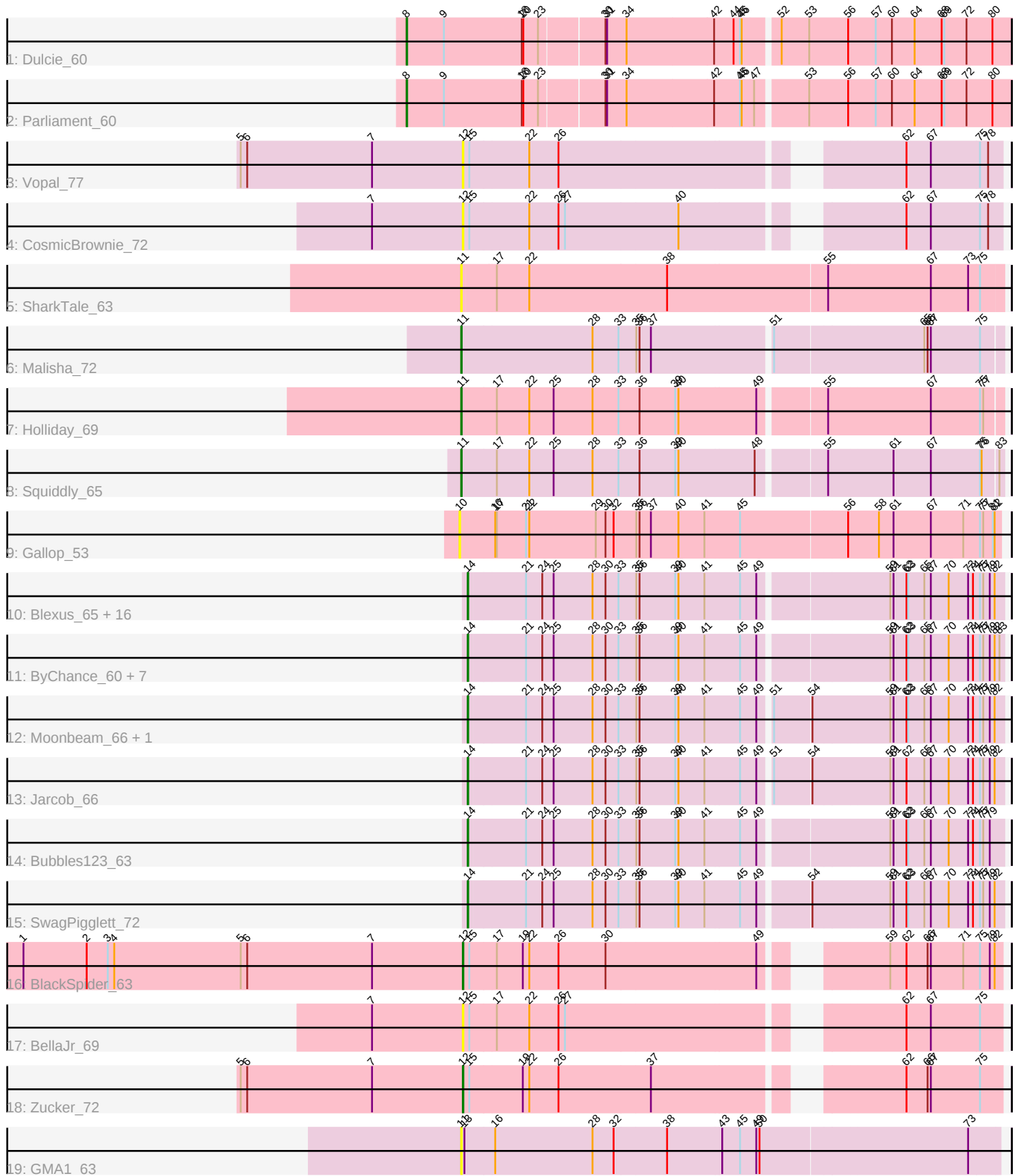


Pham 331000



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 331000 Report

This analysis was run 09/05/26 on database version 662.

