

Pham 325301



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 325301 Report

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

Pham number 325301 has 49 members, 1 are drafts.

Phages represented in each track:

- Track 1 : Gorko_30, Monty_29, Flakey_30
- Track 2 : Ekhein_30, Kelzog_30, RemRem_31, Squibbles_30, Exiguo_30, Breezic_30, Sam12_30, Worcestershire_30
- Track 3 : Adgers_31
- Track 4 : Barbochs_30
- Track 5 : Lizzo_30, CathyBurgh_30
- Track 6 : SteveFrench_30
- Track 7 : GourdThymes_30
- Track 8 : Hotorobo_30
- Track 9 : Dakiti_30, Chelms_30
- Track 10 : PokyPuppy_29
- Track 11 : Sombrero_30
- Track 12 : BigShaq_30
- Track 13 : Eggsie_30
- Track 14 : RoyalG_31
- Track 15 : BenoitCattle_30, Crete_31
- Track 16 : PierreThree_30
- Track 17 : Linetti_31
- Track 18 : Teech_29
- Track 19 : Kvothe_29
- Track 20 : Katyusha_29, Benczkowski14_29, Teatealatte_29, Tredge_29, Niagara_29
- Track 21 : Hollow_30
- Track 22 : ASerpRocky_29
- Track 23 : Demosthenes_29
- Track 24 : Bantam_37
- Track 25 : DatBoi_38
- Track 26 : Mollymur_38
- Track 27 : SpeedDemon_390
- Track 28 : DumpTruck_29
- Track 29 : Xenia2_30
- Track 30 : ObLaDi_22
- Track 31 : Aleemily_21
- Track 32 : ModicumRichard_22, Cafasso_22

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

The start number called the most often in the published annotations is 4, it was called in 28 of the 48 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Adgers_31, Barbochs_30, BenoitCattle_30, BigShaq_30, Breezic_30, CathyBurgh_30, Chelms_30, Crete_31, Dakiti_30, Eggsie_30, Ekhein_30, Exiguo_30, Flakey_30, Gorko_30, GourdThymes_30, Hotorobo_30, Kelzog_30, Linetti_31, Lizzo_30, Monty_29, PierreThree_30, PokyPuppy_29, RemRem_31, RoyalG_31, Sam12_30, Sombrero_30, Squibbles_30, SteveFrench_30, Worcestershire_30,

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

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

- ASerpRocky_29, Aleemily_21, Bantam_37, Benczkowski14_29, Cafasso_22, DatBoi_38, Demosthenes_29, DumpTruck_29, Hollow_30, Katyusha_29, Kvothe_29, ModicumRichard_22, Mollymur_38, Niagara_29, ObLaDi_22, SpeedDemon_390, Teatealatte_29, Teech_29, Tredge_29, Xenia2_30,

Summary by start number:

Start 2:

- Found in 10 of 49 (20.4%) of genes in pham
- Manual Annotations of this start: 1 of 48
- Called 10.0% of time when present
- Phage (with cluster) where this start called: ASerpRocky_29 (CS4),

Start 3:

- Found in 10 of 49 (20.4%) of genes in pham
- Manual Annotations of this start: 9 of 48
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Benczkowski14_29 (CS4), Demosthenes_29 (CS4), Hollow_30 (CS4), Katyusha_29 (CS4), Kvothe_29 (CS4), Niagara_29 (CS4), Teatealatte_29 (CS4), Teech_29 (CS4), Tredge_29 (CS4),

Start 4:

- Found in 29 of 49 (59.2%) of genes in pham
- Manual Annotations of this start: 28 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adgers_31 (CS2), Barbochs_30 (CS2), BenoitCattle_30 (CS2), BigShaq_30 (CS2), Breezic_30 (CS2), CathyBurgh_30 (CS2), Chelms_30 (CS2), Crete_31 (CS2), Dakiti_30 (CS2), Eggsie_30 (CS2), Ekhein_30 (CS2), Exiguo_30 (CS2), Flakey_30 (CS2), Gorko_30 (CS2), GourdThymes_30 (CS2), Hotorobo_30 (CS2), Kelzog_30 (CS2), Linetti_31 (CS2), Lizzo_30 (CS2), Monty_29 (CS2), PierreThree_30 (CS2), PokyPuppy_29 (CS2), RemRem_31 (CS2), RoyalG_31 (CS2), Sam12_30 (CS2), Sombrero_30 (CS2), Squibbles_30 (CS2), SteveFrench_30 (CS2), Worcestershire_30 (CS2),

