

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 283688 Report

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

Pham number 283688 has 92 members, 9 are drafts.

Phages represented in each track:

- Track 1 : Leopard_75, Aikoy_76
- Track 2 : Onyinye_76
- Track 3 : CoffeeBean_64, Maselop_64, Apiary_64, Braxoaddie_64, Polyuyuki_64
- Track 4 : GuyFagieri_63
- Track 5 : Troll4_59, BigMama_57, Penelope2018_59, Helpful_62, Prager_59, Visconti_60, Adjutor_58, PBI1_56, Delton_60, WaldoWhy_61, SuperheroCarly_61, Gumball_59, Butterscotch_58, SirHarley_61, KandZ_58, PLOT_59, Chill_61, Thoth_59, Giuseppe_60, Mopey_60, Nova_58
- Track 6 : Erk16_58
- Track 7 : Phalaborwa_62
- Track 8 : Hawkeye_66
- Track 9 : BiteSize_56, Terapin_57, Beyoncage_56, Sienna_56, Djokovic_56, Madi_56
- Track 10 : Suzy_56
- Track 11 : LilyPad_58
- Track 12 : LittleFella_63
- Track 13 : GretelLyn_67, Sadboi_68, Yikes_69, Zany_65
- Track 14 : Charminar_67, RazorC_67, Genamy16_70, Stormer_67, Jamemuya19_66, Astralis_67, NovaSharks_69, Avian_65, Alyssmiracle_70, Rumi_68
- Track 15 : LuckyLeo_64, Apeppi_62
- Track 16 : Gibbin_69, Patos_71, Lila22_68, Ranch_67, NorManre_71, Lambo_65, ParvusTarda_66
- Track 17 : Mima20_67, DoobyDoo_66, LavAbarElk_67, Alephilan_68
- Track 18 : BirthdayBoy_69, GOATification_67, Fulcrum_67, Rukungu_69, OtterstedtS21_67
- Track 19 : Erutan_67
- Track 20 : Wojtek_63
- Track 21 : Rota_64, DaviePasture_67
- Track 22 : Jalebi_66, MoiGyank_70, Sampudon_67
- Track 23 : Tillicus_62
- Track 24 : DumpTruck_66
- Track 25 : Xenia2_66
- Track 26 : Predator_71
- Track 27 : DrLupo_79
- Track 28 : Barnyard_75
- Track 29 : Madruga_83, Patience_85, Labelle_84, SuperSonics_88, Demikore_86

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

The start number called the most often in the published annotations is 7, it was called in 38 of the 83 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alephilan_68, Alyssamiracle_70, Apeppi_62, Astralis_67, Avian_65, BirthdayBoy_69, Charminar_67, DaviePasture_67, DoobyDoo_66, DumpTruck_66, Erutan_67, Fulcrum_67, GOATification_67, Genamy16_70, Gibbin_69, GretellLyn_67, Jalebi_66, Jamemuya19_66, Lambo_65, LavAbarElk_67, Lila22_68, LuckyLeo_64, Mima20_67, MoiGyank_70, NorManre_71, NovaSharks_69, OtterstedtS21_67, ParvusTarda_66, Patos_71, Predator_71, Ranch_67, RazorC_67, Rota_64, Rukungu_69, Rumi_68, Sadboi_68, Sampudon_67, Stormer_67, Tillicus_62, Wojtek_63, Xenia2_66, Yikes_69, Zany_65,

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

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

- Adjutor_58, Aikoy_76, Apiary_64, Barnyard_75, Beyoncage_56, BigMama_57, BiteSize_56, Braxoaddie_64, Butterscotch_58, Chill_61, CoffeeBean_64, Delton_60, Demikore_86, Djokovic_56, DrLupo_79, Erk16_58, Giuseppe_60, Gumball_59, GuyFagieri_63, Hawkeye_66, Helpful_62, KandZ_58, Labelle_84, Leopard_75, LilyPad_58, LittleFella_63, Madi_56, Madrugua_83, Maselop_64, Mopey_60, Nova_58, Onyinye_76, PBI1_56, PLOT_59, Patience_85, Penelope2018_59, Phalaborwa_62, Polyuyuki_64, Prager_59, Sienna_56, SirHarley_61, SuperSonics_88, SuperheroCarly_61, Suzy_56, Terapin_57, Thoth_59, Troll4_59, Visconti_60, WaldoWhy_61,

Summary by start number:

Start 5:

- Found in 14 of 92 (15.2%) of genes in pham
- Manual Annotations of this start: 12 of 83
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Beyoncage_56 (DG1), BiteSize_56 (DG1), Demikore_86 (U), Djokovic_56 (DG1), Labelle_84 (U), LilyPad_58 (DG1), LittleFella_63 (DG2), Madi_56 (DG1), Madrugua_83 (U), Patience_85 (U), Sienna_56 (DG1), SuperSonics_88 (U), Suzy_56 (DG1), Terapin_57 (DG1),

Start 6:

- Found in 9 of 92 (9.8%) of genes in pham
- Manual Annotations of this start: 8 of 83
- Called 88.9% of time when present
- Phage (with cluster) where this start called: Aikoy_76 (AE), Apiary_64 (CR6), Braxoaddie_64 (CR6), CoffeeBean_64 (CR6), GuyFagieri_63 (CR6), Leopard_75 (AE), Maselop_64 (CR6), Polyuyuki_64 (CR6),

Start 7:

- Found in 43 of 92 (46.7%) of genes in pham
- Manual Annotations of this start: 38 of 83
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alephilan_68 (DV), Alyssamiracle_70 (DV), Apeppi_62 (DV), Astralis_67 (DV), Avian_65 (DV), BirthdayBoy_69 (DV), Charminar_67 (DV), DaviePasture_67 (DV), DoobyDoo_66 (DV), DumpTruck_66 (DV), Erutan_67 (DV), Fulcrum_67 (DV), GOATification_67 (DV), Genamy16_70 (DV), Gibbin_69 (DV), GretelLyn_67 (DV), Jalebi_66 (DV), Jamemuya19_66 (DV), Lambo_65 (DV), LavAbarElk_67 (DV), Lila22_68 (DV), LuckyLeo_64 (DV), Mima20_67 (DV), MoiGyank_70 (DV), NorManre_71 (DV), NovaSharks_69 (DV), OtterstedtS21_67 (DV), ParvusTarda_66 (DV), Patos_71 (DV), Predator_71 (H1), Ranch_67 (DV), RazorC_67 (DV), Rota_64 (DV), Rukungu_69 (DV), Rumi_68 (DV), Sadboi_68 (DV), Sampudon_67 (DV), Stormer_67 (DV), Tillicus_62 (DV), Wojtek_63 (DV), Xenia2_66 (DV), Yikes_69 (DV), Zany_65 (DV),

Start 9:

- Found in 2 of 92 (2.2%) of genes in pham
- Manual Annotations of this start: 2 of 83
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Barnyard_75 (H2), DrLupo_79 (H2),