Pham number 331000 has 43 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Dulcie_60
- Track 2 : Parliament_60
- Track 3 : Vopal_77
- Track 4 : CosmicBrownie_72
- Track 5 : SharkTale_63
- Track 6 : Malisha_72
- Track 7 : Holliday_69
- Track 8 : Squiddly_65
- Track 9 : Gallop_53
- Track 10 : Blexus_65, DaWorst_67, Ramsey_66, Yorick_66, Maravista_69, Spikelee_74, Cabrinians_68, NormanBulbieJr_67, Koella_61, Fancypants_70, Beanstalk_65, Burwell21_65, MinionDave_66, CaptainTrips_65, Whouxphf_64, Priscilla_67, Aubs_67
- Track 11 : ByChance_60, Crumble_62, ShowerHandel_70, Jennelsea_65, BobaPhett_71, Zizzle_71, Estave1_72, Pippy_66
- Track 12 : Moonbeam_66, Emma_69
- Track 13 : Jacob_66
- Track 14 : Bubbles123_63
- Track 15 : SwagPigglett_72
- Track 16 : BlackSpider_63
- Track 17 : BellaJr_69
- Track 18 : Zucker_72
- Track 19 : GMA1_63

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

The start number called the most often in the published annotations is 14, it was called in 30 of the 37 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Aubs_67, Beanstalk_65, Blexus_65, BobaPhett_71, Bubbles123_63, Burwell21_65, ByChance_60, Cabrinians_68, CaptainTrips_65, Crumble_62, DaWorst_67, Emma_69, Estave1_72, Fancypants_70, Jacob_66, Jennelsea_65, Koella_61, Maravista_69, MinionDave_66, Moonbeam_66, NormanBulbieJr_67, Pippy_66,

Priscilla_67, Ramsey_66, ShowerHandel_70, Spikelee_74, SwagPigglett_72, Whouxphf_64, Yorick_66, Zizzle_71,

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

-

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

- BellaJr_69, BlackSpider_63, CosmicBrownie_72, Dulcie_60, GMA1_63, Gallop_53, Holliday_69, Malisha_72, Parliament_60, SharkTale_63, Squiddly_65, Vopal_77, Zucker_72,

Summary by start number:

Start 8:

- Found in 2 of 43 (4.7%) of genes in pham
- Manual Annotations of this start: 2 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Dulcie_60 (A1), Parliament_60 (A1),

Start 10:

- Found in 1 of 43 (2.3%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Gallop_53 (ES),

Start 11:

- Found in 5 of 43 (11.6%) of genes in pham
- Manual Annotations of this start: 3 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA1_63 (singleton), Holliday_69 (DN1), Malisha_72 (DN), SharkTale_63 (DC1), Squiddly_65 (DN2),

Start 12:

- Found in 5 of 43 (11.6%) of genes in pham
- Manual Annotations of this start: 2 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BellaJr_69 (FN), BlackSpider_63 (FN), CosmicBrownie_72 (AY), Vopal_77 (AY), Zucker_72 (FN),

Start 14:

- Found in 30 of 43 (69.8%) of genes in pham
- Manual Annotations of this start: 30 of 37
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aubs_67 (F1), Beanstalk_65 (F1), Blexus_65 (F1), BobaPhett_71 (F1), Bubbles123_63 (F1), Burwell21_65 (F1), ByChance_60 (F1), Cabrinians_68 (F1), CaptainTrips_65 (F1), Crumble_62 (F1), DaWorst_67 (F1), Emma_69 (F1), Estave1_72 (F1), Fancypants_70 (F1), Jacob_66 (F1), Jennelsea_65 (F1), Koella_61 (F1), Maravista_69 (F1), MinionDave_66 (F1), Moonbeam_66 (F1), NormanBulbieJr_67 (F1), Pippy_66 (F1), Priscilla_67 (F1), Ramsey_66 (F1), ShowerHandel_70 (F1), Spikelee_74 (F1), SwagPigglett_72 (F1), Whouxphf_64 (F1), Yorick_66 (F1), Zizzle_71 (F1),

Summary by clusters:

There are 10 clusters represented in this pham: DN, F1, singleton, A1, DN1, ES, DN2, AY, FN, DC1,

Info for manual annotations of cluster A1:

- Start number 8 was manually annotated 2 times for cluster A1.

Info for manual annotations of cluster DN:

- Start number 11 was manually annotated 1 time for cluster DN.

