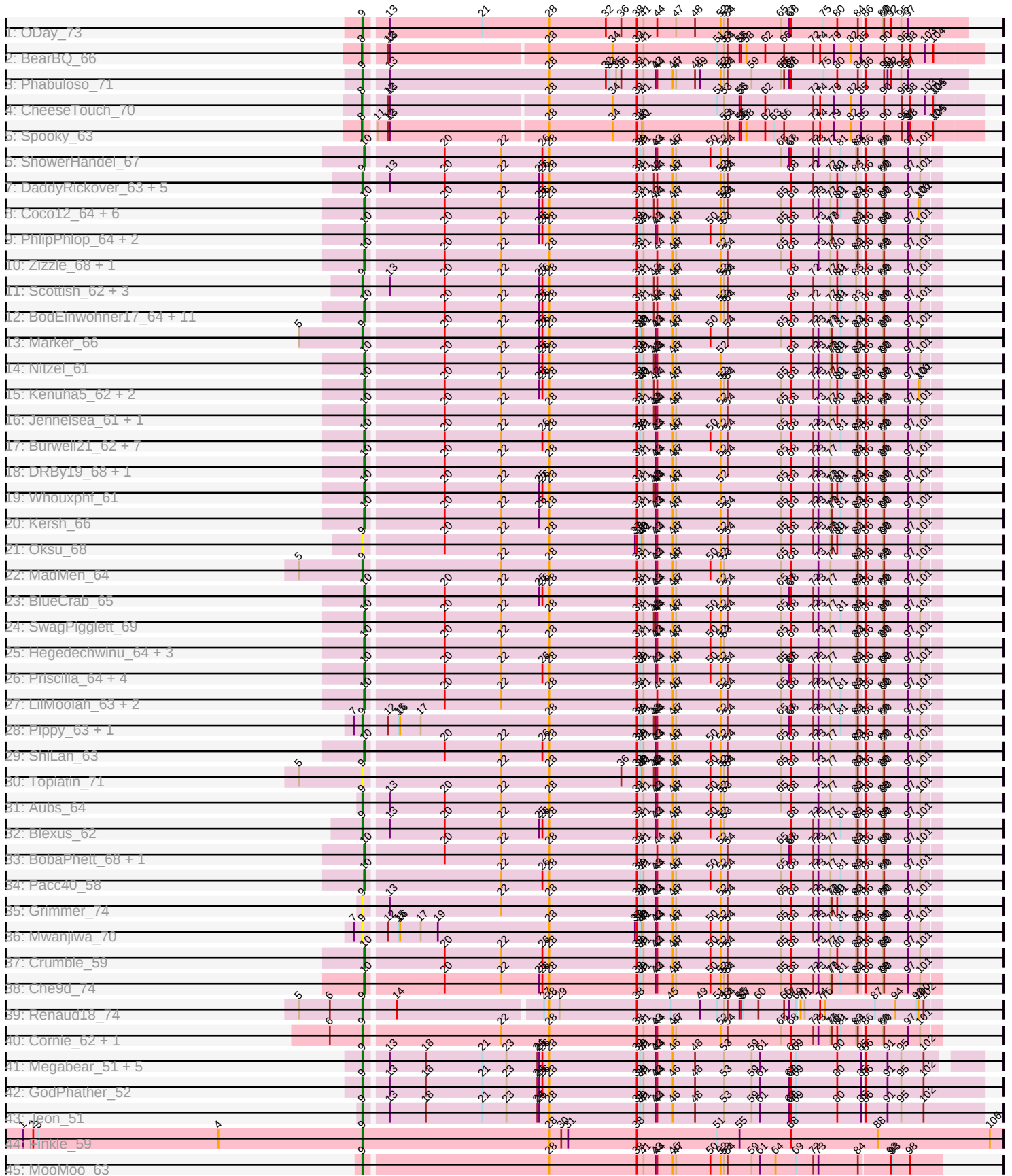




Note: Tracks are now grouped by subcluster and scaled. Switching in subcluster is indicated by changes in track color. Track scale is now set by default to display the region 30 bp upstream of start 1 to 30 bp downstream of the last possible start. If this default region is judged to be packed too tightly 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 231263 Report

This analysis was run 02/07/26 on database version 634.

Pham number 231263 has 101 members, 9 are drafts.

Phages represented in each track:

- Track 1 : ODay_73
- Track 2 : BearBQ_66
- Track 3 : Phabuloso_71
- Track 4 : CheeseTouch_70
- Track 5 : Spooky_63
- Track 6 : ShowerHandel_67
- Track 7 : DaddyRickover_63, Sassafras_62, RedBird_62, Dorothy_62, Inventum_59, IbOuu_65
- Track 8 : Coco12_64, Cerasum_61, Brookers_62, BigPhil_61, Sarma624_63, Velveteen_60, Kingsley_62
- Track 9 : PhlipPhlop_64, Vivum_67, EmiMonkey_62
- Track 10 : Zizzle_68, DoRead_67
- Track 11 : Scottish_62, Stap_61, Polka14_62, OldBen_61
- Track 12 : BodEinwohner17_64, Leperchaun_56, JoeyJr_59, Daenerys_58, Deb65_58, KingMidas_63, PHappiness_59, Spoonbill_61, RitaG_59, Geralt_58, Empress_62, Nimbo_57
- Track 13 : Marker_66
- Track 14 : Nitzel_61
- Track 15 : Kenuha5_62, SuperGrey_68, Bipolar_64
- Track 16 : Jennelsea_61, Jarcob_64
- Track 17 : Burwell21_62, Minnie_67, Martik_64, Tootsieroll_65, Brocalys_59, Clifton_59, Sandalphon_65, LastJedi_58
- Track 18 : DRBy19_68, Philus_68
- Track 19 : Whouxphf_61
- Track 20 : Kersh_66
- Track 21 : Oksu_68
- Track 22 : MadMen_64
- Track 23 : BlueCrab_65
- Track 24 : SwagPigglett_69
- Track 25 : Hegedechwinu_64, Gandalph_67, CaptainTrips_62, MinionDave_63
- Track 26 : Priscilla_64, Koella_58, FreddyB_65, NormanBulbieJr_64, Cabrinians_65
- Track 27 : LilMoolah_63, Job42_67, Nivrat_61
- Track 28 : Pippy_63, Maravista_66
- Track 29 : ShiLan_63
- Track 30 : Topiatin_71
- Track 31 : Aubs_64
- Track 32 : Blexus_62

- Track 33 : BobaPhett_68, ByChance_57
- Track 34 : Pacc40_58
- Track 35 : Grimmer_74
- Track 36 : Mwanjiwa_70
- Track 37 : Crumble_59
- Track 38 : Che9d_74
- Track 39 : Renaud18_74
- Track 40 : Cornie_62, Cheesepuff_73
- Track 41 : Megabear_51, Cepens_51, D12_50, Taptic_51, PR_51, Argie_52
- Track 42 : GodPhather_52
- Track 43 : Jeon_51
- Track 44 : Finkle_59
- Track 45 : MooMoo_63

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

The start number called the most often in the published annotations is 10, it was called in 60 of the 92 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- BigPhil_61, Bipolar_64, BlueCrab_65, BobaPhett_68, BodEinwohner17_64, Brocalys_59, Brookers_62, Burwell21_62, ByChance_57, Cabrinians_65, CaptainTrips_62, Cerasum_61, Che9d_74, Clifton_59, Coco12_64, Crumble_59, DRBy19_68, Daenerys_58, Deb65_58, DoRead_67, EmiMonkey_62, Empress_62, FreddyB_65, Gandolph_67, Geralt_58, Hegedechwinu_64, Jacob_64, Jennelsea_61, Job42_67, JoeyJr_59, Kenuha5_62, Kersh_66, KingMidas_63, Kingsley_62, Koella_58, LastJedi_58, Leperchaun_56, LilMoolah_63, Martik_64, MinionDave_63, Minnie_67, Nimbo_57, Nitzel_61, Nivrat_61, NormanBulbieJr_64, PHappiness_59, Pacc40_58, Philus_68, PhilipPhlop_64, Priscilla_64, RitaG_59, Sandalphon_65, Sarma624_63, ShiLan_63, ShowerHandel_67, Spoonbill_61, SuperGrey_68, SwagPigglett_69, Tootsieroll_65, Velveteen_60, Vivum_67, Whouxphf_61, Zizzle_68,

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

-

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

- Argie_52, Aubs_64, BearBQ_66, Blexus_62, Cepens_51, CheeseTouch_70, Cheesepuff_73, Cornie_62, D12_50, DaddyRickover_63, Dorothy_62, Finkle_59, GodPhather_52, Grimmer_74, IbOuu_65, Inventum_59, Jeon_51, MadMen_64, Maravista_66, Marker_66, Megabear_51, MooMoo_63, Mwanjiwa_70, ODay_73, Oksu_68, OldBen_61, PR_51, Phabuloso_71, Pippy_63, Polka14_62, RedBird_62, Renaud18_74, Sassafras_62, Scottish_62, Spooky_63, Stap_61, Taptic_51, Topiatin_71,

Summary by start number:

Start 8:

- Found in 3 of 101 (3.0%) of genes in pham
- Manual Annotations of this start: 3 of 92

- Called 100.0% of time when present
- Phage (with cluster) where this start called: BearBQ_66 (DN), CheeseTouch_70 (DN1), Spooky_63 (DN2),

Start 9:

- Found in 35 of 101 (34.7%) of genes in pham
- Manual Annotations of this start: 29 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Argie_52 (W), Aubs_64 (F1), Blexus_62 (F1), Cepens_51 (W), CheesePuff_73 (F1), Cornie_62 (F5), D12_50 (W), DaddyRickover_63 (F1), Dorothy_62 (F1), Finkle_59 (singleton), GodPhather_52 (W), Grimmer_74 (F1), IbOuu_65 (F1), Inventum_59 (F1), Jeon_51 (W), MadMen_64 (F1), Maravista_66 (F1), Marker_66 (F1), Megabear_51 (W), MooMoo_63 (singleton), Mwanjiwa_70 (F1), ODay_73 (DN), Oksu_68 (F1), OldBen_61 (F1), PR_51 (W), Phabuloso_71 (DN1), Pippy_63 (F1), Polka14_62 (F1), RedBird_62 (F1), Renaud18_74 (F4), Sassafras_62 (F1), Scottish_62 (F1), Stap_61 (F1), Taptic_51 (W), Topiatin_71 (F1),

Start 10:

- Found in 63 of 101 (62.4%) of genes in pham
- Manual Annotations of this start: 60 of 92
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BigPhil_61 (F1), Bipolar_64 (F1), BlueCrab_65 (F1), BobaPhett_68 (F1), BodEinwohner17_64 (F1), Brocalys_59 (F1), Brookers_62 (F1), Burwell21_62 (F1), ByChance_57 (F1), Cabrinians_65 (F1), CaptainTrips_62 (F1), Cerasum_61 (F1), Che9d_74 (F2), Clifton_59 (F1), Coco12_64 (F1), Crumble_59 (F1), DRBy19_68 (F1), Daenerys_58 (F1), Deb65_58 (F1), DoRead_67 (F1), EmiMonkey_62 (F1), Empress_62 (F1), FreddyB_65 (F1), Gandolph_67 (F1), Geralt_58 (F1), Hegedechwinu_64 (F1), JarcoB_64 (F1), Jennelsea_61 (F1), Job42_67 (F1), JoeyJr_59 (F1), Kenuha5_62 (F1), Kersh_66 (F1), KingMidas_63 (F1), Kingsley_62 (F1), Koella_58 (F1), LastJedi_58 (F1), Leperchaun_56 (F1), LilMoolah_63 (F1), Martik_64 (F1), MinionDave_63 (F1), Minnie_67 (F1), Nimbo_57 (F1), Nitzel_61 (F1), Nivrat_61 (F1), NormanBulbieJr_64 (F1), PHappiness_59 (F1), Pacc40_58 (F1), Philus_68 (F1), PhilipPhlop_64 (F1), Priscilla_64 (F1), RitaG_59 (F1), Sandalphon_65 (F1), Sarma624_63 (F1), ShiLan_63 (F1), ShowerHandel_67 (F1), Spoonbill_61 (F1), SuperGrey_68 (F1), SwagPiggett_69 (F1), Tootsieroll_65 (F1), Velveteen_60 (F1), Vivum_67 (F1), Whouxphf_61 (F1), Zizzle_68 (F1),

Summary by clusters:

There are 9 clusters represented in this pham: DN, F1, singleton, F4, F5, F2, DN1, W, DN2,

Info for manual annotations of cluster DN:

- Start number 8 was manually annotated 1 time for cluster DN.
- Start number 9 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 8 was manually annotated 1 time for cluster DN1.
- Start number 9 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 8 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster F1:

- Start number 9 was manually annotated 15 times for cluster F1.
- Start number 10 was manually annotated 59 times for cluster F1.

Info for manual annotations of cluster F2:

- Start number 10 was manually annotated 1 time for cluster F2.

Info for manual annotations of cluster F4:

- Start number 9 was manually annotated 1 time for cluster F4.

Info for manual annotations of cluster F5:

- Start number 9 was manually annotated 1 time for cluster F5.

Info for manual annotations of cluster W:

- Start number 9 was manually annotated 8 times for cluster W.

Gene Information:

Gene: Argie_52 Start: 43170, Stop: 44210, Start Num: 9

Candidate Starts for Argie_52:

(Start: 9 @43170 has 29 MA's), (13, 43206), (18, 43269), (21, 43368), (23, 43410), (24, 43464), (25, 43467), (26, 43473), (28, 43485), (38, 43638), (39, 43644), (41, 43650), (43, 43671), (44, 43674), (46, 43698), (48, 43737), (53, 43788), (59, 43836), (61, 43851), (68, 43905), (69, 43914), (80, 43986), (85, 44028), (86, 44031), (91, 44067), (95, 44091), (102, 44130),

Gene: Aubs_64 Start: 41716, Stop: 42693, Start Num: 9

Candidate Starts for Aubs_64:

(Start: 9 @41716 has 29 MA's), (13, 41749), (20, 41845), (22, 41944), (28, 42028), (38, 42181), (41, 42193), (43, 42214), (44, 42217), (46, 42241), (47, 42247), (50, 42304), (52, 42322), (53, 42328), (65, 42427), (68, 42445), (73, 42493), (77, 42514), (83, 42559), (84, 42562), (86, 42571), (89, 42598), (90, 42601), (97, 42643), (101, 42664),

Gene: BearBQ_66 Start: 41957, Stop: 43009, Start Num: 8

Candidate Starts for BearBQ_66:

(Start: 8 @41957 has 3 MA's), (12, 41990), (13, 41993), (28, 42263), (34, 42374), (38, 42416), (41, 42428), (51, 42557), (53, 42569), (54, 42575), (55, 42596), (56, 42599), (58, 42608), (62, 42641), (66, 42674), (72, 42725), (74, 42737), (79, 42761), (82, 42791), (85, 42809), (90, 42848), (96, 42878), (98, 42890), (103, 42914), (104, 42926),

Gene: BigPhil_61 Start: 38174, Stop: 39151, Start Num: 10

Candidate Starts for BigPhil_61:

(Start: 10 @38174 has 60 MA's), (20, 38303), (22, 38402), (25, 38468), (26, 38474), (28, 38486), (38, 38639), (41, 38651), (42, 38669), (44, 38675), (46, 38699), (47, 38705), (52, 38780), (53, 38786), (54, 38792), (65, 38885), (68, 38903), (72, 38942), (73, 38951), (77, 38972), (80, 38984), (81, 38990), (83, 39017), (84, 39020), (86, 39029), (89, 39056), (90, 39059), (97, 39101), (100, 39119), (101, 39122),

Gene: Bipolar_64 Start: 41716, Stop: 42693, Start Num: 10

Candidate Starts for Bipolar_64:

(Start: 10 @41716 has 60 MA's), (20, 41845), (22, 41944), (25, 42010), (26, 42016), (28, 42028), (38, 42181), (39, 42187), (40, 42190), (41, 42193), (42, 42211), (44, 42217), (46, 42241), (47, 42247), (52, 42322), (53, 42328), (54, 42334), (65, 42427), (68, 42445), (72, 42484), (73, 42493), (77, 42514), (80, 42526), (81, 42532), (83, 42559), (84, 42562), (86, 42571), (89, 42598), (90, 42601), (97, 42643), (100, 42661), (101, 42664),

Gene: Blexus_62 Start: 41845, Stop: 42822, Start Num: 9

Candidate Starts for Blexus_62:

(Start: 9 @41845 has 29 MA's), (13, 41878), (20, 41974), (22, 42073), (25, 42139), (26, 42145), (28, 42157), (38, 42310), (41, 42322), (43, 42343), (44, 42346), (46, 42370), (47, 42376), (50, 42433), (52, 42451), (53, 42457), (68, 42574), (72, 42613), (73, 42622), (77, 42643), (81, 42661), (83, 42688), (84, 42691), (86, 42700), (89, 42727), (90, 42730), (97, 42772), (101, 42793),

Gene: BlueCrab_65 Start: 42554, Stop: 43531, Start Num: 10

Candidate Starts for BlueCrab_65:

(Start: 10 @42554 has 60 MA's), (20, 42683), (22, 42782), (25, 42848), (26, 42854), (28, 42866), (38, 43019), (41, 43031), (43, 43052), (44, 43055), (46, 43079), (47, 43085), (52, 43160), (54, 43172), (65, 43265), (67, 43280), (68, 43283), (72, 43322), (73, 43331), (77, 43352), (83, 43397), (84, 43400), (86, 43409), (89, 43436), (90, 43439), (97, 43481), (101, 43502),

Gene: BobaPhett_68 Start: 44140, Stop: 45117, Start Num: 10

Candidate Starts for BobaPhett_68:

(Start: 10 @44140 has 60 MA's), (20, 44269), (22, 44368), (28, 44452), (38, 44605), (41, 44617), (44, 44641), (46, 44665), (47, 44671), (52, 44746), (54, 44758), (65, 44851), (67, 44866), (68, 44869), (72, 44908), (73, 44917), (77, 44938), (83, 44983), (84, 44986), (86, 44995), (89, 45022), (90, 45025), (97, 45067), (101, 45088),

Gene: BodEinwohner17_64 Start: 40945, Stop: 41922, Start Num: 10

Candidate Starts for BodEinwohner17_64:

(Start: 10 @40945 has 60 MA's), (20, 41074), (22, 41173), (25, 41239), (26, 41245), (28, 41257), (38, 41410), (41, 41422), (42, 41440), (44, 41446), (46, 41470), (47, 41476), (52, 41551), (53, 41557), (54, 41563), (68, 41674), (72, 41713), (77, 41743), (80, 41755), (81, 41761), (83, 41788), (86, 41800), (89, 41827), (90, 41830), (97, 41872), (101, 41893),

Gene: Brocalys_59 Start: 38322, Stop: 39299, Start Num: 10

Candidate Starts for Brocalys_59:

(Start: 10 @38322 has 60 MA's), (20, 38451), (22, 38550), (26, 38622), (28, 38634), (38, 38787), (39, 38793), (41, 38799), (43, 38820), (44, 38823), (46, 38847), (47, 38853), (50, 38910), (52, 38928), (54, 38940), (65, 39033), (68, 39051), (72, 39090), (73, 39099), (77, 39120), (81, 39138), (83, 39165), (84, 39168), (86, 39177), (89, 39204), (90, 39207), (97, 39249), (101, 39270),

Gene: Brookers_62 Start: 41125, Stop: 42102, Start Num: 10

Candidate Starts for Brookers_62:

(Start: 10 @41125 has 60 MA's), (20, 41254), (22, 41353), (25, 41419), (26, 41425), (28, 41437), (38, 41590), (41, 41602), (42, 41620), (44, 41626), (46, 41650), (47, 41656), (52, 41731), (53, 41737), (54, 41743), (65, 41836), (68, 41854), (72, 41893), (73, 41902), (77, 41923), (80, 41935), (81, 41941), (83, 41968), (84, 41971), (86, 41980), (89, 42007), (90, 42010), (97, 42052), (100, 42070), (101, 42073),

Gene: Burwell21_62 Start: 41423, Stop: 42400, Start Num: 10

Candidate Starts for Burwell21_62:

(Start: 10 @41423 has 60 MA's), (20, 41552), (22, 41651), (26, 41723), (28, 41735), (38, 41888), (39, 41894), (41, 41900), (43, 41921), (44, 41924), (46, 41948), (47, 41954), (50, 42011), (52, 42029), (54, 42041), (65, 42134), (68, 42152), (72, 42191), (73, 42200), (77, 42221), (81, 42239), (83, 42266), (84,

42269), (86, 42278), (89, 42305), (90, 42308), (97, 42350), (101, 42371),

Gene: ByChance_57 Start: 37482, Stop: 38459, Start Num: 10

Candidate Starts for ByChance_57:

(Start: 10 @37482 has 60 MA's), (20, 37611), (22, 37710), (28, 37794), (38, 37947), (41, 37959), (44, 37983), (46, 38007), (47, 38013), (52, 38088), (54, 38100), (65, 38193), (67, 38208), (68, 38211), (72, 38250), (73, 38259), (77, 38280), (83, 38325), (84, 38328), (86, 38337), (89, 38364), (90, 38367), (97, 38409), (101, 38430),

Gene: Cabrinians_65 Start: 41501, Stop: 42478, Start Num: 10

Candidate Starts for Cabrinians_65:

(Start: 10 @41501 has 60 MA's), (20, 41630), (22, 41729), (26, 41801), (28, 41813), (38, 41966), (39, 41972), (41, 41978), (43, 41999), (44, 42002), (46, 42026), (47, 42032), (50, 42089), (52, 42107), (54, 42119), (65, 42212), (67, 42227), (68, 42230), (72, 42269), (73, 42278), (77, 42299), (83, 42344), (84, 42347), (86, 42356), (89, 42383), (90, 42386), (97, 42428), (101, 42449),

Gene: CaptainTrips_62 Start: 41236, Stop: 42213, Start Num: 10

Candidate Starts for CaptainTrips_62:

(Start: 10 @41236 has 60 MA's), (20, 41365), (22, 41464), (28, 41548), (38, 41701), (41, 41713), (43, 41734), (44, 41737), (46, 41761), (47, 41767), (50, 41824), (52, 41842), (53, 41848), (65, 41947), (68, 41965), (73, 42013), (77, 42034), (83, 42079), (84, 42082), (86, 42091), (89, 42118), (90, 42121), (97, 42163), (101, 42184),

Gene: Cepens_51 Start: 42885, Stop: 43925, Start Num: 9

Candidate Starts for Cepens_51:

(Start: 9 @42885 has 29 MA's), (13, 42921), (18, 42984), (21, 43083), (23, 43125), (24, 43179), (25, 43182), (26, 43188), (28, 43200), (38, 43353), (39, 43359), (41, 43365), (43, 43386), (44, 43389), (46, 43413), (48, 43452), (53, 43503), (59, 43551), (61, 43566), (68, 43620), (69, 43629), (80, 43701), (85, 43743), (86, 43746), (91, 43782), (95, 43806), (102, 43845),

Gene: Cerasum_61 Start: 38192, Stop: 39169, Start Num: 10

Candidate Starts for Cerasum_61:

(Start: 10 @38192 has 60 MA's), (20, 38321), (22, 38420), (25, 38486), (26, 38492), (28, 38504), (38, 38657), (41, 38669), (42, 38687), (44, 38693), (46, 38717), (47, 38723), (52, 38798), (53, 38804), (54, 38810), (65, 38903), (68, 38921), (72, 38960), (73, 38969), (77, 38990), (80, 39002), (81, 39008), (83, 39035), (84, 39038), (86, 39047), (89, 39074), (90, 39077), (97, 39119), (100, 39137), (101, 39140),

Gene: Che9d_74 Start: 41890, Stop: 42867, Start Num: 10

Candidate Starts for Che9d_74:

(Start: 10 @41890 has 60 MA's), (20, 42019), (22, 42118), (25, 42184), (26, 42190), (28, 42202), (38, 42355), (39, 42361), (41, 42367), (43, 42388), (44, 42391), (46, 42415), (47, 42421), (50, 42478), (52, 42496), (53, 42502), (54, 42508), (65, 42601), (68, 42619), (72, 42658), (73, 42667), (77, 42688), (78, 42691), (81, 42706), (83, 42733), (84, 42736), (86, 42745), (89, 42772), (90, 42775), (97, 42817), (101, 42838),

Gene: CheeseTouch_70 Start: 37387, Stop: 38439, Start Num: 8

Candidate Starts for CheeseTouch_70:

(Start: 8 @37387 has 3 MA's), (12, 37420), (13, 37423), (28, 37693), (34, 37804), (38, 37846), (41, 37858), (51, 37987), (53, 37999), (55, 38026), (56, 38029), (62, 38071), (72, 38155), (74, 38167), (79, 38191), (82, 38221), (85, 38239), (90, 38278), (96, 38308), (98, 38320), (103, 38344), (104, 38356), (105, 38359),

Gene: CheesePuff_73 Start: 43506, Stop: 44483, Start Num: 9

Candidate Starts for Cheesepuff_73:

(6, 43449), (Start: 9 @43506 has 29 MA's), (22, 43734), (28, 43818), (38, 43971), (41, 43983), (43, 44004), (44, 44007), (46, 44031), (47, 44037), (52, 44112), (54, 44124), (65, 44217), (68, 44235), (72, 44274), (73, 44283), (77, 44304), (78, 44307), (80, 44316), (81, 44322), (83, 44349), (84, 44352), (86, 44361), (89, 44388), (90, 44391), (97, 44433), (101, 44454),

Gene: Clifton_59 Start: 38673, Stop: 39650, Start Num: 10

Candidate Starts for Clifton_59:

(Start: 10 @38673 has 60 MA's), (20, 38802), (22, 38901), (26, 38973), (28, 38985), (38, 39138), (39, 39144), (41, 39150), (43, 39171), (44, 39174), (46, 39198), (47, 39204), (50, 39261), (52, 39279), (54, 39291), (65, 39384), (68, 39402), (72, 39441), (73, 39450), (77, 39471), (81, 39489), (83, 39516), (84, 39519), (86, 39528), (89, 39555), (90, 39558), (97, 39600), (101, 39621),

Gene: Coco12_64 Start: 42249, Stop: 43226, Start Num: 10

Candidate Starts for Coco12_64:

(Start: 10 @42249 has 60 MA's), (20, 42378), (22, 42477), (25, 42543), (26, 42549), (28, 42561), (38, 42714), (41, 42726), (42, 42744), (44, 42750), (46, 42774), (47, 42780), (52, 42855), (53, 42861), (54, 42867), (65, 42960), (68, 42978), (72, 43017), (73, 43026), (77, 43047), (80, 43059), (81, 43065), (83, 43092), (84, 43095), (86, 43104), (89, 43131), (90, 43134), (97, 43176), (100, 43194), (101, 43197),

Gene: Cornie_62 Start: 39968, Stop: 40945, Start Num: 9

Candidate Starts for Cornie_62:

(6, 39911), (Start: 9 @39968 has 29 MA's), (22, 40196), (28, 40280), (38, 40433), (41, 40445), (43, 40466), (44, 40469), (46, 40493), (47, 40499), (52, 40574), (54, 40586), (65, 40679), (68, 40697), (72, 40736), (73, 40745), (77, 40766), (78, 40769), (80, 40778), (81, 40784), (83, 40811), (84, 40814), (86, 40823), (89, 40850), (90, 40853), (97, 40895), (101, 40916),

Gene: Crumble_59 Start: 37437, Stop: 38414, Start Num: 10

Candidate Starts for Crumble_59:

(Start: 10 @37437 has 60 MA's), (20, 37566), (22, 37665), (26, 37737), (28, 37749), (38, 37902), (39, 37908), (41, 37914), (43, 37935), (44, 37938), (46, 37962), (47, 37968), (50, 38025), (52, 38043), (54, 38055), (65, 38148), (68, 38166), (73, 38214), (77, 38235), (80, 38247), (83, 38280), (84, 38283), (86, 38292), (89, 38319), (90, 38322), (97, 38364), (101, 38385),

Gene: D12_50 Start: 43433, Stop: 44473, Start Num: 9

Candidate Starts for D12_50:

(Start: 9 @43433 has 29 MA's), (13, 43469), (18, 43532), (21, 43631), (23, 43673), (24, 43727), (25, 43730), (26, 43736), (28, 43748), (38, 43901), (39, 43907), (41, 43913), (43, 43934), (44, 43937), (46, 43961), (48, 44000), (53, 44051), (59, 44099), (61, 44114), (68, 44168), (69, 44177), (80, 44249), (85, 44291), (86, 44294), (91, 44330), (95, 44354), (102, 44393),

Gene: DRBy19_68 Start: 42933, Stop: 43910, Start Num: 10

Candidate Starts for DRBy19_68:

(Start: 10 @42933 has 60 MA's), (20, 43062), (22, 43161), (28, 43245), (38, 43398), (41, 43410), (43, 43431), (44, 43434), (46, 43458), (47, 43464), (52, 43539), (54, 43551), (65, 43644), (68, 43662), (72, 43701), (73, 43710), (77, 43731), (83, 43776), (84, 43779), (86, 43788), (89, 43815), (90, 43818), (97, 43860), (101, 43881),

Gene: DaddyRickover_63 Start: 41508, Stop: 42485, Start Num: 9

Candidate Starts for DaddyRickover_63:

(Start: 9 @41508 has 29 MA's), (13, 41541), (20, 41637), (22, 41736), (25, 41802), (26, 41808), (28, 41820), (38, 41973), (41, 41985), (42, 42003), (44, 42009), (46, 42033), (47, 42039), (52, 42114), (53, 42120), (54, 42126), (68, 42237), (72, 42276), (77, 42306), (80, 42318), (81, 42324), (83, 42351), (86,

42363), (89, 42390), (90, 42393), (97, 42435), (101, 42456),

Gene: Daenerys_58 Start: 39750, Stop: 40727, Start Num: 10

Candidate Starts for Daenerys_58:

(Start: 10 @39750 has 60 MA's), (20, 39879), (22, 39978), (25, 40044), (26, 40050), (28, 40062), (38, 40215), (41, 40227), (42, 40245), (44, 40251), (46, 40275), (47, 40281), (52, 40356), (53, 40362), (54, 40368), (68, 40479), (72, 40518), (77, 40548), (80, 40560), (81, 40566), (83, 40593), (86, 40605), (89, 40632), (90, 40635), (97, 40677), (101, 40698),

Gene: Deb65_58 Start: 39720, Stop: 40697, Start Num: 10

Candidate Starts for Deb65_58:

(Start: 10 @39720 has 60 MA's), (20, 39849), (22, 39948), (25, 40014), (26, 40020), (28, 40032), (38, 40185), (41, 40197), (42, 40215), (44, 40221), (46, 40245), (47, 40251), (52, 40326), (53, 40332), (54, 40338), (68, 40449), (72, 40488), (77, 40518), (80, 40530), (81, 40536), (83, 40563), (86, 40575), (89, 40602), (90, 40605), (97, 40647), (101, 40668),

Gene: DoRead_67 Start: 41068, Stop: 42045, Start Num: 10

Candidate Starts for DoRead_67:

(Start: 10 @41068 has 60 MA's), (20, 41197), (22, 41296), (28, 41380), (38, 41533), (41, 41545), (44, 41569), (46, 41593), (47, 41599), (52, 41674), (54, 41686), (65, 41779), (68, 41797), (73, 41845), (77, 41866), (80, 41878), (83, 41911), (84, 41914), (86, 41923), (89, 41950), (90, 41953), (97, 41995), (101, 42016),

Gene: Dorothy_62 Start: 40682, Stop: 41659, Start Num: 9

Candidate Starts for Dorothy_62:

(Start: 9 @40682 has 29 MA's), (13, 40715), (20, 40811), (22, 40910), (25, 40976), (26, 40982), (28, 40994), (38, 41147), (41, 41159), (42, 41177), (44, 41183), (46, 41207), (47, 41213), (52, 41288), (53, 41294), (54, 41300), (68, 41411), (72, 41450), (77, 41480), (80, 41492), (81, 41498), (83, 41525), (86, 41537), (89, 41564), (90, 41567), (97, 41609), (101, 41630),

Gene: EmiMonkey_62 Start: 43134, Stop: 44111, Start Num: 10

Candidate Starts for EmiMonkey_62:

(Start: 10 @43134 has 60 MA's), (20, 43263), (22, 43362), (25, 43428), (26, 43434), (28, 43446), (38, 43599), (39, 43605), (41, 43611), (43, 43632), (44, 43635), (46, 43659), (47, 43665), (50, 43722), (52, 43740), (53, 43746), (65, 43845), (68, 43863), (73, 43911), (77, 43932), (78, 43935), (83, 43977), (84, 43980), (86, 43989), (89, 44016), (90, 44019), (97, 44061), (101, 44082),

Gene: Empress_62 Start: 41164, Stop: 42141, Start Num: 10

Candidate Starts for Empress_62:

(Start: 10 @41164 has 60 MA's), (20, 41293), (22, 41392), (25, 41458), (26, 41464), (28, 41476), (38, 41629), (41, 41641), (42, 41659), (44, 41665), (46, 41689), (47, 41695), (52, 41770), (53, 41776), (54, 41782), (68, 41893), (72, 41932), (77, 41962), (80, 41974), (81, 41980), (83, 42007), (86, 42019), (89, 42046), (90, 42049), (97, 42091), (101, 42112),

Gene: Finkle_59 Start: 37653, Stop: 38765, Start Num: 9

Candidate Starts for Finkle_59:

(1, 37059), (2, 37077), (3, 37086), (4, 37401), (Start: 9 @37653 has 29 MA's), (28, 37980), (30, 38001), (31, 38013), (38, 38133), (51, 38274), (55, 38313), (68, 38403), (88, 38547), (106, 38742),

Gene: FreddyB_65 Start: 40349, Stop: 41326, Start Num: 10

Candidate Starts for FreddyB_65:

(Start: 10 @40349 has 60 MA's), (20, 40478), (22, 40577), (26, 40649), (28, 40661), (38, 40814), (39, 40820), (41, 40826), (43, 40847), (44, 40850), (46, 40874), (47, 40880), (50, 40937), (52, 40955), (54,

40967), (65, 41060), (67, 41075), (68, 41078), (72, 41117), (73, 41126), (77, 41147), (83, 41192), (84, 41195), (86, 41204), (89, 41231), (90, 41234), (97, 41276), (101, 41297),

Gene: Gandolph_67 Start: 41746, Stop: 42723, Start Num: 10

Candidate Starts for Gandolph_67:

(Start: 10 @41746 has 60 MA's), (20, 41875), (22, 41974), (28, 42058), (38, 42211), (41, 42223), (43, 42244), (44, 42247), (46, 42271), (47, 42277), (50, 42334), (52, 42352), (53, 42358), (65, 42457), (68, 42475), (73, 42523), (77, 42544), (83, 42589), (84, 42592), (86, 42601), (89, 42628), (90, 42631), (97, 42673), (101, 42694),

Gene: Geralt_58 Start: 39719, Stop: 40696, Start Num: 10

Candidate Starts for Geralt_58:

(Start: 10 @39719 has 60 MA's), (20, 39848), (22, 39947), (25, 40013), (26, 40019), (28, 40031), (38, 40184), (41, 40196), (42, 40214), (44, 40220), (46, 40244), (47, 40250), (52, 40325), (53, 40331), (54, 40337), (68, 40448), (72, 40487), (77, 40517), (80, 40529), (81, 40535), (83, 40562), (86, 40574), (89, 40601), (90, 40604), (97, 40646), (101, 40667),

Gene: GodPhather_52 Start: 43649, Stop: 44713, Start Num: 9

Candidate Starts for GodPhather_52:

(Start: 9 @43649 has 29 MA's), (13, 43685), (18, 43748), (21, 43847), (23, 43889), (24, 43943), (25, 43946), (26, 43952), (28, 43964), (38, 44117), (39, 44123), (41, 44129), (43, 44150), (44, 44153), (46, 44177), (48, 44216), (53, 44267), (59, 44315), (61, 44330), (67, 44381), (68, 44384), (69, 44393), (80, 44465), (85, 44507), (86, 44510), (91, 44546), (95, 44570), (102, 44609),

Gene: Grimmer_74 Start: 42888, Stop: 43865, Start Num: 9

Candidate Starts for Grimmer_74:

(Start: 9 @42888 has 29 MA's), (13, 42921), (22, 43116), (28, 43200), (38, 43353), (39, 43359), (41, 43365), (43, 43386), (44, 43389), (46, 43413), (47, 43419), (52, 43494), (54, 43506), (65, 43599), (68, 43617), (72, 43656), (73, 43665), (77, 43686), (78, 43689), (80, 43698), (81, 43704), (83, 43731), (84, 43734), (86, 43743), (89, 43770), (90, 43773), (97, 43815), (101, 43836),

Gene: Hegedechwinu_64 Start: 40536, Stop: 41513, Start Num: 10

Candidate Starts for Hegedechwinu_64:

(Start: 10 @40536 has 60 MA's), (20, 40665), (22, 40764), (28, 40848), (38, 41001), (41, 41013), (43, 41034), (44, 41037), (46, 41061), (47, 41067), (50, 41124), (52, 41142), (53, 41148), (65, 41247), (68, 41265), (73, 41313), (77, 41334), (83, 41379), (84, 41382), (86, 41391), (89, 41418), (90, 41421), (97, 41463), (101, 41484),

Gene: IbOuu_65 Start: 41769, Stop: 42746, Start Num: 9

Candidate Starts for IbOuu_65:

(Start: 9 @41769 has 29 MA's), (13, 41802), (20, 41898), (22, 41997), (25, 42063), (26, 42069), (28, 42081), (38, 42234), (41, 42246), (42, 42264), (44, 42270), (46, 42294), (47, 42300), (52, 42375), (53, 42381), (54, 42387), (68, 42498), (72, 42537), (77, 42567), (80, 42579), (81, 42585), (83, 42612), (86, 42624), (89, 42651), (90, 42654), (97, 42696), (101, 42717),

Gene: Inventum_59 Start: 40880, Stop: 41857, Start Num: 9

Candidate Starts for Inventum_59:

(Start: 9 @40880 has 29 MA's), (13, 40913), (20, 41009), (22, 41108), (25, 41174), (26, 41180), (28, 41192), (38, 41345), (41, 41357), (42, 41375), (44, 41381), (46, 41405), (47, 41411), (52, 41486), (53, 41492), (54, 41498), (68, 41609), (72, 41648), (77, 41678), (80, 41690), (81, 41696), (83, 41723), (86, 41735), (89, 41762), (90, 41765), (97, 41807), (101, 41828),

Gene: Jacob_64 Start: 41472, Stop: 42449, Start Num: 10

Candidate Starts for Jacob_64:

(Start: 10 @41472 has 60 MA's), (20, 41601), (22, 41700), (28, 41784), (38, 41937), (41, 41949), (42, 41967), (43, 41970), (44, 41973), (46, 41997), (47, 42003), (52, 42078), (54, 42090), (65, 42183), (68, 42201), (73, 42249), (77, 42270), (80, 42282), (83, 42315), (84, 42318), (86, 42327), (89, 42354), (90, 42357), (97, 42399), (101, 42420),

Gene: Jennelsea_61 Start: 40151, Stop: 41128, Start Num: 10

Candidate Starts for Jennelsea_61:

(Start: 10 @40151 has 60 MA's), (20, 40280), (22, 40379), (28, 40463), (38, 40616), (41, 40628), (42, 40646), (43, 40649), (44, 40652), (46, 40676), (47, 40682), (52, 40757), (54, 40769), (65, 40862), (68, 40880), (73, 40928), (77, 40949), (80, 40961), (83, 40994), (84, 40997), (86, 41006), (89, 41033), (90, 41036), (97, 41078), (101, 41099),

Gene: Jeon_51 Start: 43391, Stop: 44455, Start Num: 9

Candidate Starts for Jeon_51:

(Start: 9 @43391 has 29 MA's), (13, 43427), (18, 43490), (21, 43589), (23, 43631), (24, 43685), (25, 43688), (28, 43706), (38, 43859), (39, 43865), (41, 43871), (43, 43892), (44, 43895), (46, 43919), (48, 43958), (53, 44009), (59, 44057), (61, 44072), (67, 44123), (68, 44126), (69, 44135), (80, 44207), (85, 44249), (86, 44252), (91, 44288), (95, 44312), (102, 44351),

Gene: Job42_67 Start: 43741, Stop: 44718, Start Num: 10

Candidate Starts for Job42_67:

(Start: 10 @43741 has 60 MA's), (20, 43870), (22, 43969), (28, 44053), (38, 44206), (41, 44218), (44, 44242), (46, 44266), (47, 44272), (52, 44347), (54, 44359), (65, 44452), (68, 44470), (72, 44509), (73, 44518), (77, 44539), (81, 44557), (83, 44584), (84, 44587), (86, 44596), (89, 44623), (90, 44626), (97, 44668), (101, 44689),

Gene: JoeyJr_59 Start: 39918, Stop: 40895, Start Num: 10

Candidate Starts for JoeyJr_59:

(Start: 10 @39918 has 60 MA's), (20, 40047), (22, 40146), (25, 40212), (26, 40218), (28, 40230), (38, 40383), (41, 40395), (42, 40413), (44, 40419), (46, 40443), (47, 40449), (52, 40524), (53, 40530), (54, 40536), (68, 40647), (72, 40686), (77, 40716), (80, 40728), (81, 40734), (83, 40761), (86, 40773), (89, 40800), (90, 40803), (97, 40845), (101, 40866),

Gene: Kenuha5_62 Start: 40321, Stop: 41298, Start Num: 10

Candidate Starts for Kenuha5_62:

(Start: 10 @40321 has 60 MA's), (20, 40450), (22, 40549), (25, 40615), (26, 40621), (28, 40633), (38, 40786), (39, 40792), (40, 40795), (41, 40798), (42, 40816), (44, 40822), (46, 40846), (47, 40852), (52, 40927), (53, 40933), (54, 40939), (65, 41032), (68, 41050), (72, 41089), (73, 41098), (77, 41119), (80, 41131), (81, 41137), (83, 41164), (84, 41167), (86, 41176), (89, 41203), (90, 41206), (97, 41248), (100, 41266), (101, 41269),

Gene: Kersh_66 Start: 43767, Stop: 44744, Start Num: 10

Candidate Starts for Kersh_66:

(Start: 10 @43767 has 60 MA's), (20, 43896), (22, 43995), (25, 44061), (28, 44079), (38, 44232), (41, 44244), (43, 44265), (44, 44268), (46, 44292), (47, 44298), (52, 44373), (54, 44385), (65, 44478), (68, 44496), (72, 44535), (73, 44544), (77, 44565), (78, 44568), (81, 44583), (83, 44610), (84, 44613), (86, 44622), (89, 44649), (90, 44652), (97, 44694), (101, 44715),

Gene: KingMidas_63 Start: 41580, Stop: 42557, Start Num: 10

Candidate Starts for KingMidas_63:

(Start: 10 @41580 has 60 MA's), (20, 41709), (22, 41808), (25, 41874), (26, 41880), (28, 41892), (38, 42045), (41, 42057), (42, 42075), (44, 42081), (46, 42105), (47, 42111), (52, 42186), (53, 42192), (54,

42198), (68, 42309), (72, 42348), (77, 42378), (80, 42390), (81, 42396), (83, 42423), (86, 42435), (89, 42462), (90, 42465), (97, 42507), (101, 42528),

Gene: Kingsley_62 Start: 40982, Stop: 41959, Start Num: 10

Candidate Starts for Kingsley_62:

(Start: 10 @40982 has 60 MA's), (20, 41111), (22, 41210), (25, 41276), (26, 41282), (28, 41294), (38, 41447), (41, 41459), (42, 41477), (44, 41483), (46, 41507), (47, 41513), (52, 41588), (53, 41594), (54, 41600), (65, 41693), (68, 41711), (72, 41750), (73, 41759), (77, 41780), (80, 41792), (81, 41798), (83, 41825), (84, 41828), (86, 41837), (89, 41864), (90, 41867), (97, 41909), (100, 41927), (101, 41930),

Gene: Koella_58 Start: 37399, Stop: 38376, Start Num: 10

Candidate Starts for Koella_58:

(Start: 10 @37399 has 60 MA's), (20, 37528), (22, 37627), (26, 37699), (28, 37711), (38, 37864), (39, 37870), (41, 37876), (43, 37897), (44, 37900), (46, 37924), (47, 37930), (50, 37987), (52, 38005), (54, 38017), (65, 38110), (67, 38125), (68, 38128), (72, 38167), (73, 38176), (77, 38197), (83, 38242), (84, 38245), (86, 38254), (89, 38281), (90, 38284), (97, 38326), (101, 38347),

Gene: LastJedi_58 Start: 38716, Stop: 39693, Start Num: 10

Candidate Starts for LastJedi_58:

(Start: 10 @38716 has 60 MA's), (20, 38845), (22, 38944), (26, 39016), (28, 39028), (38, 39181), (39, 39187), (41, 39193), (43, 39214), (44, 39217), (46, 39241), (47, 39247), (50, 39304), (52, 39322), (54, 39334), (65, 39427), (68, 39445), (72, 39484), (73, 39493), (77, 39514), (81, 39532), (83, 39559), (84, 39562), (86, 39571), (89, 39598), (90, 39601), (97, 39643), (101, 39664),

Gene: Leperchaun_56 Start: 39148, Stop: 40125, Start Num: 10

Candidate Starts for Leperchaun_56:

(Start: 10 @39148 has 60 MA's), (20, 39277), (22, 39376), (25, 39442), (26, 39448), (28, 39460), (38, 39613), (41, 39625), (42, 39643), (44, 39649), (46, 39673), (47, 39679), (52, 39754), (53, 39760), (54, 39766), (68, 39877), (72, 39916), (77, 39946), (80, 39958), (81, 39964), (83, 39991), (86, 40003), (89, 40030), (90, 40033), (97, 40075), (101, 40096),

Gene: LilMoolah_63 Start: 41246, Stop: 42223, Start Num: 10

Candidate Starts for LilMoolah_63:

(Start: 10 @41246 has 60 MA's), (20, 41375), (22, 41474), (28, 41558), (38, 41711), (41, 41723), (44, 41747), (46, 41771), (47, 41777), (52, 41852), (54, 41864), (65, 41957), (68, 41975), (72, 42014), (73, 42023), (77, 42044), (81, 42062), (83, 42089), (84, 42092), (86, 42101), (89, 42128), (90, 42131), (97, 42173), (101, 42194),

Gene: MadMen_64 Start: 41645, Stop: 42622, Start Num: 9

Candidate Starts for MadMen_64:

(5, 41534), (Start: 9 @41645 has 29 MA's), (22, 41873), (28, 41957), (38, 42110), (41, 42122), (43, 42143), (44, 42146), (46, 42170), (47, 42176), (50, 42233), (52, 42251), (53, 42257), (65, 42356), (68, 42374), (73, 42422), (77, 42443), (83, 42488), (84, 42491), (86, 42500), (89, 42527), (90, 42530), (97, 42572), (101, 42593),