Start 11:

- Found in 24 of 92 (26.1%) of genes in pham
- Manual Annotations of this start: 21 of 83
- Called 95.8% of time when present
- Phage (with cluster) where this start called: Adjutor_58 (D1), BigMama_57 (D1), Butterscotch_58 (D1), Chill_61 (D1), Delton_60 (D1), Erk16_58 (D1), Giuseppe_60 (D1), Gumball_59 (D1), Helpful_62 (D1), KandZ_58 (D1), Mopey_60 (D1), Nova_58 (D1), PB11_56 (D1), PLOT_59 (D1), Penelope2018_59 (D1), Phalaborwa_62 (D1), Prager_59 (D1), SirHarley_61 (D1), SuperheroCarly_61 (D1), Thoth_59 (D1), Troll4_59 (D1), Visconti_60 (D1), WaldoWhy_61 (D1),

Start 12:

- Found in 4 of 92 (4.3%) of genes in pham
- Manual Annotations of this start: 2 of 83
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Hawkeye_66 (D2), Onyinye_76 (AE),

Summary by clusters:

There are 10 clusters represented in this pham: AE, H2, H1, DG2, DG1, U, DV, CR6, D2, D1,

Info for manual annotations of cluster AE:

- Start number 6 was manually annotated 2 times for cluster AE.
- Start number 12 was manually annotated 1 time for cluster AE.

Info for manual annotations of cluster CR6:

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

Info for manual annotations of cluster D1:

- Start number 11 was manually annotated 21 times for cluster D1.

Info for manual annotations of cluster D2:

- Start number 12 was manually annotated 1 time for cluster D2.

Info for manual annotations of cluster DG1:

- Start number 5 was manually annotated 8 times for cluster DG1.

Info for manual annotations of cluster DG2:

- Start number 5 was manually annotated 1 time for cluster DG2.

Info for manual annotations of cluster DV:

- Start number 7 was manually annotated 37 times for cluster DV.

Info for manual annotations of cluster H1:

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

Info for manual annotations of cluster H2:

- Start number 9 was manually annotated 2 times for cluster H2.

Info for manual annotations of cluster U:

- Start number 5 was manually annotated 3 times for cluster U.

Gene Information:

Gene: Adjutor_58 Start: 44429, Stop: 45289, Start Num: 11

Candidate Starts for Adjutor_58:

(1, 44357), (Start: 11 @44429 has 21 MA's), (13, 44474), (16, 44486), (17, 44504), (18, 44516), (20, 44540), (21, 44543), (36, 44696), (39, 44717), (40, 44726), (41, 44732), (53, 44822), (54, 44825), (56, 44834), (61, 44855), (74, 44966), (76, 44978), (77, 44996), (88, 45047), (89, 45056), (92, 45086), (93, 45089),

Gene: Aikoy_76 Start: 51990, Stop: 52910, Start Num: 6

Candidate Starts for Aikoy_76:

(Start: 6 @51990 has 8 MA's), (Start: 12 @52005 has 2 MA's), (17, 52077), (18, 52089), (20, 52113), (21, 52116), (26, 52146), (32, 52209), (37, 52266), (39, 52284), (40, 52293), (41, 52299), (47, 52329), (68, 52488), (70, 52497), (71, 52500), (76, 52545), (77, 52563), (88, 52611), (94, 52659), (98, 52698), (109, 52803),

Gene: Alephilan_68 Start: 45485, Stop: 46561, Start Num: 7

Candidate Starts for Alephilan_68:

(Start: 7 @45485 has 38 MA's), (24, 45617), (28, 45665), (36, 45746), (38, 45758), (39, 45767), (40, 45776), (60, 45899), (64, 45920), (67, 45947), (76, 46028), (77, 46046), (82, 46067), (91, 46145), (101, 46229), (114, 46394), (122, 46532),

Gene: Alyssamiracle_70 Start: 44487, Stop: 45557, Start Num: 7

Candidate Starts for Alyssamiracle_70:

(Start: 7 @44487 has 38 MA's), (19, 44583), (24, 44619), (28, 44667), (38, 44760), (39, 44769), (40, 44778), (60, 44901), (64, 44922), (67, 44949), (76, 45030), (77, 45048), (82, 45069), (91, 45147), (101, 45231), (122, 45528),

Gene: Apeppi_62 Start: 44646, Stop: 45731, Start Num: 7

Candidate Starts for Apeppi_62:

(Start: 7 @44646 has 38 MA's), (18, 44739), (24, 44778), (28, 44826), (39, 44928), (40, 44937), (60, 45060), (64, 45081), (66, 45096), (67, 45108), (76, 45189), (77, 45207), (82, 45228), (85, 45249), (91, 45306), (101, 45390), (121, 45690),

Gene: Apiary_64 Start: 48400, Stop: 47549, Start Num: 6

Candidate Starts for Apiary_64:

(Start: 6 @48400 has 8 MA's), (14, 48340), (28, 48220), (30, 48208), (39, 48106), (40, 48097), (43, 48079), (46, 48067), (53, 47995), (76, 47839), (77, 47821), (79, 47815), (97, 47692), (102, 47656), (105, 47635),

Gene: Astralis_67 Start: 44066, Stop: 45136, Start Num: 7

Candidate Starts for Astralis_67:

(Start: 7 @44066 has 38 MA's), (19, 44162), (24, 44198), (28, 44246), (38, 44339), (39, 44348), (40, 44357), (60, 44480), (64, 44501), (67, 44528), (76, 44609), (77, 44627), (82, 44648), (91, 44726), (101, 44810), (122, 45107),

Gene: Avian_65 Start: 44215, Stop: 45285, Start Num: 7

Candidate Starts for Avian_65:

(Start: 7 @44215 has 38 MA's), (19, 44311), (24, 44347), (28, 44395), (38, 44488), (39, 44497), (40, 44506), (60, 44629), (64, 44650), (67, 44677), (76, 44758), (77, 44776), (82, 44797), (91, 44875), (101, 44959), (122, 45256),

Gene: Barnyard_75 Start: 51526, Stop: 52548, Start Num: 9

Candidate Starts for Barnyard_75:

(Start: 9 @51526 has 2 MA's), (22, 51652), (23, 51658), (26, 51682), (31, 51742), (32, 51745), (34, 51790), (39, 51835), (40, 51844), (41, 51850), (44, 51868), (54, 51949), (59, 51970), (69, 52048), (73, 52093), (76, 52111), (77, 52129), (90, 52204), (98, 52273), (100, 52294), (111, 52387), (112, 52423),

Gene: Beyoncage_56 Start: 41805, Stop: 42734, Start Num: 5

Candidate Starts for Beyoncage_56:

(Start: 5 @41805 has 12 MA's), (15, 41862), (18, 41895), (33, 42045), (34, 42054), (36, 42078), (39, 42099), (41, 42114), (43, 42126), (46, 42138), (50, 42177), (51, 42192), (58, 42225), (72, 42336), (73, 42342), (76, 42360), (79, 42384), (80, 42390), (86, 42420), (88, 42444), (99, 42537), (116, 42705),