Info for manual annotations of cluster DN1:

- Start number 11 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 11 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster F1:

- Start number 14 was manually annotated 30 times for cluster F1.

Info for manual annotations of cluster FN:

- Start number 12 was manually annotated 2 times for cluster FN.

Gene Information:

Gene: Aubs_67 Start: 44345, Stop: 45295, Start Num: 14

Candidate Starts for Aubs_67:

(Start: 14 @44345 has 30 MA's), (21, 44447), (24, 44477), (25, 44498), (28, 44570), (30, 44594), (33, 44618), (35, 44648), (36, 44654), (39, 44720), (40, 44726), (41, 44774), (45, 44837), (49, 44867), (59, 45086), (61, 45092), (62, 45116), (63, 45119), (65, 45149), (67, 45161), (70, 45194), (73, 45230), (74, 45239), (75, 45251), (77, 45257), (79, 45269), (82, 45278),

Gene: Beanstalk_65 Start: 42382, Stop: 43332, Start Num: 14

Candidate Starts for Beanstalk_65:

(Start: 14 @42382 has 30 MA's), (21, 42484), (24, 42514), (25, 42535), (28, 42607), (30, 42631), (33, 42655), (35, 42685), (36, 42691), (39, 42757), (40, 42763), (41, 42811), (45, 42874), (49, 42904), (59, 43123), (61, 43129), (62, 43153), (63, 43156), (65, 43186), (67, 43198), (70, 43231), (73, 43267), (74, 43276), (75, 43288), (77, 43294), (79, 43306), (82, 43315),

Gene: BellaJr_69 Start: 40264, Stop: 41163, Start Num: 12

Candidate Starts for BellaJr_69:

(7, 40096), (Start: 12 @40264 has 2 MA's), (15, 40273), (17, 40321), (22, 40381), (26, 40435), (27, 40447), (62, 40987), (67, 41032), (75, 41122),

Gene: BlackSpider_63 Start: 37958, Stop: 38857, Start Num: 12

Candidate Starts for BlackSpider_63:

(1, 37145), (2, 37262), (3, 37301), (4, 37313), (5, 37547), (6, 37559), (7, 37790), (Start: 12 @37958 has 2 MA's), (15, 37967), (17, 38015), (19, 38063), (22, 38075), (26, 38129), (30, 38216), (49, 38489), (59, 38651), (62, 38681), (66, 38720), (67, 38726), (71, 38786), (75, 38816), (79, 38834), (82, 38843),

Gene: Blexus_65 Start: 44521, Stop: 45471, Start Num: 14

Candidate Starts for Blexus_65:

(Start: 14 @44521 has 30 MA's), (21, 44623), (24, 44653), (25, 44674), (28, 44746), (30, 44770), (33, 44794), (35, 44824), (36, 44830), (39, 44896), (40, 44902), (41, 44950), (45, 45013), (49, 45043), (59, 45262), (61, 45268), (62, 45292), (63, 45295), (65, 45325), (67, 45337), (70, 45370), (73, 45406), (74, 45415), (75, 45427), (77, 45433), (79, 45445), (82, 45454),

Gene: BobaPhett_71 Start: 46777, Stop: 47727, Start Num: 14

Candidate Starts for BobaPhett_71:

(Start: 14 @46777 has 30 MA's), (21, 46879), (24, 46909), (25, 46930), (28, 47002), (30, 47026), (33, 47050), (35, 47080), (36, 47086), (39, 47152), (40, 47158), (41, 47206), (45, 47269), (49, 47299), (59, 47518), (61, 47524), (62, 47548), (63, 47551), (65, 47581), (67, 47593), (70, 47626), (73, 47662), (74, 47671), (75, 47683), (77, 47689), (79, 47701), (82, 47710), (83, 47719),

Gene: Bubbles123_63 Start: 43534, Stop: 44484, Start Num: 14

Candidate Starts for Bubbles123_63:

(Start: 14 @43534 has 30 MA's), (21, 43636), (24, 43666), (25, 43687), (28, 43759), (30, 43783), (33, 43807), (35, 43837), (36, 43843), (39, 43909), (40, 43915), (41, 43963), (45, 44026), (49, 44056), (59, 44275), (61, 44281), (62, 44305), (63, 44308), (65, 44338), (67, 44350), (70, 44383), (73, 44419), (74, 44428), (75, 44440), (77, 44446), (79, 44458),