Gene: Maravista_66 Start: 43385, Stop: 44365, Start Num: 9

Candidate Starts for Maravista_66:

(7, 43370), (Start: 9 @43385 has 29 MA's), (12, 43418), (15, 43436), (16, 43439), (17, 43475), (28, 43700), (38, 43853), (39, 43859), (41, 43865), (42, 43883), (43, 43886), (44, 43889), (46, 43913), (47, 43919), (52, 43994), (54, 44006), (65, 44099), (67, 44114), (68, 44117), (72, 44156), (73, 44165), (77, 44186), (81, 44204), (83, 44231), (84, 44234), (86, 44243), (89, 44270), (90, 44273), (97, 44315), (101, 44336),

Gene: Marker_66 Start: 41484, Stop: 42461, Start Num: 9

Candidate Starts for Marker_66:

(5, 41373), (Start: 9 @41484 has 29 MA's), (20, 41613), (22, 41712), (25, 41778), (26, 41784), (28, 41796), (38, 41949), (39, 41955), (40, 41958), (41, 41961), (43, 41982), (44, 41985), (46, 42009), (47, 42015), (50, 42072), (54, 42102), (65, 42195), (68, 42213), (72, 42252), (73, 42261), (77, 42282), (78, 42285), (81, 42300), (83, 42327), (84, 42330), (86, 42339), (89, 42366), (90, 42369), (97, 42411), (101, 42432),

Gene: Martik_64 Start: 41422, Stop: 42399, Start Num: 10

Candidate Starts for Martik_64:

(Start: 10 @41422 has 60 MA's), (20, 41551), (22, 41650), (26, 41722), (28, 41734), (38, 41887), (39, 41893), (41, 41899), (43, 41920), (44, 41923), (46, 41947), (47, 41953), (50, 42010), (52, 42028), (54, 42040), (65, 42133), (68, 42151), (72, 42190), (73, 42199), (77, 42220), (81, 42238), (83, 42265), (84, 42268), (86, 42277), (89, 42304), (90, 42307), (97, 42349), (101, 42370),

Gene: Megabear_51 Start: 42806, Stop: 43846, Start Num: 9

Candidate Starts for Megabear_51:

(Start: 9 @42806 has 29 MA's), (13, 42842), (18, 42905), (21, 43004), (23, 43046), (24, 43100), (25, 43103), (26, 43109), (28, 43121), (38, 43274), (39, 43280), (41, 43286), (43, 43307), (44, 43310), (46, 43334), (48, 43373), (53, 43424), (59, 43472), (61, 43487), (68, 43541), (69, 43550), (80, 43622), (85, 43664), (86, 43667), (91, 43703), (95, 43727), (102, 43766),

Gene: MinionDave_63 Start: 41772, Stop: 42749, Start Num: 10

Candidate Starts for MinionDave_63:

(Start: 10 @41772 has 60 MA's), (20, 41901), (22, 42000), (28, 42084), (38, 42237), (41, 42249), (43, 42270), (44, 42273), (46, 42297), (47, 42303), (50, 42360), (52, 42378), (53, 42384), (65, 42483), (68, 42501), (73, 42549), (77, 42570), (83, 42615), (84, 42618), (86, 42627), (89, 42654), (90, 42657), (97, 42699), (101, 42720),

Gene: Minnie_67 Start: 42992, Stop: 43969, Start Num: 10

Candidate Starts for Minnie_67:

(Start: 10 @42992 has 60 MA's), (20, 43121), (22, 43220), (26, 43292), (28, 43304), (38, 43457), (39, 43463), (41, 43469), (43, 43490), (44, 43493), (46, 43517), (47, 43523), (50, 43580), (52, 43598), (54, 43610), (65, 43703), (68, 43721), (72, 43760), (73, 43769), (77, 43790), (81, 43808), (83, 43835), (84, 43838), (86, 43847), (89, 43874), (90, 43877), (97, 43919), (101, 43940),

Gene: MooMoo_63 Start: 40832, Stop: 41815, Start Num: 9

Candidate Starts for MooMoo_63:

(Start: 9 @40832 has 29 MA's), (28, 41144), (38, 41297), (41, 41309), (43, 41330), (44, 41333), (46, 41357), (47, 41363), (50, 41420), (52, 41438), (53, 41444), (54, 41450), (59, 41492), (61, 41507), (64, 41534), (69, 41570), (72, 41600), (73, 41609), (84, 41678), (92, 41729), (93, 41732), (98, 41762),

Gene: Mwanjiwa_70 Start: 42564, Stop: 43544, Start Num: 9

Candidate Starts for Mwanjiwa_70:

(7, 42549), (Start: 9 @42564 has 29 MA's), (12, 42597), (15, 42615), (16, 42618), (17, 42654), (19, 42684), (28, 42879), (37, 43029), (38, 43032), (39, 43038), (40, 43041), (41, 43044), (43, 43065), (44, 43068), (46, 43092), (47, 43098), (50, 43155), (52, 43173), (54, 43185), (65, 43278), (68, 43296), (72, 43335), (73, 43344), (77, 43365), (81, 43383), (83, 43410), (84, 43413), (86, 43422), (89, 43449), (90, 43452), (97, 43494), (101, 43515),

Gene: Nimbo_57 Start: 39722, Stop: 40699, Start Num: 10

Candidate Starts for Nimbo_57:

(Start: 10 @39722 has 60 MA's), (20, 39851), (22, 39950), (25, 40016), (26, 40022), (28, 40034), (38, 40187), (41, 40199), (42, 40217), (44, 40223), (46, 40247), (47, 40253), (52, 40328), (53, 40334), (54, 40340), (68, 40451), (72, 40490), (77, 40520), (80, 40532), (81, 40538), (83, 40565), (86, 40577), (89, 40604), (90, 40607), (97, 40649), (101, 40670),

Gene: Nitzel_61 Start: 40515, Stop: 41492, Start Num: 10

Candidate Starts for Nitzel_61:

(Start: 10 @40515 has 60 MA's), (20, 40644), (22, 40743), (25, 40809), (26, 40815), (28, 40827), (38, 40980), (39, 40986), (41, 40992), (42, 41010), (43, 41013), (44, 41016), (46, 41040), (47, 41046), (52, 41121), (68, 41244), (72, 41283), (73, 41292), (77, 41313), (78, 41316), (80, 41325), (81, 41331), (83, 41358), (84, 41361), (86, 41370), (89, 41397), (90, 41400), (97, 41442), (101, 41463),

Gene: Nivrat_61 Start: 41119, Stop: 42096, Start Num: 10

Candidate Starts for Nivrat_61:

(Start: 10 @41119 has 60 MA's), (20, 41248), (22, 41347), (28, 41431), (38, 41584), (41, 41596), (44, 41620), (46, 41644), (47, 41650), (52, 41725), (54, 41737), (65, 41830), (68, 41848), (72, 41887), (73, 41896), (77, 41917), (81, 41935), (83, 41962), (84, 41965), (86, 41974), (89, 42001), (90, 42004), (97, 42046), (101, 42067),

Gene: NormanBulbieJr_64 Start: 41412, Stop: 42389, Start Num: 10

Candidate Starts for NormanBulbieJr_64:

(Start: 10 @41412 has 60 MA's), (20, 41541), (22, 41640), (26, 41712), (28, 41724), (38, 41877), (39, 41883), (41, 41889), (43, 41910), (44, 41913), (46, 41937), (47, 41943), (50, 42000), (52, 42018), (54, 42030), (65, 42123), (67, 42138), (68, 42141), (72, 42180), (73, 42189), (77, 42210), (83, 42255), (84, 42258), (86, 42267), (89, 42294), (90, 42297), (97, 42339), (101, 42360),

Gene: ODay_73 Start: 42970, Stop: 44001, Start Num: 9

Candidate Starts for ODay_73:

(Start: 9 @42970 has 29 MA's), (13, 43006), (21, 43168), (28, 43285), (32, 43384), (36, 43411), (38, 43438), (41, 43450), (44, 43474), (47, 43504), (48, 43534), (52, 43579), (53, 43585), (54, 43591), (65, 43684), (67, 43699), (68, 43702), (75, 43759), (80, 43783), (84, 43819), (86, 43828), (89, 43855), (90, 43858), (92, 43870), (95, 43888), (97, 43900),

Gene: Oksu_68 Start: 44271, Stop: 45248, Start Num: 9

Candidate Starts for Oksu_68:

(Start: 9 @44271 has 29 MA's), (20, 44400), (22, 44499), (28, 44583), (37, 44733), (38, 44736), (39, 44742), (40, 44745), (41, 44748), (43, 44769), (44, 44772), (46, 44796), (47, 44802), (52, 44877), (54, 44889), (65, 44982), (68, 45000), (72, 45039), (73, 45048), (77, 45069), (78, 45072), (80, 45081), (81, 45087), (83, 45114), (84, 45117), (86, 45126), (89, 45153), (90, 45156), (97, 45198), (101, 45219),

Gene: OldBen_61 Start: 41115, Stop: 42092, Start Num: 9

Candidate Starts for OldBen_61:

(Start: 9 @41115 has 29 MA's), (13, 41148), (20, 41244), (22, 41343), (25, 41409), (26, 41415), (28, 41427), (38, 41580), (41, 41592), (42, 41610), (44, 41616), (46, 41640), (47, 41646), (52, 41721), (53, 41727), (54, 41733), (68, 41844), (72, 41883), (77, 41913), (80, 41925), (81, 41931), (83, 41958), (86, 41970), (89, 41997), (90, 42000), (97, 42042), (101, 42063),

