope_71, Scuba_74, Send513_71, Sienna_57, SirHarley_62, SuperSonics_89, SuperheroCarly_61, Suzy_57, Terapin_58, Thoth_60, Thumb_74, Troll4_60, Visconti_61, WaldoWhy_62, Weiss13_71, Yelo_70, Zenon_73,

Summary by start number:

Start 3:

- Found in 1 of 126 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleFella_64 (DG2),

Start 4:

- Found in 1 of 126 (0.8%) of genes in pham
- Manual Annotations of this start: 1 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: ChewyVIII_76 (singleton),

Start 5:

- Found in 44 of 126 (34.9%) of genes in pham
- Manual Annotations of this start: 39 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alephilan_69 (DV), Alyssamiracle_71 (DV), Apeppi_63 (DV), Astralis_68 (DV), Avian_66 (DV), BirthdayBoy_70 (DV), Charminar_67 (DV), DaviePasture_68 (DV), DoobyDoo_67 (DV), DumpTruck_68 (DV), Erutan_68 (DV), Fulcrum_68 (DV), GOATification_68 (DV), Genamy16_71 (DV), Gibbin_70 (DV), GretelLyn_68 (DV), Jalebi_67 (DV), Jamemuya19_67 (DV), Lambo_66 (DV), LavAbarElk_68 (DV), Lila22_69 (DV), LuckyLeo_65 (DV), Mima20_68 (DV), MoiGyank_71 (DV), NorManre_72 (DV), NovaSharks_70 (DV), OtterstedtS21_68 (DV), ParvusTarda_67 (DV), Patos_72 (DV), Pywacket_65 (DV), Ranch_68 (DV), RazorC_68 (DV), Riduram_67 (DV), Rota_65 (DV), Rukungu_70 (DV), Rumi_69 (DV), Sadboi_69 (DV), Sampudon_68 (DV), Stormer_68 (DV), Tillicus_63 (DV), Wojtek_64 (DV), Xenia2_68 (DV), Yikes_70 (DV), Zany_66 (DV),

Start 6:

- Found in 8 of 126 (6.3%) of genes in pham
- Manual Annotations of this start: 8 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beyoncage_57 (DG1), BiteSize_57 (DG1), Djokovic_57 (DG1), LilyPad_59 (DG1), Madi_57 (DG1), Sienna_57 (DG1), Suzy_57 (DG1), Terapin_58 (DG1),

Start 7:

- Found in 5 of 126 (4.0%) of genes in pham
- Manual Annotations of this start: 4 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bonum_68 (CR2), Fury_73 (CR5), Kabluna_67 (CR2), Pleakley_73 (CR5), Scuba_74 (CR5),

Start 8:

- Found in 34 of 126 (27.0%) of genes in pham
- Manual Annotations of this start: 33 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adjutor_59 (D1), Aikoy_77 (AE), Apiary_63 (CR6), BigMama_58 (D1), Braxoaddie_63 (CR6), Butterscotch_59 (D1), Chill_62 (D1), CoffeeBean_63 (CR6), Delton_61 (D1), Erk16_59 (D1), Gagieri_62 (CR6), Giuseppe_61 (D1), Gumball_60 (D1), Hawkeye_67 (D2), Helpful_63 (D1), KandZ_59 (D1), Leopard_76 (AE), MacGully_72 (CR7), Maselop_63 (CR6), Mopey_61 (D1), Nova_59 (D1), Onyinye_77 (AE), PBI1_57 (D1), PLOT_60 (D1),

Penelope2018_60 (D1), Phalaborwa_63 (D1), Polyyuki_63 (CR6), Prager_60 (D1), SirHarley_62 (D1), SuperheroCarly_61 (D1), Thoth_60 (D1), Troll4_60 (D1), Visconti_61 (D1), WaldoWhy_62 (D1),

Start 9:

- Found in 12 of 126 (9.5%) of genes in pham
- Manual Annotations of this start: 10 of 116
- Called 83.3% of time when present
- Phage (with cluster) where this start called: Candle_69 (R), MontyDev_73 (R), Nilo_73 (R), Papyrus_71 (R), Riparian_73 (R), Rope_71 (R), Send513_71 (R), Weiss13_71 (R), Yelo_70 (R), Zenon_73 (R),

Start 10:

- Found in 19 of 126 (15.1%) of genes in pham
- Manual Annotations of this start: 16 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard_76 (H2), Beckerton_72 (H1), BobtimousPrime_76 (H1), Cborch11_75 (H1), Damien_73 (H1), Demikore_87 (U), DrLupo_80 (H2), Konstantine_77 (H1), Labelle_85 (U), Madruga_84 (U), Megatron06_74 (H1), Nish23_75 (H1), Oaker_73 (H1), Patience_86 (U), Phreeze_72 (H1), Predator_72 (H1), Puissant_70 (H1), SuperSonics_89 (U), Thumb_74 (H1),

Start 14:

- Found in 4 of 126 (3.2%) of genes in pham
- Manual Annotations of this start: 4 of 116
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cuke_78 (AC), Fowlmouth_79 (AC), Indlulamithi_70 (AC), MrMiyagi_78 (AC),

Summary by clusters:

There are 16 clusters represented in this pham: CR2, AC, CR6, CR7, CR5, H2, H1, singleton, DG2, R, U, DV, AE, DG1, D2, D1,

Info for manual annotations of cluster AC:

- Start number 14 was manually annotated 4 times for cluster AC.

Info for manual annotations of cluster AE:

- Start number 8 was manually annotated 3 times for cluster AE.

Info for manual annotations of cluster CR2:

- Start number 7 was manually annotated 2 times for cluster CR2.

Info for manual annotations of cluster CR5:

- Start number 7 was manually annotated 2 times for cluster CR5.

Info for manual annotations of cluster CR6:

- Start number 8 was manually annotated 6 times for cluster CR6.

Info for manual annotations of cluster CR7:

- Start number 8 was manually annotated 1 time for cluster CR7.

Info for manual annotations of cluster D1:

•Start number 8 was manually annotated 22 times for cluster D1.