Gene: BigMama_57 Start: 44505, Stop: 45365, Start Num: 11

Candidate Starts for BigMama_57:

(1, 44433), (Start: 11 @44505 has 21 MA's), (13, 44550), (16, 44562), (17, 44580), (18, 44592), (20, 44616), (21, 44619), (36, 44772), (39, 44793), (40, 44802), (41, 44808), (53, 44898), (54, 44901), (56, 44910), (61, 44931), (74, 45042), (76, 45054), (77, 45072), (88, 45123), (89, 45132), (92, 45162), (93, 45165),

Gene: BirthdayBoy_69 Start: 45791, Stop: 46882, Start Num: 7

Candidate Starts for BirthdayBoy_69:

(Start: 7 @45791 has 38 MA's), (24, 45923), (28, 45971), (36, 46052), (38, 46064), (39, 46073), (40, 46082), (60, 46205), (64, 46226), (67, 46253), (76, 46334), (77, 46352), (82, 46373), (91, 46451), (101, 46535), (114, 46700), (115, 46709), (122, 46853),

Gene: BiteSize_56 Start: 41891, Stop: 42820, Start Num: 5

Candidate Starts for BiteSize_56:

(Start: 5 @41891 has 12 MA's), (15, 41948), (18, 41981), (33, 42131), (34, 42140), (36, 42164), (39, 42185), (41, 42200), (43, 42212), (46, 42224), (50, 42263), (51, 42278), (58, 42311), (72, 42422), (73, 42428), (76, 42446), (79, 42470), (80, 42476), (86, 42506), (88, 42530), (99, 42623), (116, 42791),

Gene: Braxoaddie_64 Start: 48389, Stop: 47538, Start Num: 6

Candidate Starts for Braxoaddie_64:

(Start: 6 @48389 has 8 MA's), (14, 48329), (28, 48209), (30, 48197), (39, 48095), (40, 48086), (43, 48068), (46, 48056), (53, 47984), (76, 47828), (77, 47810), (79, 47804), (97, 47681), (102, 47645), (105, 47624),

Gene: Butterscotch_58 Start: 44489, Stop: 45349, Start Num: 11

Candidate Starts for Butterscotch_58:

(1, 44417), (Start: 11 @44489 has 21 MA's), (13, 44534), (16, 44546), (17, 44564), (18, 44576), (20, 44600), (21, 44603), (36, 44756), (39, 44777), (40, 44786), (41, 44792), (53, 44882), (54, 44885), (56, 44894), (61, 44915), (74, 45026), (76, 45038), (77, 45056), (88, 45107), (89, 45116), (92, 45146), (93, 45149),

Gene: Charminar_67 Start: 43825, Stop: 44895, Start Num: 7

Candidate Starts for Charminar_67:

(Start: 7 @43825 has 38 MA's), (19, 43921), (24, 43957), (28, 44005), (38, 44098), (39, 44107), (40, 44116), (60, 44239), (64, 44260), (67, 44287), (76, 44368), (77, 44386), (82, 44407), (91, 44485), (101, 44569), (122, 44866),

Gene: Chill_61 Start: 44552, Stop: 45412, Start Num: 11

Candidate Starts for Chill_61:

(1, 44480), (Start: 11 @44552 has 21 MA's), (13, 44597), (16, 44609), (17, 44627), (18, 44639), (20, 44663), (21, 44666), (36, 44819), (39, 44840), (40, 44849), (41, 44855), (53, 44945), (54, 44948), (56, 44957), (61, 44978), (74, 45089), (76, 45101), (77, 45119), (88, 45170), (89, 45179), (92, 45209), (93, 45212),

Gene: CoffeeBean_64 Start: 48347, Stop: 47496, Start Num: 6

Candidate Starts for CoffeeBean_64:

(Start: 6 @48347 has 8 MA's), (14, 48287), (28, 48167), (30, 48155), (39, 48053), (40, 48044), (43, 48026), (46, 48014), (53, 47942), (76, 47786), (77, 47768), (79, 47762), (97, 47639), (102, 47603), (105, 47582),

Gene: DaviePasture_67 Start: 45399, Stop: 46469, Start Num: 7

Candidate Starts for DaviePasture_67:

(Start: 7 @45399 has 38 MA's), (24, 45531), (28, 45579), (38, 45672), (39, 45681), (40, 45690), (60, 45813), (64, 45834), (67, 45861), (76, 45942), (77, 45960), (82, 45981), (91, 46059), (101, 46143), (108, 46221), (114, 46308), (122, 46440),

Gene: Delton_60 Start: 44887, Stop: 45747, Start Num: 11

Candidate Starts for Delton_60:

(1, 44815), (Start: 11 @44887 has 21 MA's), (13, 44932), (16, 44944), (17, 44962), (18, 44974), (20, 44998), (21, 45001), (36, 45154), (39, 45175), (40, 45184), (41, 45190), (53, 45280), (54, 45283), (56, 45292), (61, 45313), (74, 45424), (76, 45436), (77, 45454), (88, 45505), (89, 45514), (92, 45544), (93, 45547),

Gene: Demikore_86 Start: 54792, Stop: 55850, Start Num: 5

Candidate Starts for Demikore_86:

(Start: 5 @54792 has 12 MA's), (15, 54849), (16, 54852), (18, 54882), (26, 54939), (27, 54954), (39, 55083), (42, 55107), (49, 55161), (52, 55185), (72, 55329), (73, 55335), (74, 55341), (75, 55350), (76, 55353), (77, 55371), (83, 55398), (90, 55458), (95, 55506), (101, 55554), (103, 55572), (107, 55632), (111, 55653), (117, 55761), (118, 55776),

Gene: Djokovic_56 Start: 41804, Stop: 42733, Start Num: 5

Candidate Starts for Djokovic_56:

(Start: 5 @41804 has 12 MA's), (15, 41861), (18, 41894), (33, 42044), (34, 42053), (36, 42077), (39, 42098), (41, 42113), (43, 42125), (46, 42137), (50, 42176), (51, 42191), (58, 42224), (72, 42335), (73, 42341), (76, 42359), (79, 42383), (80, 42389), (86, 42419), (88, 42443), (99, 42536), (116, 42704),

Gene: DoobyDoo_66 Start: 44375, Stop: 45445, Start Num: 7

Candidate Starts for DoobyDoo_66:

(Start: 7 @44375 has 38 MA's), (24, 44507), (28, 44555), (36, 44636), (38, 44648), (39, 44657), (40, 44666), (60, 44789), (64, 44810), (67, 44837), (76, 44918), (77, 44936), (82, 44957), (91, 45035), (101, 45119), (114, 45284), (122, 45416),

Gene: DrLupo_79 Start: 52740, Stop: 53756, Start Num: 9

Candidate Starts for DrLupo_79:

(Start: 9 @52740 has 2 MA's), (22, 52866), (23, 52872), (26, 52896), (31, 52956), (32, 52959), (33, 52995), (34, 53004), (39, 53049), (40, 53058), (41, 53064), (44, 53082), (48, 53100), (54, 53163), (59, 53184), (69, 53262), (73, 53307), (76, 53325), (77, 53343), (79, 53349), (90, 53418), (100, 53508), (107, 53577), (120, 53739),

Gene: DumpTruck_66 Start: 44187, Stop: 45317, Start Num: 7

Candidate Starts for DumpTruck_66:

(Start: 7 @44187 has 38 MA's), (18, 44283), (24, 44322), (28, 44370), (36, 44451), (38, 44463), (39, 44472), (40, 44481), (64, 44625), (76, 44733), (77, 44751), (82, 44772), (86, 44796), (87, 44799), (91, 44850), (106, 44991), (116, 45147), (122, 45285),

Gene: Erk16_58 Start: 44591, Stop: 45451, Start Num: 11

Candidate Starts for Erk16_58:

(Start: 11 @44591 has 21 MA's), (13, 44636), (16, 44648), (17, 44666), (18, 44678), (20, 44702), (21, 44705), (36, 44858), (39, 44879), (40, 44888), (41, 44894), (53, 44984), (54, 44987), (56, 44996), (61, 45017), (74, 45128), (76, 45140), (77, 45158), (88, 45209), (89, 45218), (92, 45248), (93, 45251),

Gene: Erutan_67 Start: 45017, Stop: 46087, Start Num: 7

Candidate Starts for Erutan_67:

(Start: 7 @45017 has 38 MA's), (24, 45149), (28, 45197), (38, 45290), (39, 45299), (40, 45308), (60, 45431), (64, 45452), (67, 45479), (76, 45560), (77, 45578), (82, 45599), (91, 45677), (101, 45761), (110, 45842), (122, 46058),

Gene: Fulcrum_67 Start: 45099, Stop: 46190, Start Num: 7

Candidate Starts for Fulcrum_67:

(Start: 7 @45099 has 38 MA's), (24, 45231), (28, 45279), (36, 45360), (38, 45372), (39, 45381), (40, 45390), (60, 45513), (64, 45534), (67, 45561), (76, 45642), (77, 45660), (82, 45681), (91, 45759), (101, 45843), (114, 46008), (115, 46017), (122, 46161),

Gene: GOATification_67 Start: 45099, Stop: 46190, Start Num: 7

Candidate Starts for GOATification_67:

(Start: 7 @45099 has 38 MA's), (24, 45231), (28, 45279), (36, 45360), (38, 45372), (39, 45381), (40, 45390), (60, 45513), (64, 45534), (67, 45561), (76, 45642), (77, 45660), (82, 45681), (91, 45759), (101, 45843), (114, 46008), (115, 46017), (122, 46161),

Gene: Genamy16_70 Start: 44473, Stop: 45543, Start Num: 7

Candidate Starts for Genamy16_70:

(Start: 7 @44473 has 38 MA's), (19, 44569), (24, 44605), (28, 44653), (38, 44746), (39, 44755), (40, 44764), (60, 44887), (64, 44908), (67, 44935), (76, 45016), (77, 45034), (82, 45055), (91, 45133), (101, 45217), (122, 45514),

Gene: Gibbin_69 Start: 45904, Stop: 46995, Start Num: 7

Candidate Starts for Gibbin_69:

(Start: 7 @45904 has 38 MA's), (24, 46036), (28, 46084), (38, 46177), (39, 46186), (40, 46195), (60, 46318), (64, 46339), (67, 46366), (76, 46447), (77, 46465), (82, 46486), (91, 46564), (101, 46648), (114, 46813), (115, 46822), (122, 46966),

Gene: Giuseppe_60 Start: 44457, Stop: 45317, Start Num: 11

Candidate Starts for Giuseppe_60:

(1, 44385), (Start: 11 @44457 has 21 MA's), (13, 44502), (16, 44514), (17, 44532), (18, 44544), (20, 44568), (21, 44571), (36, 44724), (39, 44745), (40, 44754), (41, 44760), (53, 44850), (54, 44853), (56, 44862), (61, 44883), (74, 44994), (76, 45006), (77, 45024), (88, 45075), (89, 45084), (92, 45114), (93, 45117),

Gene: Gretellyn_67 Start: 45889, Stop: 46959, Start Num: 7

Candidate Starts for Gretellyn_67:

(Start: 7 @45889 has 38 MA's), (24, 46021), (28, 46069), (38, 46162), (39, 46171), (40, 46180), (60, 46303), (64, 46324), (67, 46351), (76, 46432), (77, 46450), (82, 46471), (91, 46549), (101, 46633), (114, 46798), (122, 46930),

Gene: Gumball_59 Start: 44949, Stop: 45809, Start Num: 11

Candidate Starts for Gumball_59:

(1, 44877), (Start: 11 @44949 has 21 MA's), (13, 44994), (16, 45006), (17, 45024), (18, 45036), (20, 45060), (21, 45063), (36, 45216), (39, 45237), (40, 45246), (41, 45252), (53, 45342), (54, 45345), (56, 45354), (61, 45375), (74, 45486), (76, 45498), (77, 45516), (88, 45567), (89, 45576), (92, 45606), (93, 45609),

Gene: GuyFagieri_63 Start: 48427, Stop: 47585, Start Num: 6

Candidate Starts for GuyFagieri_63:

(2, 48457), (3, 48454), (Start: 6 @48427 has 8 MA's), (14, 48367), (28, 48247), (29, 48244), (35, 48157), (39, 48133), (40, 48124), (43, 48106), (48, 48082), (53, 48022), (57, 48007), (71, 47911), (76, 47866), (77, 47848), (81, 47833), (97, 47719), (102, 47683), (105, 47662),

Gene: Hawkeye_66 Start: 44818, Stop: 45684, Start Num: 12

Candidate Starts for Hawkeye_66:

(4, 44773), (10, 44806), (Start: 11 @44815 has 21 MA's), (Start: 12 @44818 has 2 MA's), (21, 44929), (25, 44962), (36, 45082), (38, 45094), (39, 45103), (40, 45112), (41, 45118), (53, 45208), (54, 45211), (56, 45220), (65, 45268), (76, 45364), (77, 45382), (88, 45436), (89, 45445), (104, 45556),

Gene: Helpful_62 Start: 44818, Stop: 45678, Start Num: 11

Candidate Starts for Helpful_62:

(1, 44746), (Start: 11 @44818 has 21 MA's), (13, 44863), (16, 44875), (17, 44893), (18, 44905), (20, 44929), (21, 44932), (36, 45085), (39, 45106), (40, 45115), (41, 45121), (53, 45211), (54, 45214), (56, 45223), (61, 45244), (74, 45355), (76, 45367), (77, 45385), (88, 45436), (89, 45445), (92, 45475), (93, 45478),

