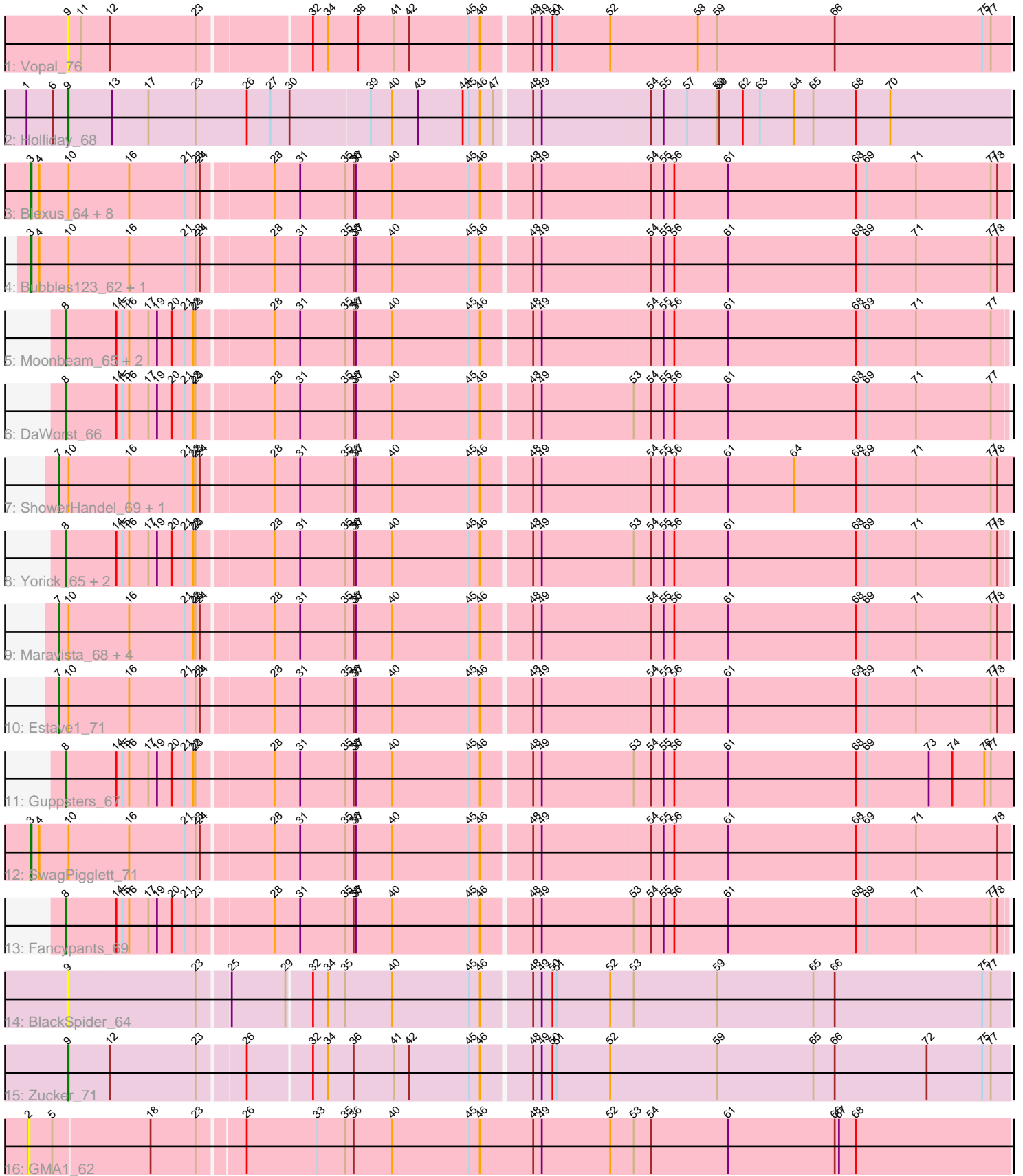


Pham 200449



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 200449 Report

This analysis was run 01/18/25 on database version 583.

Pham number 200449 has 34 members, 3 are drafts.