Info for manual annotations of cluster D2:

•Start number 8 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DG1:

•Start number 6 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:

•Start number 3 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:

•Start number 5 was manually annotated 39 times for cluster DV.

Info for manual annotations of cluster H1:

•Start number 10 was manually annotated 11 times for cluster H1.

Info for manual annotations of cluster H2:

•Start number 10 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster R:

•Start number 9 was manually annotated 10 times for cluster R.

Info for manual annotations of cluster U:

•Start number 10 was manually annotated 3 times for cluster U.

Gene Information:

Gene: Adjutor_59 Start: 45290, Stop: 46228, Start Num: 8

Candidate Starts for Adjutor_59:

(Start: 8 @45290 has 33 MA's), (15, 45332), (21, 45368), (22, 45380), (26, 45404), (35, 45464), (36, 45467), (44, 45536), (63, 45668), (116, 46130),

Gene: Aikoy_77 Start: 52913, Stop: 53719, Start Num: 8

Candidate Starts for Aikoy_77:

(Start: 8 @52913 has 33 MA's), (11, 52922), (26, 53030), (27, 53036), (36, 53090), (39, 53105), (47, 53174), (48, 53183), (66, 53339), (69, 53369), (87, 53495), (114, 53681),

Gene: Alephilan_69 Start: 46737, Stop: 47387, Start Num: 5

Candidate Starts for Alephilan_69:

(Start: 5 @46737 has 39 MA's), (18, 46812), (26, 46869), (31, 46917), (34, 46926), (36, 46932), (49, 47037), (58, 47109), (73, 47196), (90, 47298), (97, 47334),

Gene: Alyssamiracle_71 Start: 45734, Stop: 46384, Start Num: 5

Candidate Starts for Alyssamiracle_71:

(Start: 5 @45734 has 39 MA's), (18, 45809), (26, 45866), (31, 45914), (34, 45923), (36, 45929), (49, 46034), (58, 46106), (73, 46193), (90, 46295),

Gene: Apeppi_63 Start: 45907, Stop: 46557, Start Num: 5

Candidate Starts for Apeppi_63:

(1, 45769), (2, 45778), (Start: 5 @45907 has 39 MA's), (26, 46039), (31, 46087), (34, 46096), (36, 46102), (44, 46174), (49, 46207), (71, 46360), (96, 46495),

Gene: Apiary_63 Start: 47507, Stop: 46644, Start Num: 8

Candidate Starts for Apiary_63:

(Start: 8 @47507 has 33 MA's), (11, 47498), (27, 47387), (29, 47381), (31, 47354), (34, 47345), (38, 47333), (53, 47201), (54, 47192), (59, 47144), (72, 47072), (86, 46976), (92, 46955), (110, 46850),

Gene: Astralis_68 Start: 45313, Stop: 45963, Start Num: 5

Candidate Starts for Astralis_68:

(Start: 5 @45313 has 39 MA's), (18, 45388), (26, 45445), (31, 45493), (34, 45502), (36, 45508), (49, 45613), (58, 45685), (73, 45772), (90, 45874),

Gene: Avian_66 Start: 45462, Stop: 46112, Start Num: 5

Candidate Starts for Avian_66:

(Start: 5 @45462 has 39 MA's), (18, 45537), (26, 45594), (31, 45642), (34, 45651), (36, 45657), (58, 45834), (73, 45921), (90, 46023),

Gene: Barnyard_76 Start: 52606, Stop: 53343, Start Num: 10

Candidate Starts for Barnyard_76:

(Start: 10 @52606 has 16 MA's), (19, 52666), (20, 52681), (29, 52732), (42, 52858), (45, 52867), (50, 52900), (108, 53299), (111, 53329),

Gene: Beckerton_72 Start: 54217, Stop: 54837, Start Num: 10

Candidate Starts for Beckerton_72:

(Start: 10 @54217 has 16 MA's), (30, 54346), (37, 54388), (42, 54433), (60, 54547), (71, 54619), (78, 54670), (85, 54724),

Gene: Beyoncage_57 Start: 42734, Stop: 43477, Start Num: 6

Candidate Starts for Beyoncage_57:

(Start: 6 @42734 has 8 MA's), (31, 42902), (35, 42914), (48, 43007), (72, 43190), (112, 43436),

Gene: BigMama_58 Start: 45366, Stop: 46301, Start Num: 8

Candidate Starts for BigMama_58:

(Start: 8 @45366 has 33 MA's), (15, 45408), (21, 45444), (22, 45456), (26, 45480), (35, 45540), (36, 45543), (44, 45612), (63, 45744), (116, 46203),

Gene: BirthdayBoy_70 Start: 47059, Stop: 47709, Start Num: 5

Candidate Starts for BirthdayBoy_70:

(Start: 5 @47059 has 39 MA's), (18, 47134), (26, 47191), (31, 47239), (34, 47248), (36, 47254), (49, 47359), (58, 47431), (73, 47518), (90, 47620), (97, 47656),

Gene: BiteSize_57 Start: 42820, Stop: 43563, Start Num: 6

Candidate Starts for BiteSize_57:

(Start: 6 @42820 has 8 MA's), (31, 42988), (35, 43000), (48, 43093), (72, 43276), (112, 43522),

Gene: BobtimousPrime_76 Start: 54519, Stop: 55139, Start Num: 10

Candidate Starts for BobtimousPrime_76:

(Start: 10 @54519 has 16 MA's), (30, 54648), (37, 54690), (42, 54735), (60, 54849), (71, 54921), (78, 54972), (85, 55026),

Gene: Bonum_68 Start: 50826, Stop: 49897, Start Num: 7

Candidate Starts for Bonum_68:

(Start: 7 @50826 has 4 MA's), (Start: 9 @50820 has 10 MA's), (26, 50703), (31, 50655), (43, 50571), (46, 50556), (57, 50472), (59, 50451), (64, 50418), (67, 50406), (94, 50220), (103, 50157), (113, 50025), (114, 49995),

Gene: Braxoaddie_63 Start: 47496, Stop: 46633, Start Num: 8

Candidate Starts for Braxoaddie_63:

(Start: 8 @47496 has 33 MA's), (11, 47487), (27, 47376), (29, 47370), (31, 47343), (34, 47334), (38, 47322), (53, 47190), (54, 47181), (59, 47133), (72, 47061), (86, 46965), (92, 46944), (110, 46839),

Gene: Butterscotch_59 Start: 45350, Stop: 46279, Start Num: 8

Candidate Starts for Butterscotch_59:

(Start: 8 @45350 has 33 MA's), (15, 45392), (21, 45428), (22, 45440), (26, 45464), (35, 45524), (36, 45527), (44, 45596), (63, 45728), (116, 46181),

Gene: Candle_69 Start: 53817, Stop: 54518, Start Num: 9

Candidate Starts for Candle_69:

(Start: 9 @53817 has 10 MA's), (12, 53826), (13, 53829), (23, 53925), (26, 53934), (33, 53985), (34, 53988), (75, 54243), (76, 54252), (90, 54354), (99, 54423), (107, 54471),

Gene: Cborch11_75 Start: 53763, Stop: 54383, Start Num: 10

Candidate Starts for Cborch11_75:

(Start: 10 @53763 has 16 MA's), (30, 53892), (37, 53934), (42, 53979), (60, 54093), (71, 54165), (78, 54216), (85, 54270),

Gene: Charminar_67 Start: 44970, Stop: 45620, Start Num: 5

Candidate Starts for Charminar_67:

(Start: 5 @44970 has 39 MA's), (18, 45045), (26, 45102), (31, 45150), (34, 45159), (36, 45165), (49, 45270), (58, 45342), (73, 45429), (90, 45531),

Gene: ChewyVIII_76 Start: 55998, Stop: 55171, Start Num: 4

Candidate Starts for ChewyVIII_76:

(Start: 4 @55998 has 1 MA's), (28, 55857), (58, 55626), (61, 55602), (62, 55596), (74, 55539), (77, 55500), (100, 55356), (104, 55341), (106, 55323),

Gene: Chill_62 Start: 45413, Stop: 46312, Start Num: 8

Candidate Starts for Chill_62:

(Start: 8 @45413 has 33 MA's), (15, 45455), (21, 45491), (22, 45503), (26, 45527), (35, 45587), (36, 45590), (44, 45659), (63, 45791), (116, 46214),

Gene: CoffeeBean_63 Start: 47454, Stop: 46591, Start Num: 8

Candidate Starts for CoffeeBean_63:

(Start: 8 @47454 has 33 MA's), (11, 47445), (27, 47334), (29, 47328), (31, 47301), (34, 47292), (38, 47280), (53, 47148), (54, 47139), (59, 47091), (72, 47019), (86, 46923), (92, 46902), (110, 46797),

Gene: Cuke_78 Start: 47129, Stop: 47785, Start Num: 14

Candidate Starts for Cuke_78:

(Start: 14 @47129 has 4 MA's), (17, 47165), (26, 47231), (57, 47432), (63, 47480), (76, 47552), (82, 47603),

Gene: Damien_73 Start: 53725, Stop: 54345, Start Num: 10

Candidate Starts for Damien_73:

(Start: 10 @53725 has 16 MA's), (30, 53854), (37, 53896), (42, 53941), (60, 54055), (71, 54127), (78, 54178), (85, 54232),

Gene: DaviePasture_68 Start: 46646, Stop: 47296, Start Num: 5

Candidate Starts for DaviePasture_68:

(Start: 5 @46646 has 39 MA's), (18, 46721), (26, 46778), (31, 46826), (34, 46835), (36, 46841), (49, 46946), (58, 47018), (73, 47105), (90, 47207), (97, 47243),

Gene: Delton_61 Start: 45748, Stop: 46677, Start Num: 8

Candidate Starts for Delton_61:

(Start: 8 @45748 has 33 MA's), (15, 45790), (21, 45826), (22, 45838), (26, 45862), (35, 45922), (36, 45925), (44, 45994), (63, 46126), (116, 46579),

Gene: Demikore_87 Start: 55914, Stop: 56600, Start Num: 10

Candidate Starts for Demikore_87:

(Start: 10 @55914 has 16 MA's), (16, 55956), (20, 55989), (25, 56025), (32, 56079), (36, 56091), (42, 56160), (51, 56205), (58, 56268), (66, 56313), (77, 56394), (81, 56409), (89, 56463),

Gene: Djokovic_57 Start: 42733, Stop: 43476, Start Num: 6

Candidate Starts for Djokovic_57:

(Start: 6 @42733 has 8 MA's), (31, 42901), (35, 42913), (48, 43006), (72, 43189), (112, 43435),

Gene: DoobyDoo_67 Start: 45520, Stop: 46170, Start Num: 5

Candidate Starts for DoobyDoo_67:

(Start: 5 @45520 has 39 MA's), (26, 45652), (31, 45700), (34, 45709), (36, 45715), (58, 45892), (73, 45979), (90, 46081), (97, 46117),

Gene: DrLupo_80 Start: 53815, Stop: 54534, Start Num: 10

Candidate Starts for DrLupo_80:

(Start: 10 @53815 has 16 MA's), (19, 53875), (29, 53941), (36, 53992), (60, 54184), (70, 54250), (81, 54328), (88, 54382), (101, 54460), (102, 54466), (108, 54496), (111, 54520),

Gene: DumpTruck_68 Start: 45709, Stop: 46362, Start Num: 5

Candidate Starts for DumpTruck_68:

(Start: 5 @45709 has 39 MA's), (23, 45832), (26, 45841), (31, 45889), (34, 45898), (35, 45901), (36, 45904), (48, 45997), (49, 46006), (90, 46270), (97, 46306),

Gene: Erk16_59 Start: 45452, Stop: 46342, Start Num: 8

Candidate Starts for Erk16_59:

(Start: 8 @45452 has 33 MA's), (15, 45494), (21, 45530), (22, 45542), (26, 45566), (36, 45629), (44, 45698), (63, 45830), (69, 45878), (116, 46244),

Gene: Erutan_68 Start: 46162, Stop: 46809, Start Num: 5

Candidate Starts for Erutan_68:

(Start: 5 @46162 has 39 MA's), (26, 46294), (31, 46342), (34, 46351), (36, 46357), (49, 46462), (58, 46534), (73, 46621), (90, 46723), (97, 46759),