Gene: Jalebi_66 Start: 46242, Stop: 47312, Start Num: 7

Candidate Starts for Jalebi_66:

(Start: 7 @46242 has 38 MA's), (24, 46374), (28, 46422), (36, 46503), (38, 46515), (39, 46524), (40, 46533), (60, 46656), (64, 46677), (67, 46704), (76, 46785), (77, 46803), (82, 46824), (91, 46902), (101, 46986), (108, 47064), (114, 47151), (122, 47283),

Gene: Jamemuya19_66 Start: 44078, Stop: 45148, Start Num: 7

Candidate Starts for Jamemuya19_66:

(Start: 7 @44078 has 38 MA's), (19, 44174), (24, 44210), (28, 44258), (38, 44351), (39, 44360), (40, 44369), (60, 44492), (64, 44513), (67, 44540), (76, 44621), (77, 44639), (82, 44660), (91, 44738), (101, 44822), (122, 45119),

Gene: KandZ_58 Start: 44615, Stop: 45475, Start Num: 11

Candidate Starts for KandZ_58:

(1, 44543), (Start: 11 @44615 has 21 MA's), (13, 44660), (16, 44672), (17, 44690), (18, 44702), (20, 44726), (21, 44729), (36, 44882), (39, 44903), (40, 44912), (41, 44918), (53, 45008), (54, 45011), (56, 45020), (61, 45041), (74, 45152), (76, 45164), (77, 45182), (88, 45233), (89, 45242), (92, 45272), (93, 45275),

Gene: Labelle_84 Start: 54626, Stop: 55684, Start Num: 5

Candidate Starts for Labelle_84:

(Start: 5 @54626 has 12 MA's), (15, 54683), (16, 54686), (18, 54716), (26, 54773), (27, 54788), (39, 54917), (42, 54941), (49, 54995), (52, 55019), (72, 55163), (73, 55169), (74, 55175), (75, 55184), (76, 55187), (77, 55205), (83, 55232), (90, 55292), (95, 55340), (101, 55388), (103, 55406), (107, 55466), (111, 55487), (117, 55595), (118, 55610),

Gene: Lambo_65 Start: 44896, Stop: 45987, Start Num: 7

Candidate Starts for Lambo_65:

(Start: 7 @44896 has 38 MA's), (24, 45028), (28, 45076), (38, 45169), (39, 45178), (40, 45187), (60, 45310), (64, 45331), (67, 45358), (76, 45439), (77, 45457), (82, 45478), (91, 45556), (101, 45640), (114, 45805), (115, 45814), (122, 45958),

Gene: LavAbarElk_67 Start: 44636, Stop: 45706, Start Num: 7

Candidate Starts for LavAbarElk_67:

(Start: 7 @44636 has 38 MA's), (24, 44768), (28, 44816), (36, 44897), (38, 44909), (39, 44918), (40, 44927), (60, 45050), (64, 45071), (67, 45098), (76, 45179), (77, 45197), (82, 45218), (91, 45296), (101, 45380), (114, 45545), (122, 45677),

Gene: Leopard_75 Start: 52296, Stop: 53216, Start Num: 6

Candidate Starts for Leopard_75:

(Start: 6 @52296 has 8 MA's), (Start: 12 @52311 has 2 MA's), (17, 52383), (18, 52395), (20, 52419), (21, 52422), (26, 52452), (32, 52515), (37, 52572), (39, 52590), (40, 52599), (41, 52605), (47, 52635), (68, 52794), (70, 52803), (71, 52806), (76, 52851), (77, 52869), (88, 52917), (94, 52965), (98, 53004), (109, 53109),

Gene: Lila22_68 Start: 45848, Stop: 46939, Start Num: 7

Candidate Starts for Lila22_68:

(Start: 7 @45848 has 38 MA's), (24, 45980), (28, 46028), (38, 46121), (39, 46130), (40, 46139), (60, 46262), (64, 46283), (67, 46310), (76, 46391), (77, 46409), (82, 46430), (91, 46508), (101, 46592), (114, 46757), (115, 46766), (122, 46910),

Gene: LilyPad_58 Start: 43001, Stop: 43912, Start Num: 5

Candidate Starts for LilyPad_58:

(Start: 5 @43001 has 12 MA's), (15, 43058), (16, 43061), (18, 43091), (33, 43241), (34, 43250), (39, 43295), (41, 43310), (43, 43322), (46, 43334), (50, 43373), (51, 43388), (55, 43406), (58, 43421), (72, 43532), (73, 43538), (76, 43556), (79, 43580), (80, 43586), (86, 43616), (96, 43709), (99, 43733), (116, 43883),

Gene: LittleFella_63 Start: 44521, Stop: 45468, Start Num: 5

Candidate Starts for LittleFella_63:

(Start: 5 @44521 has 12 MA's), (8, 44527), (20, 44644), (39, 44824), (41, 44839), (43, 44851), (66, 44992), (68, 45028), (76, 45085),

Gene: LuckyLeo_64 Start: 44646, Stop: 45731, Start Num: 7

Candidate Starts for LuckyLeo_64:

(Start: 7 @44646 has 38 MA's), (18, 44739), (24, 44778), (28, 44826), (39, 44928), (40, 44937), (60, 45060), (64, 45081), (66, 45096), (67, 45108), (76, 45189), (77, 45207), (82, 45228), (85, 45249), (91, 45306), (101, 45390), (121, 45690),

Gene: Madi_56 Start: 41882, Stop: 42811, Start Num: 5

Candidate Starts for Madi_56:

(Start: 5 @41882 has 12 MA's), (15, 41939), (18, 41972), (33, 42122), (34, 42131), (36, 42155), (39, 42176), (41, 42191), (43, 42203), (46, 42215), (50, 42254), (51, 42269), (58, 42302), (72, 42413), (73, 42419), (76, 42437), (79, 42461), (80, 42467), (86, 42497), (88, 42521), (99, 42614), (116, 42782),

Gene: Madruga_83 Start: 54580, Stop: 55638, Start Num: 5

Candidate Starts for Madruga_83:

(Start: 5 @54580 has 12 MA's), (15, 54637), (16, 54640), (18, 54670), (26, 54727), (27, 54742), (39, 54871), (42, 54895), (49, 54949), (52, 54973), (72, 55117), (73, 55123), (74, 55129), (75, 55138), (76, 55141), (77, 55159), (83, 55186), (90, 55246), (95, 55294), (101, 55342), (103, 55360), (107, 55420), (111, 55441), (117, 55549), (118, 55564),

Gene: Maselop_64 Start: 48423, Stop: 47572, Start Num: 6

Candidate Starts for Maselop_64:

(Start: 6 @48423 has 8 MA's), (14, 48363), (28, 48243), (30, 48231), (39, 48129), (40, 48120), (43, 48102), (46, 48090), (53, 48018), (76, 47862), (77, 47844), (79, 47838), (97, 47715), (102, 47679), (105, 47658),