Phages represented in each track:

- Track 1 : Vopal_76
- Track 2 : Holliday_68
- Track 3 : Blexus_64, Ramsey_65, NormanBulbieJr_66, Burwell21_64, Priscilla_66, MinionDave_65, CaptainTrips_64, Cabrinians_67, Koella_60
- Track 4 : Bubbles123_62, Spikelee_73
- Track 5 : Moonbeam_65, Jarcob_65, Emma_68
- Track 6 : DaWorst_66
- Track 7 : ShowerHandel_69, ByChance_59
- Track 8 : Yorick_65, Whouxphf_63, Aubs_66
- Track 9 : Maravista_68, Crumble_61, BobaPhett_70, Zizzle_70, Pippy_65
- Track 10 : Estave1_71
- Track 11 : Guppsters_67
- Track 12 : SwagPiggett_71
- Track 13 : Fancypants_69
- Track 14 : BlackSpider_64
- Track 15 : Zucker_71
- Track 16 : GMA1_62

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

The start number called the most often in the published annotations is 3, it was called in 12 of the 31 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Blexus_64, Bubbles123_62, Burwell21_64, Cabrinians_67, CaptainTrips_64, Koella_60, MinionDave_65, NormanBulbieJr_66, Priscilla_66, Ramsey_65, Spikelee_73, SwagPiggett_71,

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

-

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

- Aubs_66, BlackSpider_64, BobaPhett_70, ByChance_59, Crumble_61, DaWorst_66, Emma_68, Estave1_71, Fancypants_69, GMA1_62, Guppsters_67,

Holliday_68, Jarcob_65, Maravista_68, Moonbeam_65, Pippy_65, ShowerHandel_69, Vopal_76, Whouxphf_63, Yorick_65, Zizzle_70, Zucker_71,

Summary by start number:

Start 2:

- Found in 1 of 34 (2.9%) of genes in pham
- No Manual Annotations of this start.
- Called 100.0% of time when present
- Phage (with cluster) where this start called: GMA1_62 (singleton),

Start 3:

- Found in 12 of 34 (35.3%) of genes in pham
- Manual Annotations of this start: 12 of 31
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Blexus_64 (F1), Bubbles123_62 (F1), Burwell21_64 (F1), Cabrinians_67 (F1), CaptainTrips_64 (F1), Koella_60 (F1), MinionDave_65 (F1), NormanBulbieJr_66 (F1), Priscilla_66 (F1), Ramsey_65 (F1), Spikelee_73 (F1), SwagPiggett_71 (F1),

Start 7:

- Found in 8 of 34 (23.5%) of genes in pham
- Manual Annotations of this start: 8 of 31
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BobaPhett_70 (F1), ByChance_59 (F1), Crumble_61 (F1), Estave1_71 (F1), Maravista_68 (F1), Pippy_65 (F1), ShowerHandel_69 (F1), Zizzle_70 (F1),

Start 8:

- Found in 9 of 34 (26.5%) of genes in pham
- Manual Annotations of this start: 9 of 31
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aubs_66 (F1), DaWorst_66 (F1), Emma_68 (F1), Fancypants_69 (F1), Guppsters_67 (F1), Jarcob_65 (F1), Moonbeam_65 (F1), Whouxphf_63 (F1), Yorick_65 (F1),

Start 9:

- Found in 4 of 34 (11.8%) of genes in pham
- Manual Annotations of this start: 2 of 31
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BlackSpider_64 (FN), Holliday_68 (DN1), Vopal_76 (AY), Zucker_71 (FN),

Summary by clusters:

There are 5 clusters represented in this pham: AY, F1, singleton, DN1, FN,

Info for manual annotations of cluster DN1:

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

Info for manual annotations of cluster F1:

- Start number 3 was manually annotated 12 times for cluster F1.

- Start number 7 was manually annotated 8 times for cluster F1.
- Start number 8 was manually annotated 9 times for cluster F1.