Gene: PHappiness_59 Start: 39694, Stop: 40671, Start Num: 10

Candidate Starts for PHappiness_59:

(Start: 10 @39694 has 60 MA's), (20, 39823), (22, 39922), (25, 39988), (26, 39994), (28, 40006), (38, 40159), (41, 40171), (42, 40189), (44, 40195), (46, 40219), (47, 40225), (52, 40300), (53, 40306), (54, 40312), (68, 40423), (72, 40462), (77, 40492), (80, 40504), (81, 40510), (83, 40537), (86, 40549), (89, 40576), (90, 40579), (97, 40621), (101, 40642),

Gene: PR_51 Start: 43410, Stop: 44450, Start Num: 9

Candidate Starts for PR_51:

(Start: 9 @43410 has 29 MA's), (13, 43446), (18, 43509), (21, 43608), (23, 43650), (24, 43704), (25, 43707), (26, 43713), (28, 43725), (38, 43878), (39, 43884), (41, 43890), (43, 43911), (44, 43914), (46, 43938), (48, 43977), (53, 44028), (59, 44076), (61, 44091), (68, 44145), (69, 44154), (80, 44226), (85, 44268), (86, 44271), (91, 44307), (95, 44331), (102, 44370),

Gene: Pacc40_58 Start: 39768, Stop: 40745, Start Num: 10

Candidate Starts for Pacc40_58:

(Start: 10 @39768 has 60 MA's), (22, 39996), (26, 40068), (28, 40080), (38, 40233), (39, 40239), (41, 40245), (43, 40266), (44, 40269), (46, 40293), (47, 40299), (50, 40356), (52, 40374), (54, 40386), (65, 40479), (68, 40497), (72, 40536), (73, 40545), (77, 40566), (81, 40584), (83, 40611), (84, 40614), (86, 40623), (89, 40650), (90, 40653), (97, 40695), (101, 40716),

Gene: Phabuloso_71 Start: 41432, Stop: 42463, Start Num: 9

Candidate Starts for Phabuloso_71:

(Start: 9 @41432 has 29 MA's), (13, 41468), (28, 41747), (32, 41846), (33, 41852), (35, 41864), (36, 41873), (38, 41900), (41, 41912), (43, 41933), (44, 41936), (46, 41960), (47, 41966), (48, 41996), (49, 42005), (52, 42041), (53, 42047), (54, 42053), (59, 42095), (65, 42146), (66, 42152), (67, 42161), (68, 42164), (75, 42221), (80, 42245), (84, 42281), (86, 42290), (90, 42320), (91, 42326), (92, 42332), (95, 42350), (97, 42362),

Gene: Philus_68 Start: 42909, Stop: 43886, Start Num: 10

Candidate Starts for Philus_68:

(Start: 10 @42909 has 60 MA's), (20, 43038), (22, 43137), (28, 43221), (38, 43374), (41, 43386), (43, 43407), (44, 43410), (46, 43434), (47, 43440), (52, 43515), (54, 43527), (65, 43620), (68, 43638), (72, 43677), (73, 43686), (77, 43707), (83, 43752), (84, 43755), (86, 43764), (89, 43791), (90, 43794), (97, 43836), (101, 43857),

Gene: PhlipPhlop_64 Start: 43134, Stop: 44111, Start Num: 10

Candidate Starts for PhlipPhlop_64:

(Start: 10 @43134 has 60 MA's), (20, 43263), (22, 43362), (25, 43428), (26, 43434), (28, 43446), (38, 43599), (39, 43605), (41, 43611), (43, 43632), (44, 43635), (46, 43659), (47, 43665), (50, 43722), (52, 43740), (53, 43746), (65, 43845), (68, 43863), (73, 43911), (77, 43932), (78, 43935), (83, 43977), (84, 43980), (86, 43989), (89, 44016), (90, 44019), (97, 44061), (101, 44082),

Gene: Pippy_63 Start: 40747, Stop: 41727, Start Num: 9

Candidate Starts for Pippy_63:

(7, 40732), (Start: 9 @40747 has 29 MA's), (12, 40780), (15, 40798), (16, 40801), (17, 40837), (28, 41062), (38, 41215), (39, 41221), (41, 41227), (42, 41245), (43, 41248), (44, 41251), (46, 41275), (47, 41281), (52, 41356), (54, 41368), (65, 41461), (67, 41476), (68, 41479), (72, 41518), (73, 41527), (77, 41548), (81, 41566), (83, 41593), (84, 41596), (86, 41605), (89, 41632), (90, 41635), (97, 41677), (101, 41698),

Gene: Polka14_62 Start: 40758, Stop: 41735, Start Num: 9

Candidate Starts for Polka14_62:

(Start: 9 @40758 has 29 MA's), (13, 40791), (20, 40887), (22, 40986), (25, 41052), (26, 41058), (28, 41070), (38, 41223), (41, 41235), (42, 41253), (44, 41259), (46, 41283), (47, 41289), (52, 41364), (53, 41370), (54, 41376), (68, 41487), (72, 41526), (77, 41556), (80, 41568), (81, 41574), (83, 41601), (86, 41613), (89, 41640), (90, 41643), (97, 41685), (101, 41706),

Gene: Priscilla_64 Start: 41511, Stop: 42488, Start Num: 10

Candidate Starts for Priscilla_64:

(Start: 10 @41511 has 60 MA's), (20, 41640), (22, 41739), (26, 41811), (28, 41823), (38, 41976), (39, 41982), (41, 41988), (43, 42009), (44, 42012), (46, 42036), (47, 42042), (50, 42099), (52, 42117), (54, 42129), (65, 42222), (67, 42237), (68, 42240), (72, 42279), (73, 42288), (77, 42309), (83, 42354), (84, 42357), (86, 42366), (89, 42393), (90, 42396), (97, 42438), (101, 42459),

Gene: RedBird_62 Start: 40561, Stop: 41538, Start Num: 9

Candidate Starts for RedBird_62:

(Start: 9 @40561 has 29 MA's), (13, 40594), (20, 40690), (22, 40789), (25, 40855), (26, 40861), (28, 40873), (38, 41026), (41, 41038), (42, 41056), (44, 41062), (46, 41086), (47, 41092), (52, 41167), (53, 41173), (54, 41179), (68, 41290), (72, 41329), (77, 41359), (80, 41371), (81, 41377), (83, 41404), (86, 41416), (89, 41443), (90, 41446), (97, 41488), (101, 41509),

Gene: Renaud18_74 Start: 43239, Stop: 44210, Start Num: 9

Candidate Starts for Renaud18_74:

(5, 43128), (6, 43182), (Start: 9 @43239 has 29 MA's), (14, 43284), (27, 43530), (28, 43539), (29, 43557), (38, 43692), (45, 43752), (49, 43803), (51, 43833), (53, 43845), (54, 43851), (55, 43872), (56, 43875), (57, 43878), (60, 43905), (66, 43950), (67, 43959), (69, 43971), (70, 43974), (71, 43980), (74, 44004), (76, 44013), (87, 44100), (94, 44136), (99, 44172), (100, 44175), (102, 44184),

Gene: RitaG_59 Start: 40039, Stop: 41016, Start Num: 10

Candidate Starts for RitaG_59:

(Start: 10 @40039 has 60 MA's), (20, 40168), (22, 40267), (25, 40333), (26, 40339), (28, 40351), (38, 40504), (41, 40516), (42, 40534), (44, 40540), (46, 40564), (47, 40570), (52, 40645), (53, 40651), (54, 40657), (68, 40768), (72, 40807), (77, 40837), (80, 40849), (81, 40855), (83, 40882), (86, 40894), (89, 40921), (90, 40924), (97, 40966), (101, 40987),

Gene: Sandalphon_65 Start: 41970, Stop: 42947, Start Num: 10

Candidate Starts for Sandalphon_65:

(Start: 10 @41970 has 60 MA's), (20, 42099), (22, 42198), (26, 42270), (28, 42282), (38, 42435), (39, 42441), (41, 42447), (43, 42468), (44, 42471), (46, 42495), (47, 42501), (50, 42558), (52, 42576), (54, 42588), (65, 42681), (68, 42699), (72, 42738), (73, 42747), (77, 42768), (81, 42786), (83, 42813), (84, 42816), (86, 42825), (89, 42852), (90, 42855), (97, 42897), (101, 42918),

Gene: Sarma624_63 Start: 38174, Stop: 39151, Start Num: 10

Candidate Starts for Sarma624_63:

(Start: 10 @38174 has 60 MA's), (20, 38303), (22, 38402), (25, 38468), (26, 38474), (28, 38486), (38, 38639), (41, 38651), (42, 38669), (44, 38675), (46, 38699), (47, 38705), (52, 38780), (53, 38786), (54, 38792), (65, 38885), (68, 38903), (72, 38942), (73, 38951), (77, 38972), (80, 38984), (81, 38990), (83, 39017), (84, 39020), (86, 39029), (89, 39056), (90, 39059), (97, 39101), (100, 39119), (101, 39122),

Gene: Sassafras_62 Start: 40879, Stop: 41856, Start Num: 9

Candidate Starts for Sassafras_62:

(Start: 9 @40879 has 29 MA's), (13, 40912), (20, 41008), (22, 41107), (25, 41173), (26, 41179), (28, 41191), (38, 41344), (41, 41356), (42, 41374), (44, 41380), (46, 41404), (47, 41410), (52, 41485), (53, 41491), (54, 41497), (68, 41608), (72, 41647), (77, 41677), (80, 41689), (81, 41695), (83, 41722), (86, 41734), (89, 41761), (90, 41764), (97, 41806), (101, 41827),