Gene: Mima20_67 Start: 45405, Stop: 46475, Start Num: 7

Candidate Starts for Mima20_67:

(Start: 7 @45405 has 38 MA's), (24, 45537), (28, 45585), (36, 45666), (38, 45678), (39, 45687), (40, 45696), (60, 45819), (64, 45840), (67, 45867), (76, 45948), (77, 45966), (82, 45987), (91, 46065), (101, 46149), (114, 46314), (122, 46446),

Gene: MoiGyank_70 Start: 46170, Stop: 47240, Start Num: 7

Candidate Starts for MoiGyank_70:

(Start: 7 @46170 has 38 MA's), (24, 46302), (28, 46350), (36, 46431), (38, 46443), (39, 46452), (40, 46461), (60, 46584), (64, 46605), (67, 46632), (76, 46713), (77, 46731), (82, 46752), (91, 46830), (101, 46914), (108, 46992), (114, 47079), (122, 47211),

Gene: Mopey_60 Start: 44493, Stop: 45353, Start Num: 11

Candidate Starts for Mopey_60:

(1, 44421), (Start: 11 @44493 has 21 MA's), (13, 44538), (16, 44550), (17, 44568), (18, 44580), (20, 44604), (21, 44607), (36, 44760), (39, 44781), (40, 44790), (41, 44796), (53, 44886), (54, 44889), (56, 44898), (61, 44919), (74, 45030), (76, 45042), (77, 45060), (88, 45111), (89, 45120), (92, 45150), (93, 45153),

Gene: NorManre_71 Start: 46296, Stop: 47387, Start Num: 7

Candidate Starts for NorManre_71:

(Start: 7 @46296 has 38 MA's), (24, 46428), (28, 46476), (38, 46569), (39, 46578), (40, 46587), (60, 46710), (64, 46731), (67, 46758), (76, 46839), (77, 46857), (82, 46878), (91, 46956), (101, 47040), (114, 47205), (115, 47214), (122, 47358),

Gene: Nova_58 Start: 44945, Stop: 45805, Start Num: 11

Candidate Starts for Nova_58:

(1, 44873), (Start: 11 @44945 has 21 MA's), (13, 44990), (16, 45002), (17, 45020), (18, 45032), (20, 45056), (21, 45059), (36, 45212), (39, 45233), (40, 45242), (41, 45248), (53, 45338), (54, 45341), (56, 45350), (61, 45371), (74, 45482), (76, 45494), (77, 45512), (88, 45563), (89, 45572), (92, 45602), (93, 45605),

Gene: NovaSharks_69 Start: 44064, Stop: 45134, Start Num: 7

Candidate Starts for NovaSharks_69:

(Start: 7 @44064 has 38 MA's), (19, 44160), (24, 44196), (28, 44244), (38, 44337), (39, 44346), (40, 44355), (60, 44478), (64, 44499), (67, 44526), (76, 44607), (77, 44625), (82, 44646), (91, 44724), (101, 44808), (122, 45105),

Gene: Onyinye_76 Start: 52178, Stop: 53083, Start Num: 12

Candidate Starts for Onyinye_76:

(Start: 6 @52163 has 8 MA's), (Start: 12 @52178 has 2 MA's), (17, 52250), (18, 52262), (20, 52286), (21, 52289), (26, 52319), (32, 52382), (37, 52439), (39, 52457), (40, 52466), (41, 52472), (47, 52502), (68, 52661), (70, 52670), (71, 52673), (76, 52718), (77, 52736), (88, 52784), (94, 52832), (98, 52871), (109, 52976), (113, 53024),

Gene: OtterstedtS21_67 Start: 45230, Stop: 46321, Start Num: 7

Candidate Starts for OtterstedtS21_67:

(Start: 7 @45230 has 38 MA's), (24, 45362), (28, 45410), (36, 45491), (38, 45503), (39, 45512), (40, 45521), (60, 45644), (64, 45665), (67, 45692), (76, 45773), (77, 45791), (82, 45812), (91, 45890), (101, 45974), (114, 46139), (115, 46148), (122, 46292),

Gene: PBI1_56 Start: 44420, Stop: 45280, Start Num: 11

Candidate Starts for PBI1_56:

(1, 44348), (Start: 11 @44420 has 21 MA's), (13, 44465), (16, 44477), (17, 44495), (18, 44507), (20, 44531), (21, 44534), (36, 44687), (39, 44708), (40, 44717), (41, 44723), (53, 44813), (54, 44816), (56, 44825), (61, 44846), (74, 44957), (76, 44969), (77, 44987), (88, 45038), (89, 45047), (92, 45077), (93, 45080),

Gene: PLOT_59 Start: 44472, Stop: 45332, Start Num: 11

Candidate Starts for PLOT_59:

(1, 44400), (Start: 11 @44472 has 21 MA's), (13, 44517), (16, 44529), (17, 44547), (18, 44559), (20, 44583), (21, 44586), (36, 44739), (39, 44760), (40, 44769), (41, 44775), (53, 44865), (54, 44868), (56, 44877), (61, 44898), (74, 45009), (76, 45021), (77, 45039), (88, 45090), (89, 45099), (92, 45129), (93, 45132),

Gene: ParvusTarda_66 Start: 44602, Stop: 45693, Start Num: 7

Candidate Starts for ParvusTarda_66:

(Start: 7 @44602 has 38 MA's), (24, 44734), (28, 44782), (38, 44875), (39, 44884), (40, 44893), (60, 45016), (64, 45037), (67, 45064), (76, 45145), (77, 45163), (82, 45184), (91, 45262), (101, 45346), (114, 45511), (115, 45520), (122, 45664),

Gene: Patience_85 Start: 55493, Stop: 56551, Start Num: 5

Candidate Starts for Patience_85:

(Start: 5 @55493 has 12 MA's), (15, 55550), (16, 55553), (18, 55583), (26, 55640), (27, 55655), (39, 55784), (42, 55808), (49, 55862), (52, 55886), (72, 56030), (73, 56036), (74, 56042), (75, 56051), (76, 56054), (77, 56072), (83, 56099), (90, 56159), (95, 56207), (101, 56255), (103, 56273), (107, 56333), (111, 56354), (117, 56462), (118, 56477),

Gene: Patos_71 Start: 46295, Stop: 47386, Start Num: 7

Candidate Starts for Patos_71:

(Start: 7 @46295 has 38 MA's), (24, 46427), (28, 46475), (38, 46568), (39, 46577), (40, 46586), (60, 46709), (64, 46730), (67, 46757), (76, 46838), (77, 46856), (82, 46877), (91, 46955), (101, 47039), (114, 47204), (115, 47213), (122, 47357),

Gene: Penelope2018_59 Start: 44490, Stop: 45350, Start Num: 11

Candidate Starts for Penelope2018_59:

(1, 44418), (Start: 11 @44490 has 21 MA's), (13, 44535), (16, 44547), (17, 44565), (18, 44577), (20, 44601), (21, 44604), (36, 44757), (39, 44778), (40, 44787), (41, 44793), (53, 44883), (54, 44886), (56, 44895), (61, 44916), (74, 45027), (76, 45039), (77, 45057), (88, 45108), (89, 45117), (92, 45147), (93, 45150),

Gene: Phalaborwa_62 Start: 44931, Stop: 45791, Start Num: 11

Candidate Starts for Phalaborwa_62:

(1, 44859), (Start: 11 @44931 has 21 MA's), (16, 44988), (17, 45006), (18, 45018), (20, 45042), (21, 45045), (36, 45198), (39, 45219), (40, 45228), (41, 45234), (53, 45324), (54, 45327), (56, 45336), (61, 45357), (74, 45468), (76, 45480), (77, 45498), (88, 45549), (89, 45558), (93, 45591),

Gene: Polyuyuki_64 Start: 48412, Stop: 47561, Start Num: 6

Candidate Starts for Polyuyuki_64:

(Start: 6 @48412 has 8 MA's), (14, 48352), (28, 48232), (30, 48220), (39, 48118), (40, 48109), (43, 48091), (46, 48079), (53, 48007), (76, 47851), (77, 47833), (79, 47827), (97, 47704), (102, 47668), (105, 47647),

Gene: Prager_59 Start: 44509, Stop: 45369, Start Num: 11

Candidate Starts for Prager_59:

(1, 44437), (Start: 11 @44509 has 21 MA's), (13, 44554), (16, 44566), (17, 44584), (18, 44596), (20, 44620), (21, 44623), (36, 44776), (39, 44797), (40, 44806), (41, 44812), (53, 44902), (54, 44905), (56, 44914), (61, 44935), (74, 45046), (76, 45058), (77, 45076), (88, 45127), (89, 45136), (92, 45166), (93, 45169),

Gene: Predator_71 Start: 51699, Stop: 52709, Start Num: 7

Candidate Starts for Predator_71:

(Start: 7 @51699 has 38 MA's), (10, 51705), (14, 51753), (16, 51759), (27, 51861), (32, 51909), (39, 51996), (40, 52005), (41, 52011), (45, 52032), (53, 52101), (56, 52113), (62, 52140), (63, 52146), (65, 52161), (68, 52200), (73, 52239), (76, 52257), (77, 52275), (78, 52278), (89, 52350), (90, 52362), (119, 52683),

Gene: Ranch_67 Start: 44074, Stop: 45165, Start Num: 7

Candidate Starts for Ranch_67:

(Start: 7 @44074 has 38 MA's), (24, 44206), (28, 44254), (38, 44347), (39, 44356), (40, 44365), (60, 44488), (64, 44509), (67, 44536), (76, 44617), (77, 44635), (82, 44656), (91, 44734), (101, 44818), (114, 44983), (115, 44992), (122, 45136),

Gene: RazorC_67 Start: 44218, Stop: 45288, Start Num: 7

Candidate Starts for RazorC_67:

(Start: 7 @44218 has 38 MA's), (19, 44314), (24, 44350), (28, 44398), (38, 44491), (39, 44500), (40, 44509), (60, 44632), (64, 44653), (67, 44680), (76, 44761), (77, 44779), (82, 44800), (91, 44878), (101, 44962), (122, 45259),

Gene: Rota_64 Start: 45088, Stop: 46158, Start Num: 7

Candidate Starts for Rota_64:

(Start: 7 @45088 has 38 MA's), (24, 45220), (28, 45268), (38, 45361), (39, 45370), (40, 45379), (60, 45502), (64, 45523), (67, 45550), (76, 45631), (77, 45649), (82, 45670), (91, 45748), (101, 45832), (108, 45910), (114, 45997), (122, 46129),

Gene: Rukungu_69 Start: 46093, Stop: 47184, Start Num: 7

Candidate Starts for Rukungu_69:

(Start: 7 @46093 has 38 MA's), (24, 46225), (28, 46273), (36, 46354), (38, 46366), (39, 46375), (40, 46384), (60, 46507), (64, 46528), (67, 46555), (76, 46636), (77, 46654), (82, 46675), (91, 46753), (101, 46837), (114, 47002), (115, 47011), (122, 47155),

Gene: Rumi_68 Start: 43761, Stop: 44831, Start Num: 7

Candidate Starts for Rumi_68:

(Start: 7 @43761 has 38 MA's), (19, 43857), (24, 43893), (28, 43941), (38, 44034), (39, 44043), (40, 44052), (60, 44175), (64, 44196), (67, 44223), (76, 44304), (77, 44322), (82, 44343), (91, 44421), (101, 44505), (122, 44802),

Gene: Sadboi_68 Start: 45890, Stop: 46960, Start Num: 7

Candidate Starts for Sadboi_68:

(Start: 7 @45890 has 38 MA's), (24, 46022), (28, 46070), (38, 46163), (39, 46172), (40, 46181), (60, 46304), (64, 46325), (67, 46352), (76, 46433), (77, 46451), (82, 46472), (91, 46550), (101, 46634), (114, 46799), (122, 46931),

Gene: Sampudon_67 Start: 46242, Stop: 47312, Start Num: 7

Candidate Starts for Sampudon_67:

(Start: 7 @46242 has 38 MA's), (24, 46374), (28, 46422), (36, 46503), (38, 46515), (39, 46524), (40, 46533), (60, 46656), (64, 46677), (67, 46704), (76, 46785), (77, 46803), (82, 46824), (91, 46902), (101, 46986), (108, 47064), (114, 47151), (122, 47283),

Gene: Sienna_56 Start: 41882, Stop: 42811, Start Num: 5

Candidate Starts for Sienna_56:

(Start: 5 @41882 has 12 MA's), (15, 41939), (18, 41972), (33, 42122), (34, 42131), (36, 42155), (39, 42176), (41, 42191), (43, 42203), (46, 42215), (50, 42254), (51, 42269), (58, 42302), (72, 42413), (73, 42419), (76, 42437), (79, 42461), (80, 42467), (86, 42497), (88, 42521), (99, 42614), (116, 42782),

Gene: SirHarley_61 Start: 44932, Stop: 45792, Start Num: 11

Candidate Starts for SirHarley_61:

(1, 44860), (Start: 11 @44932 has 21 MA's), (13, 44977), (16, 44989), (17, 45007), (18, 45019), (20, 45043), (21, 45046), (36, 45199), (39, 45220), (40, 45229), (41, 45235), (53, 45325), (54, 45328), (56, 45337), (61, 45358), (74, 45469), (76, 45481), (77, 45499), (88, 45550), (89, 45559), (92, 45589), (93, 45592),

Gene: Stormer_67 Start: 43765, Stop: 44835, Start Num: 7

Candidate Starts for Stormer_67:

(Start: 7 @43765 has 38 MA's), (19, 43861), (24, 43897), (28, 43945), (38, 44038), (39, 44047), (40, 44056), (60, 44179), (64, 44200), (67, 44227), (76, 44308), (77, 44326), (82, 44347), (91, 44425), (101, 44509), (122, 44806),