Info for manual annotations of cluster FN:

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

Gene Information:

Gene: Aubs_66 Start: 43049, Stop: 44338, Start Num: 8

Candidate Starts for Aubs_66:

(Start: 8 @43049 has 9 MA's), (14, 43118), (15, 43127), (16, 43136), (17, 43163), (19, 43175), (20, 43196), (21, 43214), (22, 43226), (23, 43229), (28, 43328), (31, 43364), (35, 43427), (36, 43439), (37, 43442), (40, 43493), (45, 43601), (46, 43616), (48, 43682), (49, 43694), (53, 43820), (54, 43844), (55, 43862), (56, 43877), (61, 43949), (68, 44129), (69, 44144), (71, 44213), (77, 44318), (78, 44327),

Gene: BlackSpider_64 Start: 36669, Stop: 37961, Start Num: 9

Candidate Starts for BlackSpider_64:

(Start: 9 @36669 has 2 MA's), (23, 36846), (25, 36885), (29, 36960), (32, 36993), (34, 37014), (35, 37038), (40, 37104), (45, 37212), (46, 37227), (48, 37293), (49, 37305), (50, 37320), (51, 37326), (52, 37401), (53, 37434), (59, 37551), (65, 37686), (66, 37716), (75, 37923), (77, 37935),

Gene: Blexus_64 Start: 43178, Stop: 44518, Start Num: 3

Candidate Starts for Blexus_64:

(Start: 3 @43178 has 12 MA's), (4, 43190), (10, 43229), (16, 43313), (21, 43391), (23, 43406), (24, 43412), (28, 43505), (31, 43541), (35, 43604), (36, 43616), (37, 43619), (40, 43670), (45, 43778), (46, 43793), (48, 43859), (49, 43871), (54, 44021), (55, 44039), (56, 44054), (61, 44126), (68, 44306), (69, 44321), (71, 44390), (77, 44495), (78, 44504),

Gene: BobaPhett_70 Start: 45473, Stop: 46780, Start Num: 7

Candidate Starts for BobaPhett_70:

(Start: 7 @45473 has 8 MA's), (10, 45485), (16, 45569), (21, 45647), (22, 45659), (23, 45662), (24, 45668), (28, 45761), (31, 45797), (35, 45860), (36, 45872), (37, 45875), (40, 45926), (45, 46034), (46, 46049), (48, 46115), (49, 46127), (54, 46277), (55, 46295), (56, 46310), (61, 46382), (68, 46562), (69, 46577), (71, 46646), (77, 46751), (78, 46760),

Gene: Bubbles123_62 Start: 42191, Stop: 43537, Start Num: 3

Candidate Starts for Bubbles123_62:

(Start: 3 @42191 has 12 MA's), (4, 42203), (10, 42242), (16, 42326), (21, 42404), (23, 42419), (24, 42425), (28, 42518), (31, 42554), (35, 42617), (36, 42629), (37, 42632), (40, 42683), (45, 42791), (46, 42806), (48, 42872), (49, 42884), (54, 43034), (55, 43052), (56, 43067), (61, 43139), (68, 43319), (69, 43334), (71, 43403), (77, 43508), (78, 43517),

Gene: Burwell21_64 Start: 42756, Stop: 44096, Start Num: 3

Candidate Starts for Burwell21_64:

(Start: 3 @42756 has 12 MA's), (4, 42768), (10, 42807), (16, 42891), (21, 42969), (23, 42984), (24, 42990), (28, 43083), (31, 43119), (35, 43182), (36, 43194), (37, 43197), (40, 43248), (45, 43356), (46, 43371), (48, 43437), (49, 43449), (54, 43599), (55, 43617), (56, 43632), (61, 43704), (68, 43884), (69, 43899), (71, 43968), (77, 44073), (78, 44082),

Gene: ByChance_59 Start: 38815, Stop: 40122, Start Num: 7

Candidate Starts for ByChance_59:

(Start: 7 @38815 has 8 MA's), (10, 38827), (16, 38911), (21, 38989), (22, 39001), (23, 39004), (24, 39010), (28, 39103), (31, 39139), (35, 39202), (36, 39214), (37, 39217), (40, 39268), (45, 39376), (46, 39391), (48, 39457), (49, 39469), (54, 39619), (55, 39637), (56, 39652), (61, 39724), (64, 39817), (68, 39904), (69, 39919), (71, 39988), (77, 40093), (78, 40102),

Gene: Cabrinians_67 Start: 42834, Stop: 44174, Start Num: 3

Candidate Starts for Cabrinians_67:

(Start: 3 @42834 has 12 MA's), (4, 42846), (10, 42885), (16, 42969), (21, 43047), (23, 43062), (24, 43068), (28, 43161), (31, 43197), (35, 43260), (36, 43272), (37, 43275), (40, 43326), (45, 43434), (46, 43449), (48, 43515), (49, 43527), (54, 43677), (55, 43695), (56, 43710), (61, 43782), (68, 43962), (69, 43977), (71, 44046), (77, 44151), (78, 44160),

Gene: CaptainTrips_64 Start: 42569, Stop: 43909, Start Num: 3

Candidate Starts for CaptainTrips_64:

(Start: 3 @42569 has 12 MA's), (4, 42581), (10, 42620), (16, 42704), (21, 42782), (23, 42797), (24, 42803), (28, 42896), (31, 42932), (35, 42995), (36, 43007), (37, 43010), (40, 43061), (45, 43169), (46, 43184), (48, 43250), (49, 43262), (54, 43412), (55, 43430), (56, 43445), (61, 43517), (68, 43697), (69, 43712), (71, 43781), (77, 43886), (78, 43895),

Gene: Crumble_61 Start: 38770, Stop: 40077, Start Num: 7

Candidate Starts for Crumble_61:

(Start: 7 @38770 has 8 MA's), (10, 38782), (16, 38866), (21, 38944), (22, 38956), (23, 38959), (24, 38965), (28, 39058), (31, 39094), (35, 39157), (36, 39169), (37, 39172), (40, 39223), (45, 39331), (46, 39346), (48, 39412), (49, 39424), (54, 39574), (55, 39592), (56, 39607), (61, 39679), (68, 39859), (69, 39874), (71, 39943), (77, 40048), (78, 40057),

Gene: DaWorst_66 Start: 42381, Stop: 43670, Start Num: 8

Candidate Starts for DaWorst_66:

(Start: 8 @42381 has 9 MA's), (14, 42450), (15, 42459), (16, 42468), (17, 42495), (19, 42507), (20, 42528), (21, 42546), (22, 42558), (23, 42561), (28, 42660), (31, 42696), (35, 42759), (36, 42771), (37, 42774), (40, 42825), (45, 42933), (46, 42948), (48, 43014), (49, 43026), (53, 43152), (54, 43176), (55, 43194), (56, 43209), (61, 43281), (68, 43461), (69, 43476), (71, 43545), (77, 43650),

Gene: Emma_68 Start: 42404, Stop: 43693, Start Num: 8

Candidate Starts for Emma_68:

(Start: 8 @42404 has 9 MA's), (14, 42473), (15, 42482), (16, 42491), (17, 42518), (19, 42530), (20, 42551), (21, 42569), (22, 42581), (23, 42584), (28, 42683), (31, 42719), (35, 42782), (36, 42794), (37, 42797), (40, 42848), (45, 42956), (46, 42971), (48, 43037), (49, 43049), (54, 43199), (55, 43217), (56, 43232), (61, 43304), (68, 43484), (69, 43499), (71, 43568), (77, 43673),

Gene: Estave1_71 Start: 45232, Stop: 46539, Start Num: 7

Candidate Starts for Estave1_71:

(Start: 7 @45232 has 8 MA's), (10, 45244), (16, 45328), (21, 45406), (23, 45421), (24, 45427), (28, 45520), (31, 45556), (35, 45619), (36, 45631), (37, 45634), (40, 45685), (45, 45793), (46, 45808), (48, 45874), (49, 45886), (54, 46036), (55, 46054), (56, 46069), (61, 46141), (68, 46321), (69, 46336), (71, 46405), (77, 46510), (78, 46519),

Gene: Fancypants_69 Start: 43416, Stop: 44705, Start Num: 8

Candidate Starts for Fancypants_69:

(Start: 8 @43416 has 9 MA's), (14, 43485), (15, 43494), (16, 43503), (17, 43530), (19, 43542), (20, 43563), (21, 43581), (23, 43596), (28, 43695), (31, 43731), (35, 43794), (36, 43806), (37, 43809), (40, 43860), (45, 43968), (46, 43983), (48, 44049), (49, 44061), (53, 44187), (54, 44211), (55, 44229), (56, 44244), (61, 44316), (68, 44496), (69, 44511), (71, 44580), (77, 44685), (78, 44694),