Gene: Fowlmouth_79 Start: 49705, Stop: 50358, Start Num: 14

Candidate Starts for Fowlmouth_79:

(Start: 14 @49705 has 4 MA's), (17, 49741), (26, 49807), (48, 49945), (56, 49999), (57, 50008), (63, 50056), (76, 50128), (91, 50224), (93, 50233),

Gene: Fulcrum_68 Start: 46367, Stop: 47017, Start Num: 5

Candidate Starts for Fulcrum_68:

(Start: 5 @46367 has 39 MA's), (18, 46442), (26, 46499), (31, 46547), (34, 46556), (36, 46562), (49, 46667), (58, 46739), (73, 46826), (90, 46928), (97, 46964),

Gene: Fury_73 Start: 50445, Stop: 49570, Start Num: 7

Candidate Starts for Fury_73:

(Start: 7 @50445 has 4 MA's), (26, 50322), (31, 50286), (35, 50274), (46, 50187), (57, 50103), (72, 50001), (73, 49998), (83, 49914), (113, 49674),

Gene: GOATification_68 Start: 46367, Stop: 47017, Start Num: 5

Candidate Starts for GOATification_68:

(Start: 5 @46367 has 39 MA's), (18, 46442), (26, 46499), (31, 46547), (34, 46556), (36, 46562), (49, 46667), (58, 46739), (73, 46826), (90, 46928), (97, 46964),

Gene: Gagieri_62 Start: 47543, Stop: 46830, Start Num: 8

Candidate Starts for Gagieri_62:

(Start: 8 @47543 has 33 MA's), (11, 47534), (31, 47390), (34, 47381), (43, 47300), (53, 47237), (54, 47228), (59, 47180), (70, 47117), (72, 47108), (86, 47012),

Gene: Genamy16_71 Start: 45720, Stop: 46370, Start Num: 5

Candidate Starts for Genamy16_71:

(Start: 5 @45720 has 39 MA's), (18, 45795), (26, 45852), (31, 45900), (34, 45909), (36, 45915), (49, 46020), (58, 46092), (73, 46179), (90, 46281),

Gene: Gibbin_70 Start: 47172, Stop: 47822, Start Num: 5

Candidate Starts for Gibbin_70:

(Start: 5 @47172 has 39 MA's), (18, 47247), (26, 47304), (31, 47352), (34, 47361), (36, 47367), (49, 47472), (58, 47544), (73, 47631), (90, 47733), (97, 47769),

Gene: Giuseppe_61 Start: 45318, Stop: 46226, Start Num: 8

Candidate Starts for Giuseppe_61:

(Start: 8 @45318 has 33 MA's), (15, 45360), (21, 45396), (22, 45408), (26, 45432), (35, 45492), (36, 45495), (44, 45564), (63, 45696), (116, 46128),

Gene: Gretellyn_68 Start: 47034, Stop: 47684, Start Num: 5

Candidate Starts for Gretellyn_68:

(Start: 5 @47034 has 39 MA's), (26, 47166), (31, 47214), (34, 47223), (36, 47229), (58, 47406), (73, 47493), (90, 47595), (97, 47631),

Gene: Gumball_60 Start: 45810, Stop: 46748, Start Num: 8

Candidate Starts for Gumball_60:

(Start: 8 @45810 has 33 MA's), (15, 45852), (21, 45888), (22, 45900), (26, 45924), (35, 45984), (36, 45987), (44, 46056), (63, 46188), (116, 46650),

Gene: Hawkeye_67 Start: 45685, Stop: 46557, Start Num: 8

Candidate Starts for Hawkeye_67:

(Start: 8 @45685 has 33 MA's), (15, 45727), (21, 45763), (22, 45775), (26, 45799), (40, 45886), (44, 45931), (79, 46177),

Gene: Helpful_63 Start: 45679, Stop: 46587, Start Num: 8

Candidate Starts for Helpful_63:

(Start: 8 @45679 has 33 MA's), (15, 45721), (21, 45757), (22, 45769), (26, 45793), (35, 45853), (36, 45856), (44, 45925), (63, 46057), (116, 46489),

Gene: Indlulamithi_70 Start: 50440, Stop: 51132, Start Num: 14

Candidate Starts for Indlulamithi_70:

(Start: 14 @50440 has 4 MA's), (26, 50542), (36, 50602), (45, 50659), (52, 50701), (55, 50731), (65, 50806), (80, 50914), (84, 50941),

Gene: Jalebi_67 Start: 47387, Stop: 48037, Start Num: 5

Candidate Starts for Jalebi_67:

(Start: 5 @47387 has 39 MA's), (26, 47519), (31, 47567), (34, 47576), (36, 47582), (58, 47759), (73, 47846), (90, 47948), (97, 47984),

Gene: Jamemuya19_67 Start: 45325, Stop: 45975, Start Num: 5

Candidate Starts for Jamemuya19_67:

(Start: 5 @45325 has 39 MA's), (18, 45400), (26, 45457), (31, 45505), (34, 45514), (36, 45520), (58, 45697), (73, 45784), (90, 45886),

Gene: Kabluna_67 Start: 50155, Stop: 49232, Start Num: 7

Candidate Starts for Kabluna_67:

(Start: 7 @50155 has 4 MA's), (Start: 9 @50149 has 10 MA's), (26, 50032), (31, 49984), (43, 49900), (46, 49885), (57, 49801), (59, 49780), (64, 49747), (67, 49735), (94, 49549), (103, 49486), (113, 49354), (114, 49324),

Gene: KandZ_59 Start: 45476, Stop: 46372, Start Num: 8

Candidate Starts for KandZ_59:

(Start: 8 @45476 has 33 MA's), (15, 45518), (21, 45554), (22, 45566), (26, 45590), (35, 45650), (36, 45653), (44, 45722), (63, 45854), (69, 45902), (116, 46274),

Gene: Konstantine_77 Start: 54556, Stop: 55176, Start Num: 10

Candidate Starts for Konstantine_77:

(Start: 10 @54556 has 16 MA's), (30, 54685), (37, 54727), (42, 54772), (60, 54886), (71, 54958), (78, 55009), (85, 55063),

Gene: Labelle_85 Start: 55748, Stop: 56434, Start Num: 10

Candidate Starts for Labelle_85:

(Start: 10 @55748 has 16 MA's), (16, 55790), (20, 55823), (25, 55859), (32, 55913), (36, 55925), (42, 55994), (51, 56039), (58, 56102), (66, 56147), (77, 56228), (81, 56243), (89, 56297),

Gene: Lambo_66 Start: 46164, Stop: 46814, Start Num: 5

Candidate Starts for Lambo_66:

(Start: 5 @46164 has 39 MA's), (18, 46239), (26, 46296), (31, 46344), (34, 46353), (36, 46359), (49, 46464), (58, 46536), (73, 46623), (90, 46725), (97, 46761),

Gene: LavAbarElk_68 Start: 45974, Stop: 46624, Start Num: 5

Candidate Starts for LavAbarElk_68:

(Start: 5 @45974 has 39 MA's), (26, 46106), (31, 46154), (34, 46163), (36, 46169), (58, 46346), (73, 46433), (90, 46535), (97, 46571),

Gene: Leopard_76 Start: 53219, Stop: 54025, Start Num: 8

Candidate Starts for Leopard_76:

(Start: 8 @53219 has 33 MA's), (11, 53228), (26, 53336), (27, 53342), (36, 53396), (39, 53411), (47, 53480), (48, 53489), (66, 53645), (69, 53675), (87, 53801), (114, 53987),

Gene: Lila22_69 Start: 47116, Stop: 47766, Start Num: 5

Candidate Starts for Lila22_69:

(Start: 5 @47116 has 39 MA's), (18, 47191), (26, 47248), (31, 47296), (34, 47305), (36, 47311), (49, 47416), (58, 47488), (73, 47575), (90, 47677), (97, 47713),

Gene: LilyPad_59 Start: 43912, Stop: 44631, Start Num: 6

Candidate Starts for LilyPad_59:

(Start: 6 @43912 has 8 MA's), (31, 44080), (35, 44092), (48, 44185), (95, 44506),

Gene: LittleFella_64 Start: 45483, Stop: 46235, Start Num: 3

Candidate Starts for LittleFella_64:

(Start: 3 @45483 has 1 MA's), (24, 45615), (60, 45867), (68, 45936),

Gene: LuckyLeo_65 Start: 45907, Stop: 46557, Start Num: 5

Candidate Starts for LuckyLeo_65:

(1, 45769), (2, 45778), (Start: 5 @45907 has 39 MA's), (26, 46039), (31, 46087), (34, 46096), (36, 46102), (44, 46174), (49, 46207), (71, 46360), (96, 46495),

Gene: MacGully_72 Start: 50738, Stop: 49836, Start Num: 8

Candidate Starts for MacGully_72:

(Start: 8 @50738 has 33 MA's), (22, 50642), (23, 50627), (31, 50582), (41, 50507), (54, 50420), (73, 50282), (105, 50075), (109, 50048), (115, 49895),

Gene: Madi_57 Start: 42811, Stop: 43554, Start Num: 6

Candidate Starts for Madi_57:

(Start: 6 @42811 has 8 MA's), (31, 42979), (35, 42991), (48, 43084), (72, 43267), (112, 43513),

Gene: Madruga_84 Start: 55702, Stop: 56388, Start Num: 10

Candidate Starts for Madruga_84:

(Start: 10 @55702 has 16 MA's), (16, 55744), (20, 55777), (25, 55813), (32, 55867), (36, 55879), (42, 55948), (51, 55993), (58, 56056), (66, 56101), (77, 56182), (81, 56197), (89, 56251),

Gene: Maselop_63 Start: 47530, Stop: 46667, Start Num: 8

Candidate Starts for Maselop_63:

(Start: 8 @47530 has 33 MA's), (11, 47521), (27, 47410), (29, 47404), (31, 47377), (34, 47368), (38, 47356), (53, 47224), (54, 47215), (59, 47167), (72, 47095), (86, 46999), (92, 46978), (110, 46873),

Gene: Megatron06_74 Start: 54299, Stop: 54919, Start Num: 10

Candidate Starts for Megatron06_74:

(Start: 10 @54299 has 16 MA's), (30, 54428), (37, 54470), (42, 54515), (60, 54629), (71, 54701), (78, 54752), (85, 54806),

Gene: Mima20_68 Start: 46550, Stop: 47200, Start Num: 5

Candidate Starts for Mima20_68:

(Start: 5 @46550 has 39 MA's), (26, 46682), (31, 46730), (34, 46739), (36, 46745), (58, 46922), (73, 47009), (90, 47111), (97, 47147),

Gene: MoiGyank_71 Start: 47315, Stop: 47965, Start Num: 5

Candidate Starts for MoiGyank_71:

(Start: 5 @47315 has 39 MA's), (26, 47447), (31, 47495), (34, 47504), (36, 47510), (58, 47687), (73, 47774), (90, 47876), (97, 47912),

Gene: MontyDev_73 Start: 53458, Stop: 54159, Start Num: 9

Candidate Starts for MontyDev_73:

(Start: 9 @53458 has 10 MA's), (12, 53467), (13, 53470), (23, 53566), (26, 53575), (33, 53626), (34, 53629), (75, 53884), (76, 53893), (90, 53995), (99, 54064), (107, 54112),

Gene: Mopey_61 Start: 45354, Stop: 46232, Start Num: 8

Candidate Starts for Mopey_61:

(Start: 8 @45354 has 33 MA's), (15, 45396), (21, 45432), (22, 45444), (26, 45468), (35, 45528), (36, 45531), (44, 45600), (63, 45732), (116, 46134),

Gene: MrMiyagi_78 Start: 50107, Stop: 50754, Start Num: 14

Candidate Starts for MrMiyagi_78:

(Start: 14 @50107 has 4 MA's), (17, 50143), (26, 50209), (48, 50347), (56, 50401), (57, 50410), (63, 50458), (76, 50530), (93, 50635), (98, 50662),