Gene: Scottish_62 Start: 40835, Stop: 41812, Start Num: 9

Candidate Starts for Scottish_62:

(Start: 9 @40835 has 29 MA's), (13, 40868), (20, 40964), (22, 41063), (25, 41129), (26, 41135), (28, 41147), (38, 41300), (41, 41312), (42, 41330), (44, 41336), (46, 41360), (47, 41366), (52, 41441), (53, 41447), (54, 41453), (68, 41564), (72, 41603), (77, 41633), (80, 41645), (81, 41651), (83, 41678), (86,

41690), (89, 41717), (90, 41720), (97, 41762), (101, 41783),

Gene: ShiLan_63 Start: 41458, Stop: 42435, Start Num: 10

Candidate Starts for ShiLan_63:

(Start: 10 @41458 has 60 MA's), (20, 41587), (22, 41686), (26, 41758), (28, 41770), (38, 41923), (39, 41929), (41, 41935), (43, 41956), (44, 41959), (46, 41983), (47, 41989), (50, 42046), (52, 42064), (54, 42076), (65, 42169), (68, 42187), (72, 42226), (73, 42235), (77, 42256), (83, 42301), (84, 42304), (86, 42313), (89, 42340), (90, 42343), (97, 42385), (101, 42406),

Gene: ShowerHandel_67 Start: 41422, Stop: 42399, Start Num: 10

Candidate Starts for ShowerHandel_67:

(Start: 10 @41422 has 60 MA's), (20, 41551), (22, 41650), (26, 41722), (28, 41734), (38, 41887), (39, 41893), (41, 41899), (43, 41920), (44, 41923), (46, 41947), (47, 41953), (50, 42010), (52, 42028), (54, 42040), (65, 42133), (67, 42148), (68, 42151), (72, 42190), (73, 42199), (77, 42220), (81, 42238), (83, 42265), (84, 42268), (86, 42277), (89, 42304), (90, 42307), (97, 42349), (101, 42370),

Gene: Spooky_63 Start: 39796, Stop: 40848, Start Num: 8

Candidate Starts for Spooky_63:

(Start: 8 @39796 has 3 MA's), (11, 39811), (12, 39829), (13, 39832), (28, 40102), (34, 40213), (38, 40255), (40, 40264), (41, 40267), (53, 40408), (54, 40414), (55, 40435), (56, 40438), (58, 40447), (62, 40480), (63, 40495), (66, 40513), (72, 40564), (74, 40576), (79, 40600), (82, 40630), (85, 40648), (90, 40687), (96, 40717), (97, 40726), (98, 40729), (104, 40765), (105, 40768),

Gene: Spoonbill_61 Start: 39999, Stop: 40976, Start Num: 10

Candidate Starts for Spoonbill_61:

(Start: 10 @39999 has 60 MA's), (20, 40128), (22, 40227), (25, 40293), (26, 40299), (28, 40311), (38, 40464), (41, 40476), (42, 40494), (44, 40500), (46, 40524), (47, 40530), (52, 40605), (53, 40611), (54, 40617), (68, 40728), (72, 40767), (77, 40797), (80, 40809), (81, 40815), (83, 40842), (86, 40854), (89, 40881), (90, 40884), (97, 40926), (101, 40947),

Gene: Stap_61 Start: 40768, Stop: 41745, Start Num: 9

Candidate Starts for Stap_61:

(Start: 9 @40768 has 29 MA's), (13, 40801), (20, 40897), (22, 40996), (25, 41062), (26, 41068), (28, 41080), (38, 41233), (41, 41245), (42, 41263), (44, 41269), (46, 41293), (47, 41299), (52, 41374), (53, 41380), (54, 41386), (68, 41497), (72, 41536), (77, 41566), (80, 41578), (81, 41584), (83, 41611), (86, 41623), (89, 41650), (90, 41653), (97, 41695), (101, 41716),

Gene: SuperGrey_68 Start: 43498, Stop: 44475, Start Num: 10

Candidate Starts for SuperGrey_68:

(Start: 10 @43498 has 60 MA's), (20, 43627), (22, 43726), (25, 43792), (26, 43798), (28, 43810), (38, 43963), (39, 43969), (40, 43972), (41, 43975), (42, 43993), (44, 43999), (46, 44023), (47, 44029), (52, 44104), (53, 44110), (54, 44116), (65, 44209), (68, 44227), (72, 44266), (73, 44275), (77, 44296), (80, 44308), (81, 44314), (83, 44341), (84, 44344), (86, 44353), (89, 44380), (90, 44383), (97, 44425), (100, 44443), (101, 44446),

Gene: SwagPiggett_69 Start: 43730, Stop: 44707, Start Num: 10

Candidate Starts for SwagPiggett_69:

(Start: 10 @43730 has 60 MA's), (20, 43859), (22, 43958), (28, 44042), (38, 44195), (41, 44207), (42, 44225), (43, 44228), (44, 44231), (46, 44255), (47, 44261), (50, 44318), (52, 44336), (54, 44348), (65, 44441), (68, 44459), (72, 44498), (73, 44507), (77, 44528), (81, 44546), (83, 44573), (84, 44576), (86, 44585), (89, 44612), (90, 44615), (97, 44657), (101, 44678),

Gene: Taptic_51 Start: 42806, Stop: 43846, Start Num: 9

Candidate Starts for Taptic_51:

(Start: 9 @42806 has 29 MA's), (13, 42842), (18, 42905), (21, 43004), (23, 43046), (24, 43100), (25, 43103), (26, 43109), (28, 43121), (38, 43274), (39, 43280), (41, 43286), (43, 43307), (44, 43310), (46, 43334), (48, 43373), (53, 43424), (59, 43472), (61, 43487), (68, 43541), (69, 43550), (80, 43622), (85, 43664), (86, 43667), (91, 43703), (95, 43727), (102, 43766),

Gene: Tootsieroll_65 Start: 40754, Stop: 41731, Start Num: 10

Candidate Starts for Tootsieroll_65:

(Start: 10 @40754 has 60 MA's), (20, 40883), (22, 40982), (26, 41054), (28, 41066), (38, 41219), (39, 41225), (41, 41231), (43, 41252), (44, 41255), (46, 41279), (47, 41285), (50, 41342), (52, 41360), (54, 41372), (65, 41465), (68, 41483), (72, 41522), (73, 41531), (77, 41552), (81, 41570), (83, 41597), (84, 41600), (86, 41609), (89, 41636), (90, 41639), (97, 41681), (101, 41702),

Gene: Topiatin_71 Start: 43978, Stop: 44955, Start Num: 9

Candidate Starts for Topiatin_71:

(5, 43867), (Start: 9 @43978 has 29 MA's), (22, 44206), (28, 44290), (36, 44416), (38, 44443), (39, 44449), (40, 44452), (41, 44455), (42, 44473), (43, 44476), (44, 44479), (46, 44503), (47, 44509), (50, 44566), (52, 44584), (53, 44590), (54, 44596), (65, 44689), (68, 44707), (73, 44755), (77, 44776), (83, 44821), (84, 44824), (86, 44833), (89, 44860), (90, 44863), (97, 44905), (101, 44926),

Gene: Velveteen_60 Start: 38174, Stop: 39151, Start Num: 10

Candidate Starts for Velveteen_60:

(Start: 10 @38174 has 60 MA's), (20, 38303), (22, 38402), (25, 38468), (26, 38474), (28, 38486), (38, 38639), (41, 38651), (42, 38669), (44, 38675), (46, 38699), (47, 38705), (52, 38780), (53, 38786), (54, 38792), (65, 38885), (68, 38903), (72, 38942), (73, 38951), (77, 38972), (80, 38984), (81, 38990), (83, 39017), (84, 39020), (86, 39029), (89, 39056), (90, 39059), (97, 39101), (100, 39119), (101, 39122),

Gene: Vivum_67 Start: 41743, Stop: 42720, Start Num: 10

Candidate Starts for Vivum_67:

(Start: 10 @41743 has 60 MA's), (20, 41872), (22, 41971), (25, 42037), (26, 42043), (28, 42055), (38, 42208), (39, 42214), (41, 42220), (43, 42241), (44, 42244), (46, 42268), (47, 42274), (50, 42331), (52, 42349), (53, 42355), (65, 42454), (68, 42472), (73, 42520), (77, 42541), (78, 42544), (83, 42586), (84, 42589), (86, 42598), (89, 42625), (90, 42628), (97, 42670), (101, 42691),

Gene: Whouxphf_61 Start: 41337, Stop: 42314, Start Num: 10

Candidate Starts for Whouxphf_61:

(Start: 10 @41337 has 60 MA's), (20, 41466), (22, 41565), (25, 41631), (26, 41637), (28, 41649), (38, 41802), (41, 41814), (42, 41832), (43, 41835), (44, 41838), (46, 41862), (47, 41868), (52, 41943), (65, 42048), (68, 42066), (72, 42105), (73, 42114), (77, 42135), (78, 42138), (80, 42147), (81, 42153), (83, 42180), (84, 42183), (86, 42192), (89, 42219), (90, 42222), (97, 42264), (101, 42285),

Gene: Zizzle_68 Start: 43055, Stop: 44032, Start Num: 10

Candidate Starts for Zizzle_68:

(Start: 10 @43055 has 60 MA's), (20, 43184), (22, 43283), (28, 43367), (38, 43520), (41, 43532), (44, 43556), (46, 43580), (47, 43586), (52, 43661), (54, 43673), (65, 43766), (68, 43784), (73, 43832), (77, 43853), (80, 43865), (83, 43898), (84, 43901), (86, 43910), (89, 43937), (90, 43940), (97, 43982), (101, 44003),