Gene: Burwell21_65 Start: 44099, Stop: 45049, Start Num: 14

Candidate Starts for Burwell21_65:

(Start: 14 @44099 has 30 MA's), (21, 44201), (24, 44231), (25, 44252), (28, 44324), (30, 44348), (33, 44372), (35, 44402), (36, 44408), (39, 44474), (40, 44480), (41, 44528), (45, 44591), (49, 44621), (59, 44840), (61, 44846), (62, 44870), (63, 44873), (65, 44903), (67, 44915), (70, 44948), (73, 44984), (74, 44993), (75, 45005), (77, 45011), (79, 45023), (82, 45032),

Gene: ByChance_60 Start: 40119, Stop: 41069, Start Num: 14

Candidate Starts for ByChance_60:

(Start: 14 @40119 has 30 MA's), (21, 40221), (24, 40251), (25, 40272), (28, 40344), (30, 40368), (33, 40392), (35, 40422), (36, 40428), (39, 40494), (40, 40500), (41, 40548), (45, 40611), (49, 40641), (59, 40860), (61, 40866), (62, 40890), (63, 40893), (65, 40923), (67, 40935), (70, 40968), (73, 41004), (74, 41013), (75, 41025), (77, 41031), (79, 41043), (82, 41052), (83, 41061),

Gene: Cabrinians_68 Start: 44177, Stop: 45127, Start Num: 14

Candidate Starts for Cabrinians_68:

(Start: 14 @44177 has 30 MA's), (21, 44279), (24, 44309), (25, 44330), (28, 44402), (30, 44426), (33, 44450), (35, 44480), (36, 44486), (39, 44552), (40, 44558), (41, 44606), (45, 44669), (49, 44699), (59, 44918), (61, 44924), (62, 44948), (63, 44951), (65, 44981), (67, 44993), (70, 45026), (73, 45062), (74, 45071), (75, 45083), (77, 45089), (79, 45101), (82, 45110),

Gene: CaptainTrips_65 Start: 43912, Stop: 44862, Start Num: 14

Candidate Starts for CaptainTrips_65:

(Start: 14 @43912 has 30 MA's), (21, 44014), (24, 44044), (25, 44065), (28, 44137), (30, 44161), (33, 44185), (35, 44215), (36, 44221), (39, 44287), (40, 44293), (41, 44341), (45, 44404), (49, 44434), (59, 44653), (61, 44659), (62, 44683), (63, 44686), (65, 44716), (67, 44728), (70, 44761), (73, 44797), (74, 44806), (75, 44818), (77, 44824), (79, 44836), (82, 44845),

Gene: CosmicBrownie_72 Start: 40176, Stop: 41075, Start Num: 12

Candidate Starts for CosmicBrownie_72:

(7, 40008), (Start: 12 @40176 has 2 MA's), (15, 40185), (22, 40293), (26, 40347), (27, 40359), (40, 40566), (62, 40899), (67, 40944), (75, 41034), (78, 41049),

Gene: Crumble_62 Start: 40074, Stop: 41024, Start Num: 14

Candidate Starts for Crumble_62:

(Start: 14 @40074 has 30 MA's), (21, 40176), (24, 40206), (25, 40227), (28, 40299), (30, 40323), (33, 40347), (35, 40377), (36, 40383), (39, 40449), (40, 40455), (41, 40503), (45, 40566), (49, 40596), (59, 40815), (61, 40821), (62, 40845), (63, 40848), (65, 40878), (67, 40890), (70, 40923), (73, 40959), (74, 40968), (75, 40980), (77, 40986), (79, 40998), (82, 41007), (83, 41016),

Gene: DaWorst_67 Start: 43677, Stop: 44627, Start Num: 14

Candidate Starts for DaWorst_67:

(Start: 14 @43677 has 30 MA's), (21, 43779), (24, 43809), (25, 43830), (28, 43902), (30, 43926), (33, 43950), (35, 43980), (36, 43986), (39, 44052), (40, 44058), (41, 44106), (45, 44169), (49, 44199), (59, 44418), (61, 44424), (62, 44448), (63, 44451), (65, 44481), (67, 44493), (70, 44526), (73, 44562), (74, 44571), (75, 44583), (77, 44589), (79, 44601), (82, 44610),