Gene: SuperSonics_88 Start: 54521, Stop: 55606, Start Num: 5

Candidate Starts for SuperSonics_88:

(Start: 5 @54521 has 12 MA's), (15, 54578), (16, 54581), (18, 54611), (26, 54668), (27, 54683), (39, 54812), (42, 54836), (49, 54890), (52, 54914), (72, 55058), (73, 55064), (74, 55070), (75, 55079), (76, 55082), (77, 55100), (83, 55127), (90, 55187), (95, 55235), (101, 55283), (103, 55301), (107, 55361), (111, 55382), (117, 55517), (118, 55532),

Gene: SuperheroCarly_61 Start: 44606, Stop: 45466, Start Num: 11

Candidate Starts for SuperheroCarly_61:

(1, 44534), (Start: 11 @44606 has 21 MA's), (13, 44651), (16, 44663), (17, 44681), (18, 44693), (20, 44717), (21, 44720), (36, 44873), (39, 44894), (40, 44903), (41, 44909), (53, 44999), (54, 45002), (56, 45011), (61, 45032), (74, 45143), (76, 45155), (77, 45173), (88, 45224), (89, 45233), (92, 45263), (93, 45266),

Gene: Suzy_56 Start: 43075, Stop: 44001, Start Num: 5

Candidate Starts for Suzy_56:

(Start: 5 @43075 has 12 MA's), (15, 43132), (18, 43165), (33, 43315), (34, 43324), (39, 43369), (41, 43384), (43, 43396), (46, 43408), (50, 43447), (51, 43462), (58, 43495), (72, 43606), (73, 43612), (76, 43630), (79, 43654), (80, 43660), (84, 43684), (86, 43690), (88, 43714), (96, 43783), (99, 43807), (116, 43972),

Gene: Terapin_57 Start: 41806, Stop: 42735, Start Num: 5

Candidate Starts for Terapin_57:

(Start: 5 @41806 has 12 MA's), (15, 41863), (18, 41896), (33, 42046), (34, 42055), (36, 42079), (39, 42100), (41, 42115), (43, 42127), (46, 42139), (50, 42178), (51, 42193), (58, 42226), (72, 42337), (73, 42343), (76, 42361), (79, 42385), (80, 42391), (86, 42421), (88, 42445), (99, 42538), (116, 42706),

Gene: Thoth_59 Start: 44488, Stop: 45348, Start Num: 11

Candidate Starts for Thoth_59:

(1, 44416), (Start: 11 @44488 has 21 MA's), (13, 44533), (16, 44545), (17, 44563), (18, 44575), (20, 44599), (21, 44602), (36, 44755), (39, 44776), (40, 44785), (41, 44791), (53, 44881), (54, 44884), (56, 44893), (61, 44914), (74, 45025), (76, 45037), (77, 45055), (88, 45106), (89, 45115), (92, 45145), (93, 45148),

Gene: Tillicus_62 Start: 44587, Stop: 45672, Start Num: 7

Candidate Starts for Tillicus_62:

(Start: 7 @44587 has 38 MA's), (17, 44668), (18, 44680), (20, 44704), (24, 44719), (28, 44767), (38, 44860), (39, 44869), (40, 44878), (60, 45001), (64, 45022), (67, 45049), (76, 45130), (77, 45148), (82, 45169), (85, 45190), (91, 45247), (101, 45331),

Gene: Troll4_59 Start: 44619, Stop: 45479, Start Num: 11

Candidate Starts for Troll4_59:

(1, 44547), (Start: 11 @44619 has 21 MA's), (13, 44664), (16, 44676), (17, 44694), (18, 44706), (20, 44730), (21, 44733), (36, 44886), (39, 44907), (40, 44916), (41, 44922), (53, 45012), (54, 45015), (56, 45024), (61, 45045), (74, 45156), (76, 45168), (77, 45186), (88, 45237), (89, 45246), (92, 45276), (93, 45279),

Gene: Visconti_60 Start: 44499, Stop: 45359, Start Num: 11

Candidate Starts for Visconti_60:

(1, 44427), (Start: 11 @44499 has 21 MA's), (13, 44544), (16, 44556), (17, 44574), (18, 44586), (20, 44610), (21, 44613), (36, 44766), (39, 44787), (40, 44796), (41, 44802), (53, 44892), (54, 44895), (56, 44904), (61, 44925), (74, 45036), (76, 45048), (77, 45066), (88, 45117), (89, 45126), (92, 45156), (93, 45159),

Gene: WaldoWhy_61 Start: 44552, Stop: 45412, Start Num: 11

Candidate Starts for WaldoWhy_61:

(1, 44480), (Start: 11 @44552 has 21 MA's), (13, 44597), (16, 44609), (17, 44627), (18, 44639), (20, 44663), (21, 44666), (36, 44819), (39, 44840), (40, 44849), (41, 44855), (53, 44945), (54, 44948), (56, 44957), (61, 44978), (74, 45089), (76, 45101), (77, 45119), (88, 45170), (89, 45179), (92, 45209), (93,

45212),

Gene: Wojtek_63 Start: 44323, Stop: 45414, Start Num: 7

Candidate Starts for Wojtek_63:

(Start: 7 @44323 has 38 MA's), (17, 44404), (18, 44416), (24, 44455), (28, 44503), (38, 44596), (39, 44605), (40, 44614), (60, 44737), (64, 44758), (67, 44785), (76, 44866), (77, 44884), (82, 44905), (91, 44983), (101, 45067), (108, 45145), (114, 45232),

Gene: Xenia2_66 Start: 44090, Stop: 45202, Start Num: 7

Candidate Starts for Xenia2_66:

(Start: 7 @44090 has 38 MA's), (18, 44186), (24, 44225), (28, 44273), (36, 44354), (38, 44366), (39, 44375), (40, 44384), (64, 44528), (76, 44636), (77, 44654), (82, 44675), (86, 44699), (87, 44702), (91, 44753), (106, 44894), (122, 45170),

Gene: Yikes_69 Start: 46336, Stop: 47406, Start Num: 7

Candidate Starts for Yikes_69:

(Start: 7 @46336 has 38 MA's), (24, 46468), (28, 46516), (38, 46609), (39, 46618), (40, 46627), (60, 46750), (64, 46771), (67, 46798), (76, 46879), (77, 46897), (82, 46918), (91, 46996), (101, 47080), (114, 47245), (122, 47377),

Gene: Zany_65 Start: 45737, Stop: 46807, Start Num: 7

Candidate Starts for Zany_65:

(Start: 7 @45737 has 38 MA's), (24, 45869), (28, 45917), (38, 46010), (39, 46019), (40, 46028), (60, 46151), (64, 46172), (67, 46199), (76, 46280), (77, 46298), (82, 46319), (91, 46397), (101, 46481), (114, 46646), (122, 46778),