Gene: Nilo_73 Start: 53815, Stop: 54516, Start Num: 9

Candidate Starts for Nilo_73:

(Start: 9 @53815 has 10 MA's), (12, 53824), (13, 53827), (23, 53923), (26, 53932), (33, 53983), (34, 53986), (75, 54241), (76, 54250), (90, 54352), (99, 54421), (107, 54469),

Gene: Nish23_75 Start: 53763, Stop: 54383, Start Num: 10

Candidate Starts for Nish23_75:

(Start: 10 @53763 has 16 MA's), (30, 53892), (37, 53934), (42, 53979), (60, 54093), (71, 54165), (78, 54216), (85, 54270),

Gene: NorManre_72 Start: 47564, Stop: 48214, Start Num: 5

Candidate Starts for NorManre_72:

(Start: 5 @47564 has 39 MA's), (18, 47639), (26, 47696), (31, 47744), (34, 47753), (36, 47759), (49, 47864), (58, 47936), (73, 48023), (90, 48125), (97, 48161),

Gene: Nova_59 Start: 45806, Stop: 46720, Start Num: 8

Candidate Starts for Nova_59:

(Start: 8 @45806 has 33 MA's), (15, 45848), (21, 45884), (22, 45896), (26, 45920), (36, 45983), (44, 46052), (63, 46184), (116, 46622),

Gene: NovaSharks_70 Start: 45311, Stop: 45961, Start Num: 5

Candidate Starts for NovaSharks_70:

(Start: 5 @45311 has 39 MA's), (18, 45386), (26, 45443), (31, 45491), (34, 45500), (36, 45506), (49, 45611), (58, 45683), (73, 45770), (90, 45872),

Gene: Oaker_73 Start: 54328, Stop: 54948, Start Num: 10

Candidate Starts for Oaker_73:

(Start: 10 @54328 has 16 MA's), (30, 54457), (37, 54499), (42, 54544), (60, 54658), (71, 54730), (78, 54781), (85, 54835),

Gene: Onyinye_77 Start: 53086, Stop: 53895, Start Num: 8

Candidate Starts for Onyinye_77:

(Start: 8 @53086 has 33 MA's), (11, 53095), (26, 53203), (27, 53209), (36, 53263), (39, 53278), (47, 53347), (48, 53356), (66, 53512), (69, 53542), (87, 53668), (114, 53857),

Gene: OtterstedtS21_68 Start: 46498, Stop: 47148, Start Num: 5

Candidate Starts for OtterstedtS21_68:

(Start: 5 @46498 has 39 MA's), (18, 46573), (26, 46630), (31, 46678), (34, 46687), (36, 46693), (49, 46798), (58, 46870), (73, 46957), (90, 47059), (97, 47095),

Gene: PBI1_57 Start: 45281, Stop: 46210, Start Num: 8

Candidate Starts for PBI1_57:

(Start: 8 @45281 has 33 MA's), (15, 45323), (21, 45359), (22, 45371), (26, 45395), (35, 45455), (36, 45458), (44, 45527), (63, 45659), (116, 46112),

Gene: PLOT_60 Start: 45333, Stop: 46232, Start Num: 8

Candidate Starts for PLOT_60:

(Start: 8 @45333 has 33 MA's), (15, 45375), (21, 45411), (22, 45423), (26, 45447), (36, 45510), (44, 45579), (63, 45711), (69, 45759), (116, 46134),

Gene: Papyrus_71 Start: 53425, Stop: 54126, Start Num: 9

Candidate Starts for Papyrus_71:

(Start: 9 @53425 has 10 MA's), (12, 53434), (13, 53437), (23, 53533), (26, 53542), (33, 53593), (34, 53596), (75, 53851), (76, 53860), (90, 53962), (99, 54031), (107, 54079),

Gene: ParvusTarda_67 Start: 45870, Stop: 46520, Start Num: 5

Candidate Starts for ParvusTarda_67:

(Start: 5 @45870 has 39 MA's), (18, 45945), (26, 46002), (31, 46050), (34, 46059), (36, 46065), (49, 46170), (58, 46242), (73, 46329), (90, 46431), (97, 46467),

Gene: Patience_86 Start: 56615, Stop: 57301, Start Num: 10

Candidate Starts for Patience_86:

(Start: 10 @56615 has 16 MA's), (16, 56657), (20, 56690), (25, 56726), (32, 56780), (36, 56792), (51, 56906), (58, 56969), (66, 57014), (77, 57095), (81, 57110), (89, 57164),

Gene: Patos_72 Start: 47563, Stop: 48213, Start Num: 5

Candidate Starts for Patos_72:

(Start: 5 @47563 has 39 MA's), (18, 47638), (26, 47695), (31, 47743), (34, 47752), (36, 47758), (49, 47863), (58, 47935), (73, 48022), (90, 48124), (97, 48160),

Gene: Penelope2018_60 Start: 45351, Stop: 46253, Start Num: 8

Candidate Starts for Penelope2018_60:

(Start: 8 @45351 has 33 MA's), (15, 45393), (21, 45429), (22, 45441), (26, 45465), (35, 45525), (36, 45528), (44, 45597), (63, 45729), (116, 46155),

Gene: Phalaborwa_63 Start: 45792, Stop: 46670, Start Num: 8

Candidate Starts for Phalaborwa_63:

(Start: 8 @45792 has 33 MA's), (15, 45834), (21, 45870), (22, 45882), (26, 45906), (36, 45969), (44, 46038), (60, 46149), (63, 46170), (69, 46218), (116, 46572),

Gene: Phreeze_72 Start: 53298, Stop: 53918, Start Num: 10

Candidate Starts for Phreeze_72:

(Start: 10 @53298 has 16 MA's), (30, 53427), (37, 53469), (42, 53514), (60, 53628), (71, 53700), (78, 53751), (85, 53805),

Gene: Pleakley_73 Start: 50446, Stop: 49571, Start Num: 7

Candidate Starts for Pleakley_73:

(Start: 7 @50446 has 4 MA's), (26, 50323), (31, 50287), (35, 50275), (46, 50188), (57, 50104), (72, 50002), (73, 49999), (83, 49915), (113, 49675),