Gene: GMA1_62 Start: 35817, Stop: 37163, Start Num: 2

Candidate Starts for GMA1_62:

(2, 35817), (5, 35850), (18, 35982), (23, 36045), (26, 36105), (33, 36198), (35, 36237), (36, 36249), (40, 36303), (45, 36411), (46, 36426), (48, 36501), (49, 36513), (52, 36609), (53, 36639), (54, 36663), (61, 36771), (66, 36921), (67, 36927), (68, 36951),

Gene: Guppsters_67 Start: 42336, Stop: 43631, Start Num: 8

Candidate Starts for Guppsters_67:

(Start: 8 @42336 has 9 MA's), (14, 42405), (15, 42414), (16, 42423), (17, 42450), (19, 42462), (20, 42483), (21, 42501), (22, 42513), (23, 42516), (28, 42615), (31, 42651), (35, 42714), (36, 42726), (37, 42729), (40, 42780), (45, 42888), (46, 42903), (48, 42969), (49, 42981), (53, 43107), (54, 43131), (55, 43149), (56, 43164), (61, 43236), (68, 43416), (69, 43431), (73, 43518), (74, 43551), (76, 43596), (77, 43605),

Gene: Holliday_68 Start: 41613, Stop: 42908, Start Num: 9

Candidate Starts for Holliday_68:

(1, 41556), (6, 41592), (Start: 9 @41613 has 2 MA's), (13, 41673), (17, 41724), (23, 41790), (26, 41862), (27, 41895), (30, 41919), (39, 42027), (40, 42057), (43, 42093), (44, 42156), (45, 42165), (46, 42180), (47, 42198), (48, 42246), (49, 42258), (54, 42408), (55, 42426), (57, 42459), (59, 42501), (60, 42504), (62, 42537), (63, 42561), (64, 42609), (65, 42636), (68, 42696), (70, 42744),

Gene: Jacob_65 Start: 42805, Stop: 44094, Start Num: 8

Candidate Starts for Jacob_65:

(Start: 8 @42805 has 9 MA's), (14, 42874), (15, 42883), (16, 42892), (17, 42919), (19, 42931), (20, 42952), (21, 42970), (22, 42982), (23, 42985), (28, 43084), (31, 43120), (35, 43183), (36, 43195), (37, 43198), (40, 43249), (45, 43357), (46, 43372), (48, 43438), (49, 43450), (54, 43600), (55, 43618), (56, 43633), (61, 43705), (68, 43885), (69, 43900), (71, 43969), (77, 44074),

Gene: Koella_60 Start: 38732, Stop: 40072, Start Num: 3

Candidate Starts for Koella_60:

(Start: 3 @38732 has 12 MA's), (4, 38744), (10, 38783), (16, 38867), (21, 38945), (23, 38960), (24, 38966), (28, 39059), (31, 39095), (35, 39158), (36, 39170), (37, 39173), (40, 39224), (45, 39332), (46, 39347), (48, 39413), (49, 39425), (54, 39575), (55, 39593), (56, 39608), (61, 39680), (68, 39860), (69, 39875), (71, 39944), (77, 40049), (78, 40058),

Gene: Maravista_68 Start: 44721, Stop: 46022, Start Num: 7

Candidate Starts for Maravista_68:

(Start: 7 @44721 has 8 MA's), (10, 44733), (16, 44817), (21, 44895), (22, 44907), (23, 44910), (24, 44916), (28, 45009), (31, 45045), (35, 45108), (36, 45120), (37, 45123), (40, 45174), (45, 45282), (46, 45297), (48, 45363), (49, 45375), (54, 45525), (55, 45543), (56, 45558), (61, 45630), (68, 45810), (69, 45825), (71, 45894), (77, 45999), (78, 46008),

Gene: MinionDave_65 Start: 43105, Stop: 44445, Start Num: 3

Candidate Starts for MinionDave_65:

(Start: 3 @43105 has 12 MA's), (4, 43117), (10, 43156), (16, 43240), (21, 43318), (23, 43333), (24, 43339), (28, 43432), (31, 43468), (35, 43531), (36, 43543), (37, 43546), (40, 43597), (45, 43705), (46, 43720), (48, 43786), (49, 43798), (54, 43948), (55, 43966), (56, 43981), (61, 44053), (68, 44233), (69, 44248), (71, 44317), (77, 44422), (78, 44431),

Gene: Moonbeam_65 Start: 42333, Stop: 43622, Start Num: 8

Candidate Starts for Moonbeam_65:

(Start: 8 @42333 has 9 MA's), (14, 42402), (15, 42411), (16, 42420), (17, 42447), (19, 42459), (20, 42480), (21, 42498), (22, 42510), (23, 42513), (28, 42612), (31, 42648), (35, 42711), (36, 42723), (37, 42726), (40, 42777), (45, 42885), (46, 42900), (48, 42966), (49, 42978), (54, 43128), (55, 43146), (56, 43161), (61, 43233), (68, 43413), (69, 43428), (71, 43497), (77, 43602),

Gene: NormanBulbieJr_66 Start: 42745, Stop: 44085, Start Num: 3

Candidate Starts for NormanBulbieJr_66:

(Start: 3 @42745 has 12 MA's), (4, 42757), (10, 42796), (16, 42880), (21, 42958), (23, 42973), (24, 42979), (28, 43072), (31, 43108), (35, 43171), (36, 43183), (37, 43186), (40, 43237), (45, 43345), (46, 43360), (48, 43426), (49, 43438), (54, 43588), (55, 43606), (56, 43621), (61, 43693), (68, 43873), (69, 43888), (71, 43957), (77, 44062), (78, 44071),

Gene: Pippy_65 Start: 42083, Stop: 43390, Start Num: 7

Candidate Starts for Pippy_65:

(Start: 7 @42083 has 8 MA's), (10, 42095), (16, 42179), (21, 42257), (22, 42269), (23, 42272), (24, 42278), (28, 42371), (31, 42407), (35, 42470), (36, 42482), (37, 42485), (40, 42536), (45, 42644), (46, 42659), (48, 42725), (49, 42737), (54, 42887), (55, 42905), (56, 42920), (61, 42992), (68, 43172), (69, 43187), (71, 43256), (77, 43361), (78, 43370),

Gene: Priscilla_66 Start: 42844, Stop: 44184, Start Num: 3

Candidate Starts for Priscilla_66:

(Start: 3 @42844 has 12 MA's), (4, 42856), (10, 42895), (16, 42979), (21, 43057), (23, 43072), (24, 43078), (28, 43171), (31, 43207), (35, 43270), (36, 43282), (37, 43285), (40, 43336), (45, 43444), (46, 43459), (48, 43525), (49, 43537), (54, 43687), (55, 43705), (56, 43720), (61, 43792), (68, 43972), (69, 43987), (71, 44056), (77, 44161), (78, 44170),

Gene: Ramsey_65 Start: 42573, Stop: 43913, Start Num: 3

Candidate Starts for Ramsey_65:

(Start: 3 @42573 has 12 MA's), (4, 42585), (10, 42624), (16, 42708), (21, 42786), (23, 42801), (24, 42807), (28, 42900), (31, 42936), (35, 42999), (36, 43011), (37, 43014), (40, 43065), (45, 43173), (46, 43188), (48, 43254), (49, 43266), (54, 43416), (55, 43434), (56, 43449), (61, 43521), (68, 43701), (69, 43716), (71, 43785), (77, 43890), (78, 43899),

Gene: ShowerHandel_69 Start: 42755, Stop: 44062, Start Num: 7

Candidate Starts for ShowerHandel_69:

(Start: 7 @42755 has 8 MA's), (10, 42767), (16, 42851), (21, 42929), (22, 42941), (23, 42944), (24, 42950), (28, 43043), (31, 43079), (35, 43142), (36, 43154), (37, 43157), (40, 43208), (45, 43316), (46, 43331), (48, 43397), (49, 43409), (54, 43559), (55, 43577), (56, 43592), (61, 43664), (64, 43757), (68, 43844), (69, 43859), (71, 43928), (77, 44033), (78, 44042),

Gene: Spikelee_73 Start: 44421, Stop: 45761, Start Num: 3

Candidate Starts for Spikelee_73:

(Start: 3 @44421 has 12 MA's), (4, 44433), (10, 44472), (16, 44556), (21, 44634), (23, 44649), (24, 44655), (28, 44748), (31, 44784), (35, 44847), (36, 44859), (37, 44862), (40, 44913), (45, 45021), (46, 45036), (48, 45102), (49, 45114), (54, 45264), (55, 45282), (56, 45297), (61, 45369), (68, 45549), (69, 45564), (71, 45633), (77, 45738), (78, 45747),

Gene: SwagPigglett_71 Start: 45063, Stop: 46403, Start Num: 3

Candidate Starts for SwagPigglett_71:

(Start: 3 @45063 has 12 MA's), (4, 45075), (10, 45114), (16, 45198), (21, 45276), (23, 45291), (24, 45297), (28, 45390), (31, 45426), (35, 45489), (36, 45501), (37, 45504), (40, 45555), (45, 45663), (46, 45678), (48, 45744), (49, 45756), (54, 45906), (55, 45924), (56, 45939), (61, 46011), (68, 46191), (69, 46206), (71, 46275), (78, 46389),

Gene: Vopal_76 Start: 41915, Stop: 43207, Start Num: 9

Candidate Starts for Vopal_76:

(Start: 9 @41915 has 2 MA's), (11, 41933), (12, 41972), (23, 42092), (32, 42239), (34, 42260), (38, 42302), (41, 42353), (42, 42374), (45, 42458), (46, 42473), (48, 42539), (49, 42551), (50, 42566), (51, 42572), (52, 42647), (58, 42770), (59, 42797), (66, 42962), (75, 43169), (77, 43181),

Gene: Whouxphf_63 Start: 42670, Stop: 43959, Start Num: 8

Candidate Starts for Whouxphf_63:

(Start: 8 @42670 has 9 MA's), (14, 42739), (15, 42748), (16, 42757), (17, 42784), (19, 42796), (20, 42817), (21, 42835), (22, 42847), (23, 42850), (28, 42949), (31, 42985), (35, 43048), (36, 43060), (37, 43063), (40, 43114), (45, 43222), (46, 43237), (48, 43303), (49, 43315), (53, 43441), (54, 43465), (55, 43483), (56, 43498), (61, 43570), (68, 43750), (69, 43765), (71, 43834), (77, 43939), (78, 43948),

Gene: Yorick_65 Start: 42910, Stop: 44199, Start Num: 8

Candidate Starts for Yorick_65:

(Start: 8 @42910 has 9 MA's), (14, 42979), (15, 42988), (16, 42997), (17, 43024), (19, 43036), (20, 43057), (21, 43075), (22, 43087), (23, 43090), (28, 43189), (31, 43225), (35, 43288), (36, 43300), (37, 43303), (40, 43354), (45, 43462), (46, 43477), (48, 43543), (49, 43555), (53, 43681), (54, 43705), (55, 43723), (56, 43738), (61, 43810), (68, 43990), (69, 44005), (71, 44074), (77, 44179), (78, 44188),

Gene: Zizzle_70 Start: 44388, Stop: 45695, Start Num: 7

Candidate Starts for Zizzle_70:

(Start: 7 @44388 has 8 MA's), (10, 44400), (16, 44484), (21, 44562), (22, 44574), (23, 44577), (24, 44583), (28, 44676), (31, 44712), (35, 44775), (36, 44787), (37, 44790), (40, 44841), (45, 44949), (46, 44964), (48, 45030), (49, 45042), (54, 45192), (55, 45210), (56, 45225), (61, 45297), (68, 45477), (69, 45492), (71, 45561), (77, 45666), (78, 45675),

Gene: Zucker_71 Start: 40903, Stop: 42195, Start Num: 9

Candidate Starts for Zucker_71:

(Start: 9 @40903 has 2 MA's), (12, 40960), (23, 41080), (26, 41140), (32, 41227), (34, 41248), (36, 41284), (41, 41341), (42, 41362), (45, 41446), (46, 41461), (48, 41527), (49, 41539), (50, 41554), (51, 41560), (52, 41635), (59, 41785), (65, 41920), (66, 41950), (72, 42079), (75, 42157), (77, 42169),