Gene: Dulcie_60 Start: 41868, Stop: 40789, Start Num: 8

Candidate Starts for Dulcie_60:

(Start: 8 @41868 has 2 MA's), (9, 41799), (18, 41655), (20, 41652), (23, 41625), (30, 41514), (31, 41511), (34, 41475), (42, 41316), (44, 41280), (45, 41268), (46, 41265), (52, 41208), (53, 41157), (56, 41085), (57, 41034), (60, 41004), (64, 40962), (68, 40914), (69, 40911), (72, 40872), (80, 40824),

Gene: Emma_69 Start: 43700, Stop: 44650, Start Num: 14

Candidate Starts for Emma_69:

(Start: 14 @43700 has 30 MA's), (21, 43802), (24, 43832), (25, 43853), (28, 43925), (30, 43949), (33, 43973), (35, 44003), (36, 44009), (39, 44075), (40, 44081), (41, 44129), (45, 44192), (49, 44222), (51, 44240), (54, 44306), (59, 44441), (61, 44447), (62, 44471), (63, 44474), (65, 44504), (67, 44516), (70, 44549), (73, 44585), (74, 44594), (75, 44606), (77, 44612), (79, 44624), (82, 44633),

Gene: Estave1_72 Start: 46536, Stop: 47486, Start Num: 14

Candidate Starts for Estave1_72:

(Start: 14 @46536 has 30 MA's), (21, 46638), (24, 46668), (25, 46689), (28, 46761), (30, 46785), (33, 46809), (35, 46839), (36, 46845), (39, 46911), (40, 46917), (41, 46965), (45, 47028), (49, 47058), (59, 47277), (61, 47283), (62, 47307), (63, 47310), (65, 47340), (67, 47352), (70, 47385), (73, 47421), (74, 47430), (75, 47442), (77, 47448), (79, 47460), (82, 47469), (83, 47478),

Gene: Fancypants_70 Start: 44712, Stop: 45662, Start Num: 14

Candidate Starts for Fancypants_70:

(Start: 14 @44712 has 30 MA's), (21, 44814), (24, 44844), (25, 44865), (28, 44937), (30, 44961), (33, 44985), (35, 45015), (36, 45021), (39, 45087), (40, 45093), (41, 45141), (45, 45204), (49, 45234), (59, 45453), (61, 45459), (62, 45483), (63, 45486), (65, 45516), (67, 45528), (70, 45561), (73, 45597), (74, 45606), (75, 45618), (77, 45624), (79, 45636), (82, 45645),

Gene: GMA1_63 Start: 37160, Stop: 38131, Start Num: 11

Candidate Starts for GMA1_63:

(Start: 11 @37160 has 3 MA's), (13, 37166), (16, 37220), (28, 37400), (32, 37439), (38, 37535), (43, 37634), (45, 37667), (49, 37697), (50, 37703), (73, 38075),

Gene: Gallop_53 Start: 37206, Stop: 38183, Start Num: 10

Candidate Starts for Gallop_53:

(10, 37206), (16, 37269), (17, 37272), (21, 37326), (22, 37332), (29, 37455), (30, 37473), (32, 37488), (35, 37527), (36, 37533), (37, 37554), (40, 37605), (41, 37653), (45, 37716), (56, 37908), (58, 37959),

(61, 37986), (67, 38055), (71, 38115), (75, 38145), (77, 38151), (81, 38169), (82, 38172),

Gene: Holliday_69 Start: 42905, Stop: 43861, Start Num: 11

Candidate Starts for Holliday_69:

(Start: 11 @42905 has 3 MA's), (17, 42965), (22, 43025), (25, 43070), (28, 43142), (33, 43190), (36, 43226), (39, 43292), (40, 43298), (49, 43439), (55, 43550), (67, 43733), (75, 43823), (77, 43829),

Gene: Jacob_66 Start: 44101, Stop: 45051, Start Num: 14

Candidate Starts for Jacob_66:

(Start: 14 @44101 has 30 MA's), (21, 44203), (24, 44233), (25, 44254), (28, 44326), (30, 44350), (33, 44374), (35, 44404), (36, 44410), (39, 44476), (40, 44482), (41, 44530), (45, 44593), (49, 44623), (51, 44641), (54, 44707), (59, 44842), (61, 44848), (62, 44872), (65, 44905), (67, 44917), (70, 44950), (73, 44986), (74, 44995), (75, 45007), (77, 45013), (79, 45025), (82, 45034),

Gene: Jennelsea_65 Start: 42827, Stop: 43777, Start Num: 14

Candidate Starts for Jennelsea_65:

(Start: 14 @42827 has 30 MA's), (21, 42929), (24, 42959), (25, 42980), (28, 43052), (30, 43076), (33, 43100), (35, 43130), (36, 43136), (39, 43202), (40, 43208), (41, 43256), (45, 43319), (49, 43349), (59, 43568), (61, 43574), (62, 43598), (63, 43601), (65, 43631), (67, 43643), (70, 43676), (73, 43712), (74, 43721), (75, 43733), (77, 43739), (79, 43751), (82, 43760), (83, 43769),

Gene: Koella_61 Start: 40075, Stop: 41025, Start Num: 14

Candidate Starts for Koella_61:

(Start: 14 @40075 has 30 MA's), (21, 40177), (24, 40207), (25, 40228), (28, 40300), (30, 40324), (33, 40348), (35, 40378), (36, 40384), (39, 40450), (40, 40456), (41, 40504), (45, 40567), (49, 40597), (59, 40816), (61, 40822), (62, 40846), (63, 40849), (65, 40879), (67, 40891), (70, 40924), (73, 40960), (74, 40969), (75, 40981), (77, 40987), (79, 40999), (82, 41008),

Gene: Malisha_72 Start: 44709, Stop: 45665, Start Num: 11

Candidate Starts for Malisha_72:

(Start: 11 @44709 has 3 MA's), (28, 44946), (33, 44994), (35, 45024), (36, 45030), (37, 45051), (51, 45261), (65, 45525), (66, 45531), (67, 45537), (75, 45627),

Gene: Maravista_69 Start: 46025, Stop: 46975, Start Num: 14

Candidate Starts for Maravista_69:

(Start: 14 @46025 has 30 MA's), (21, 46127), (24, 46157), (25, 46178), (28, 46250), (30, 46274), (33, 46298), (35, 46328), (36, 46334), (39, 46400), (40, 46406), (41, 46454), (45, 46517), (49, 46547), (59, 46766), (61, 46772), (62, 46796), (63, 46799), (65, 46829), (67, 46841), (70, 46874), (73, 46910), (74, 46919), (75, 46931), (77, 46937), (79, 46949), (82, 46958),

Gene: MinionDave_66 Start: 44448, Stop: 45398, Start Num: 14

Candidate Starts for MinionDave_66:

(Start: 14 @44448 has 30 MA's), (21, 44550), (24, 44580), (25, 44601), (28, 44673), (30, 44697), (33, 44721), (35, 44751), (36, 44757), (39, 44823), (40, 44829), (41, 44877), (45, 44940), (49, 44970), (59, 45189), (61, 45195), (62, 45219), (63, 45222), (65, 45252), (67, 45264), (70, 45297), (73, 45333), (74, 45342), (75, 45354), (77, 45360), (79, 45372), (82, 45381),

Gene: Moonbeam_66 Start: 43629, Stop: 44579, Start Num: 14

Candidate Starts for Moonbeam_66:

(Start: 14 @43629 has 30 MA's), (21, 43731), (24, 43761), (25, 43782), (28, 43854), (30, 43878), (33, 43902), (35, 43932), (36, 43938), (39, 44004), (40, 44010), (41, 44058), (45, 44121), (49, 44151), (51, 44169), (54, 44235), (59, 44370), (61, 44376), (62, 44400), (63, 44403), (65, 44433), (67, 44445), (70, 44478), (73, 44514), (74, 44523), (75, 44535), (77, 44541), (79, 44553), (82, 44562),

Gene: NormanBulbieJr_67 Start: 44088, Stop: 45038, Start Num: 14

Candidate Starts for NormanBulbieJr_67:

(Start: 14 @44088 has 30 MA's), (21, 44190), (24, 44220), (25, 44241), (28, 44313), (30, 44337), (33, 44361), (35, 44391), (36, 44397), (39, 44463), (40, 44469), (41, 44517), (45, 44580), (49, 44610), (59, 44829), (61, 44835), (62, 44859), (63, 44862), (65, 44892), (67, 44904), (70, 44937), (73, 44973), (74, 44982), (75, 44994), (77, 45000), (79, 45012), (82, 45021),

Gene: Parliament_60 Start: 42510, Stop: 41431, Start Num: 8

Candidate Starts for Parliament_60:

(Start: 8 @42510 has 2 MA's), (9, 42441), (18, 42297), (20, 42294), (23, 42267), (30, 42156), (31, 42153), (34, 42117), (42, 41958), (45, 41910), (46, 41907), (47, 41886), (53, 41799), (56, 41727), (57, 41676), (60, 41646), (64, 41604), (68, 41556), (69, 41553), (72, 41514), (80, 41466),

Gene: Pippy_66 Start: 43387, Stop: 44337, Start Num: 14

Candidate Starts for Pippy_66:

(Start: 14 @43387 has 30 MA's), (21, 43489), (24, 43519), (25, 43540), (28, 43612), (30, 43636), (33, 43660), (35, 43690), (36, 43696), (39, 43762), (40, 43768), (41, 43816), (45, 43879), (49, 43909), (59, 44128), (61, 44134), (62, 44158), (63, 44161), (65, 44191), (67, 44203), (70, 44236), (73, 44272), (74, 44281), (75, 44293), (77, 44299), (79, 44311), (82, 44320), (83, 44329),

Gene: Priscilla_67 Start: 44187, Stop: 45137, Start Num: 14

Candidate Starts for Priscilla_67:

(Start: 14 @44187 has 30 MA's), (21, 44289), (24, 44319), (25, 44340), (28, 44412), (30, 44436), (33, 44460), (35, 44490), (36, 44496), (39, 44562), (40, 44568), (41, 44616), (45, 44679), (49, 44709), (59, 44928), (61, 44934), (62, 44958), (63, 44961), (65, 44991), (67, 45003), (70, 45036), (73, 45072), (74, 45081), (75, 45093), (77, 45099), (79, 45111), (82, 45120),

Gene: Ramsey_66 Start: 43916, Stop: 44866, Start Num: 14

Candidate Starts for Ramsey_66:

(Start: 14 @43916 has 30 MA's), (21, 44018), (24, 44048), (25, 44069), (28, 44141), (30, 44165), (33, 44189), (35, 44219), (36, 44225), (39, 44291), (40, 44297), (41, 44345), (45, 44408), (49, 44438), (59, 44657), (61, 44663), (62, 44687), (63, 44690), (65, 44720), (67, 44732), (70, 44765), (73, 44801), (74, 44810), (75, 44822), (77, 44828), (79, 44840), (82, 44849),

Gene: SharkTale_63 Start: 46750, Stop: 47724, Start Num: 11

Candidate Starts for SharkTale_63:

(Start: 11 @46750 has 3 MA's), (17, 46810), (22, 46870), (38, 47122), (55, 47410), (67, 47593), (73, 47662), (75, 47683),

Gene: ShowerHandel_70 Start: 44059, Stop: 45009, Start Num: 14

Candidate Starts for ShowerHandel_70:

(Start: 14 @44059 has 30 MA's), (21, 44161), (24, 44191), (25, 44212), (28, 44284), (30, 44308), (33, 44332), (35, 44362), (36, 44368), (39, 44434), (40, 44440), (41, 44488), (45, 44551), (49, 44581), (59, 44800), (61, 44806), (62, 44830), (63, 44833), (65, 44863), (67, 44875), (70, 44908), (73, 44944), (74, 44953), (75, 44965), (77, 44971), (79, 44983), (82, 44992), (83, 45001),

Gene: Spikelee_74 Start: 45764, Stop: 46714, Start Num: 14

Candidate Starts for Spikelee_74:

(Start: 14 @45764 has 30 MA's), (21, 45866), (24, 45896), (25, 45917), (28, 45989), (30, 46013), (33, 46037), (35, 46067), (36, 46073), (39, 46139), (40, 46145), (41, 46193), (45, 46256), (49, 46286), (59, 46505), (61, 46511), (62, 46535), (63, 46538), (65, 46568), (67, 46580), (70, 46613), (73, 46649), (74, 46658), (75, 46670), (77, 46676), (79, 46688), (82, 46697),

Gene: Squiddly_65 Start: 43028, Stop: 43984, Start Num: 11

Candidate Starts for Squiddly_65:

(Start: 11 @43028 has 3 MA's), (17, 43088), (22, 43148), (25, 43193), (28, 43265), (33, 43313), (36, 43349), (39, 43415), (40, 43421), (48, 43559), (55, 43673), (61, 43787), (67, 43856), (75, 43946), (76, 43949), (83, 43976),

Gene: SwagPiggett_72 Start: 46406, Stop: 47356, Start Num: 14

Candidate Starts for SwagPiggett_72:

(Start: 14 @46406 has 30 MA's), (21, 46508), (24, 46538), (25, 46559), (28, 46631), (30, 46655), (33, 46679), (35, 46709), (36, 46715), (39, 46781), (40, 46787), (41, 46835), (45, 46898), (49, 46928), (54, 47012), (59, 47147), (61, 47153), (62, 47177), (63, 47180), (65, 47210), (67, 47222), (70, 47255), (73, 47291), (74, 47300), (75, 47312), (77, 47318), (79, 47330), (82, 47339),

Gene: Vopal_77 Start: 43204, Stop: 44103, Start Num: 12

Candidate Starts for Vopal_77:

(5, 42793), (6, 42805), (7, 43036), (Start: 12 @43204 has 2 MA's), (15, 43213), (22, 43321), (26, 43375), (62, 43927), (67, 43972), (75, 44062), (78, 44077),

Gene: Whouxphf_64 Start: 43966, Stop: 44916, Start Num: 14

Candidate Starts for Whouxphf_64:

(Start: 14 @43966 has 30 MA's), (21, 44068), (24, 44098), (25, 44119), (28, 44191), (30, 44215), (33, 44239), (35, 44269), (36, 44275), (39, 44341), (40, 44347), (41, 44395), (45, 44458), (49, 44488), (59, 44707), (61, 44713), (62, 44737), (63, 44740), (65, 44770), (67, 44782), (70, 44815), (73, 44851), (74, 44860), (75, 44872), (77, 44878), (79, 44890), (82, 44899),

Gene: Yorick_66 Start: 44206, Stop: 45156, Start Num: 14

Candidate Starts for Yorick_66:

(Start: 14 @44206 has 30 MA's), (21, 44308), (24, 44338), (25, 44359), (28, 44431), (30, 44455), (33, 44479), (35, 44509), (36, 44515), (39, 44581), (40, 44587), (41, 44635), (45, 44698), (49, 44728), (59, 44947), (61, 44953), (62, 44977), (63, 44980), (65, 45010), (67, 45022), (70, 45055), (73, 45091), (74, 45100), (75, 45112), (77, 45118), (79, 45130), (82, 45139),

Gene: Zizzle_71 Start: 45692, Stop: 46642, Start Num: 14

Candidate Starts for Zizzle_71:

(Start: 14 @45692 has 30 MA's), (21, 45794), (24, 45824), (25, 45845), (28, 45917), (30, 45941), (33, 45965), (35, 45995), (36, 46001), (39, 46067), (40, 46073), (41, 46121), (45, 46184), (49, 46214), (59, 46433), (61, 46439), (62, 46463), (63, 46466), (65, 46496), (67, 46508), (70, 46541), (73, 46577), (74, 46586), (75, 46598), (77, 46604), (79, 46616), (82, 46625), (83, 46634),

Gene: Zucker_72 Start: 42192, Stop: 43091, Start Num: 12

Candidate Starts for Zucker_72:

(5, 41781), (6, 41793), (7, 42024), (Start: 12 @42192 has 2 MA's), (15, 42201), (19, 42297), (22, 42309), (26, 42363), (37, 42531), (62, 42915), (66, 42954), (67, 42960), (75, 43050),