Gene: Polyuki_63 Start: 47519, Stop: 46656, Start Num: 8

Candidate Starts for Polyuki_63:

(Start: 8 @47519 has 33 MA's), (11, 47510), (27, 47399), (29, 47393), (31, 47366), (34, 47357), (38, 47345), (53, 47213), (54, 47204), (59, 47156), (72, 47084), (86, 46988), (92, 46967), (110, 46862),

Gene: Prager_60 Start: 45370, Stop: 46326, Start Num: 8

Candidate Starts for Prager_60:

(Start: 8 @45370 has 33 MA's), (15, 45412), (21, 45448), (22, 45460), (26, 45484), (35, 45544), (36, 45547), (44, 45616), (63, 45748), (116, 46228),

Gene: Predator_72 Start: 52784, Stop: 53422, Start Num: 10

Candidate Starts for Predator_72:

(Start: 10 @52784 has 16 MA's), (25, 52898), (30, 52916), (36, 52955), (42, 53003), (50, 53045), (52, 53054), (57, 53093), (60, 53117), (66, 53156), (67, 53162),

Gene: Puissant_70 Start: 53461, Stop: 54084, Start Num: 10

Candidate Starts for Puissant_70:

(Start: 10 @53461 has 16 MA's), (30, 53590), (42, 53677), (60, 53791), (66, 53830), (78, 53914),

Gene: Pywacket_65 Start: 47159, Stop: 47809, Start Num: 5

Candidate Starts for Pywacket_65:

(Start: 5 @47159 has 39 MA's), (26, 47291), (31, 47339), (34, 47348), (36, 47354), (58, 47531), (73, 47618), (90, 47720), (97, 47756),

Gene: Ranch_68 Start: 45342, Stop: 45992, Start Num: 5

Candidate Starts for Ranch_68:

(Start: 5 @45342 has 39 MA's), (18, 45417), (26, 45474), (31, 45522), (34, 45531), (36, 45537), (49, 45642), (58, 45714), (73, 45801), (90, 45903), (97, 45939),

Gene: RazorC_68 Start: 45465, Stop: 46115, Start Num: 5

Candidate Starts for RazorC_68:

(Start: 5 @45465 has 39 MA's), (18, 45540), (26, 45597), (31, 45645), (34, 45654), (36, 45660), (49, 45765), (58, 45837), (73, 45924), (90, 46026),

Gene: Riduram_67 Start: 45040, Stop: 45690, Start Num: 5

Candidate Starts for Riduram_67:

(Start: 5 @45040 has 39 MA's), (18, 45115), (26, 45172), (31, 45220), (34, 45229), (36, 45235), (58, 45412), (73, 45499), (90, 45601),

Gene: Riparian_73 Start: 53262, Stop: 53963, Start Num: 9

Candidate Starts for Riparian_73:

(Start: 9 @53262 has 10 MA's), (12, 53271), (13, 53274), (23, 53370), (26, 53379), (33, 53430), (34, 53433), (75, 53688), (76, 53697), (90, 53799), (99, 53868), (107, 53916),

Gene: Rope_71 Start: 53418, Stop: 54119, Start Num: 9

Candidate Starts for Rope_71:

(Start: 9 @53418 has 10 MA's), (12, 53427), (13, 53430), (23, 53526), (26, 53535), (33, 53586), (34, 53589), (75, 53844), (76, 53853), (90, 53955), (99, 54024),

Gene: Rota_65 Start: 46233, Stop: 46883, Start Num: 5

Candidate Starts for Rota_65:

(Start: 5 @46233 has 39 MA's), (18, 46308), (26, 46365), (31, 46413), (34, 46422), (36, 46428), (58, 46605), (73, 46692), (90, 46794), (97, 46830),

Gene: Rukungu_70 Start: 47455, Stop: 48105, Start Num: 5

Candidate Starts for Rukungu_70:

(Start: 5 @47455 has 39 MA's), (18, 47530), (26, 47587), (31, 47635), (34, 47644), (36, 47650), (49, 47755), (58, 47827), (73, 47914), (90, 48016), (97, 48052),

Gene: Rumi_69 Start: 45008, Stop: 45658, Start Num: 5

Candidate Starts for Rumi_69:

(Start: 5 @45008 has 39 MA's), (18, 45083), (26, 45140), (31, 45188), (34, 45197), (36, 45203), (49, 45308), (58, 45380), (73, 45467), (90, 45569),

Gene: Sadboi_69 Start: 47035, Stop: 47685, Start Num: 5

Candidate Starts for Sadboi_69:

(Start: 5 @47035 has 39 MA's), (26, 47167), (31, 47215), (34, 47224), (36, 47230), (58, 47407), (73, 47494), (90, 47596), (97, 47632),

Gene: Sampudon_68 Start: 47387, Stop: 48037, Start Num: 5

Candidate Starts for Sampudon_68:

(Start: 5 @47387 has 39 MA's), (26, 47519), (31, 47567), (34, 47576), (36, 47582), (58, 47759), (73, 47846), (90, 47948), (97, 47984),

Gene: Scuba_74 Start: 50531, Stop: 49665, Start Num: 7

Candidate Starts for Scuba_74:

(Start: 7 @50531 has 4 MA's), (26, 50408), (31, 50372), (35, 50360), (46, 50273), (57, 50189), (72, 50087), (73, 50084), (83, 50000), (113, 49772),

Gene: Send513_71 Start: 53796, Stop: 54497, Start Num: 9

Candidate Starts for Send513_71:

(Start: 9 @53796 has 10 MA's), (12, 53805), (13, 53808), (23, 53904), (26, 53913), (33, 53964), (34, 53967), (75, 54222), (76, 54231), (90, 54333), (99, 54402), (107, 54450),

Gene: Sienna_57 Start: 42811, Stop: 43554, Start Num: 6

Candidate Starts for Sienna_57:

(Start: 6 @42811 has 8 MA's), (31, 42979), (35, 42991), (48, 43084), (72, 43267), (112, 43513),

Gene: SirHarley_62 Start: 45793, Stop: 46731, Start Num: 8

Candidate Starts for SirHarley_62:

(Start: 8 @45793 has 33 MA's), (15, 45835), (21, 45871), (22, 45883), (26, 45907), (35, 45967), (36, 45970), (44, 46039), (63, 46171), (116, 46633),

Gene: Stormer_68 Start: 45012, Stop: 45662, Start Num: 5

Candidate Starts for Stormer_68:

(Start: 5 @45012 has 39 MA's), (18, 45087), (26, 45144), (31, 45192), (34, 45201), (36, 45207), (49, 45312), (58, 45384), (73, 45471), (90, 45573),

Gene: SuperSonics_89 Start: 55670, Stop: 56356, Start Num: 10

Candidate Starts for SuperSonics_89:

(Start: 10 @55670 has 16 MA's), (16, 55712), (20, 55745), (25, 55781), (32, 55835), (36, 55847), (42, 55916), (51, 55961), (58, 56024), (66, 56069), (77, 56150), (81, 56165), (89, 56219),

Gene: SuperheroCarly_61 Start: 45467, Stop: 46414, Start Num: 8

Candidate Starts for SuperheroCarly_61:

(Start: 8 @45467 has 33 MA's), (15, 45509), (21, 45545), (22, 45557), (26, 45581), (36, 45644), (44, 45713), (63, 45845), (69, 45893), (116, 46316),

Gene: Suzy_57 Start: 44001, Stop: 44741, Start Num: 6

Candidate Starts for Suzy_57:

(Start: 6 @44001 has 8 MA's), (31, 44169), (35, 44181), (48, 44274), (72, 44457),

Gene: Terapin_58 Start: 42735, Stop: 43478, Start Num: 6

Candidate Starts for Terapin_58:

(Start: 6 @42735 has 8 MA's), (31, 42903), (35, 42915), (48, 43008), (72, 43191), (112, 43437),

Gene: Thoth_60 Start: 45349, Stop: 46320, Start Num: 8

Candidate Starts for Thoth_60:

(Start: 8 @45349 has 33 MA's), (15, 45391), (21, 45427), (22, 45439), (26, 45463), (35, 45523), (36, 45526), (44, 45595), (63, 45727), (116, 46222),

Gene: Thumb_74 Start: 53733, Stop: 54350, Start Num: 10

Candidate Starts for Thumb_74:

(Start: 10 @53733 has 16 MA's), (30, 53862), (37, 53904), (42, 53949), (60, 54063), (71, 54135), (78, 54186), (85, 54237),

Gene: Tillicus_63 Start: 45848, Stop: 46498, Start Num: 5

Candidate Starts for Tillicus_63:

(Start: 5 @45848 has 39 MA's), (18, 45923), (26, 45980), (31, 46028), (34, 46037), (36, 46043), (44, 46115), (49, 46148), (71, 46301), (96, 46436),

Gene: Troll4_60 Start: 45480, Stop: 46388, Start Num: 8

Candidate Starts for Troll4_60:

(Start: 8 @45480 has 33 MA's), (15, 45522), (21, 45558), (22, 45570), (26, 45594), (35, 45654), (36, 45657), (44, 45726), (63, 45858), (116, 46290),

Gene: Visconti_61 Start: 45360, Stop: 46295, Start Num: 8

Candidate Starts for Visconti_61:

(Start: 8 @45360 has 33 MA's), (15, 45402), (21, 45438), (22, 45450), (26, 45474), (35, 45534), (36, 45537), (44, 45606), (63, 45738), (116, 46197),

Gene: WaldoWhy_62 Start: 45413, Stop: 46312, Start Num: 8

Candidate Starts for WaldoWhy_62:

(Start: 8 @45413 has 33 MA's), (15, 45455), (21, 45491), (22, 45503), (26, 45527), (35, 45587), (36, 45590), (44, 45659), (63, 45791), (116, 46214),

Gene: Weiss13_71 Start: 53499, Stop: 54200, Start Num: 9

Candidate Starts for Weiss13_71:

(Start: 9 @53499 has 10 MA's), (12, 53508), (13, 53511), (23, 53607), (26, 53616), (33, 53667), (34, 53670), (75, 53925), (76, 53934), (90, 54036), (99, 54105), (107, 54153),

Gene: Wojtek_64 Start: 45592, Stop: 46239, Start Num: 5

Candidate Starts for Wojtek_64:

(Start: 5 @45592 has 39 MA's), (26, 45724), (31, 45772), (34, 45781), (36, 45787), (44, 45859), (49, 45892), (71, 46045), (96, 46180),

Gene: Xenia2_68 Start: 45594, Stop: 46247, Start Num: 5

Candidate Starts for Xenia2_68:

(Start: 5 @45594 has 39 MA's), (23, 45717), (26, 45726), (31, 45774), (34, 45783), (35, 45786), (36, 45789), (48, 45882), (49, 45891), (90, 46155), (97, 46191),

Gene: Yelo_70 Start: 53878, Stop: 54579, Start Num: 9

Candidate Starts for Yelo_70:

(Start: 9 @53878 has 10 MA's), (12, 53887), (13, 53890), (23, 53986), (26, 53995), (33, 54046), (34, 54049), (75, 54304), (76, 54313), (90, 54415), (99, 54484), (107, 54532),

Gene: Yikes_70 Start: 47481, Stop: 48131, Start Num: 5

Candidate Starts for Yikes_70:

(Start: 5 @47481 has 39 MA's), (26, 47613), (31, 47661), (34, 47670), (36, 47676), (58, 47853), (73, 47940), (90, 48042), (97, 48078),

Gene: Zany_66 Start: 47075, Stop: 47725, Start Num: 5

Candidate Starts for Zany_66:

(Start: 5 @47075 has 39 MA's), (26, 47207), (31, 47255), (34, 47264), (36, 47270), (58, 47447), (73, 47534), (90, 47636), (97, 47672),

Gene: Zenon_73 Start: 53822, Stop: 54523, Start Num: 9

Candidate Starts for Zenon_73:

(Start: 9 @53822 has 10 MA's), (12, 53831), (13, 53834), (23, 53930), (26, 53939), (33, 53990), (34, 53993), (75, 54248), (76, 54257), (90, 54359), (99, 54428), (107, 54476),