Start 5:

- Found in 2 of 49 (4.1%) of genes in pham
- Manual Annotations of this start: 2 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: DumpTruck_29 (DV), Xenia2_30 (DV),

Start 15:

- Found in 4 of 49 (8.2%) of genes in pham
- Manual Annotations of this start: 4 of 48
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aleemily_21 (DZ), Cafasso_22 (DZ), ModicumRichard_22 (DZ), ObLaDi_22 (DZ),

Start 19:

- Found in 36 of 49 (73.5%) of genes in pham
- Manual Annotations of this start: 4 of 48
- Called 11.1% of time when present
- Phage (with cluster) where this start called: Bantam_37 (DL), DatBoi_38 (DL), Mollymur_38 (DL), SpeedDemon_390 (DL),

Summary by clusters:

There are 5 clusters represented in this pham: DV, CS4, DL, DZ, CS2,

Info for manual annotations of cluster CS2:

- Start number 4 was manually annotated 28 times for cluster CS2.

Info for manual annotations of cluster CS4:

- Start number 2 was manually annotated 1 time for cluster CS4.
- Start number 3 was manually annotated 9 times for cluster CS4.

Info for manual annotations of cluster DL:

- Start number 19 was manually annotated 4 times for cluster DL.

Info for manual annotations of cluster DV:

- Start number 5 was manually annotated 2 times for cluster DV.

Info for manual annotations of cluster DZ:

- Start number 15 was manually annotated 4 times for cluster DZ.

Gene Information:

Gene: ASerpRocky_29 Start: 36764, Stop: 38752, Start Num: 2

Candidate Starts for ASerpRocky_29:

(Start: 2 @36764 has 1 MA's), (Start: 3 @36767 has 9 MA's), (8, 36872), (11, 36899), (14, 36917), (18, 36944), (Start: 19 @36950 has 4 MA's), (27, 37064), (30, 37097), (46, 37490), (52, 37688), (68, 37817), (69, 37853), (72, 37886), (79, 37988), (83, 38039), (91, 38138), (92, 38141), (97, 38174), (113, 38351), (115, 38357), (126, 38549), (132, 38612), (134, 38639), (135, 38651), (137, 38684), (140, 38738),

Gene: Adgers_31 Start: 35244, Stop: 37241, Start Num: 4

Candidate Starts for Adgers_31:

(Start: 4 @35244 has 28 MA's), (8, 35346), (9, 35355), (12, 35385), (18, 35418), (Start: 19 @35424 has 4 MA's), (21, 35454), (30, 35571), (49, 36033), (61, 36240), (70, 36345), (75, 36426), (78, 36477), (79, 36480), (81, 36489), (87, 36579), (91, 36627), (104, 36753), (109, 36807), (110, 36822), (126, 37047), (128, 37053), (138, 37182),

Gene: Aleemily_21 Start: 19129, Stop: 20868, Start Num: 15

Candidate Starts for Aleemily_21:

(1, 18736), (Start: 15 @19129 has 4 MA's), (23, 19210), (28, 19270), (43, 19588), (66, 19954), (68, 19966), (78, 20122), (80, 20131), (81, 20134), (83, 20173), (84, 20179), (90, 20269), (96, 20296), (99, 20332), (110, 20458), (117, 20533), (119, 20611), (120, 20617), (137, 20803), (139, 20836),

Gene: Bantam_37 Start: 32917, Stop: 34665, Start Num: 19

Candidate Starts for Bantam_37:

(Start: 19 @32917 has 4 MA's), (21, 32947), (24, 32974), (36, 33163), (38, 33190), (42, 33235), (46, 33424), (64, 33721), (65, 33730), (67, 33757), (73, 33865), (78, 33919), (80, 33928), (84, 33976), (85, 33991), (88, 34021), (90, 34066), (96, 34093), (121, 34417), (123, 34423), (138, 34609), (139, 34633),

Gene: Barbochs_30 Start: 35082, Stop: 37079, Start Num: 4

Candidate Starts for Barbochs_30:

(Start: 4 @35082 has 28 MA's), (9, 35193), (12, 35223), (18, 35256), (Start: 19 @35262 has 4 MA's), (21, 35292), (30, 35409), (49, 35871), (55, 36042), (61, 36078), (75, 36264), (79, 36318), (81, 36327), (87, 36417), (91, 36465), (104, 36591), (109, 36645), (110, 36660), (126, 36885), (128, 36891), (138, 37020),

Gene: Benczkowski14_29 Start: 36845, Stop: 38806, Start Num: 3

Candidate Starts for Benczkowski14_29:

(Start: 2 @36842 has 1 MA's), (Start: 3 @36845 has 9 MA's), (8, 36950), (14, 36995), (Start: 19 @37028 has 4 MA's), (22, 37070), (27, 37142), (30, 37175), (45, 37538), (55, 37787), (59, 37811), (79, 38042), (83, 38096), (85, 38117), (92, 38198), (94, 38219), (118, 38531), (121, 38558), (128, 38618), (138, 38747),

Gene: BenoitCattle_30 Start: 35161, Stop: 37176, Start Num: 4

Candidate Starts for BenoitCattle_30:

(Start: 4 @35161 has 28 MA's), (13, 35305), (21, 35371), (30, 35488), (44, 35872), (49, 35971), (50, 35989), (62, 36190), (77, 36388), (78, 36415), (79, 36418), (87, 36517), (91, 36565), (105, 36694), (107, 36736), (109, 36745), (114, 36787), (126, 36985), (128, 36991), (138, 37117), (140, 37162),

Gene: BigShaq_30 Start: 35166, Stop: 37181, Start Num: 4

Candidate Starts for BigShaq_30:

(Start: 4 @35166 has 28 MA's), (12, 35307), (13, 35310), (21, 35376), (30, 35493), (44, 35877), (49, 35976), (50, 35994), (62, 36195), (72, 36318), (78, 36420), (79, 36423), (81, 36432), (91, 36570), (108, 36747), (110, 36765), (114, 36792), (124, 36951), (125, 36972), (131, 37038), (135, 37086), (138, 37122),

Gene: Breezic_30 Start: 35096, Stop: 37093, Start Num: 4

Candidate Starts for Breezic_30:

(Start: 4 @35096 has 28 MA's), (8, 35198), (9, 35207), (12, 35237), (18, 35270), (Start: 19 @35276 has 4 MA's), (30, 35423), (61, 36092), (70, 36197), (75, 36278), (78, 36329), (79, 36332), (81, 36341), (87, 36431), (91, 36479), (104, 36605), (109, 36659), (110, 36674), (126, 36899), (128, 36905), (138, 37034),

Gene: Cafasso_22 Start: 19701, Stop: 21440, Start Num: 15

Candidate Starts for Cafasso_22:

(Start: 15 @19701 has 4 MA's), (23, 19782), (28, 19842), (43, 20160), (66, 20526), (68, 20538), (78, 20694), (80, 20703), (81, 20706), (84, 20751), (90, 20841), (96, 20868), (99, 20904), (110, 21030), (117, 21105), (119, 21183), (120, 21189), (137, 21375), (139, 21408),

Gene: CathyBurgh_30 Start: 35950, Stop: 37947, Start Num: 4

Candidate Starts for CathyBurgh_30:

(Start: 4 @35950 has 28 MA's), (9, 36061), (12, 36091), (18, 36124), (Start: 19 @36130 has 4 MA's), (21, 36160), (30, 36277), (49, 36739), (55, 36910), (70, 37051), (75, 37132), (78, 37183), (79, 37186), (81, 37195), (87, 37285), (91, 37333), (104, 37459), (109, 37513), (110, 37528), (126, 37753), (128, 37759), (138, 37888),

Gene: Chelms_30 Start: 35169, Stop: 37184, Start Num: 4

Candidate Starts for Chelms_30:

(Start: 4 @35169 has 28 MA's), (12, 35310), (17, 35340), (21, 35379), (30, 35496), (49, 35979), (50, 35997), (62, 36198), (70, 36291), (78, 36423), (79, 36426), (81, 36435), (87, 36525), (91, 36573), (108, 36750), (109, 36753), (110, 36768), (124, 36954), (125, 36975), (131, 37041), (135, 37089), (138, 37125),

Gene: Crete_31 Start: 35432, Stop: 37447, Start Num: 4

Candidate Starts for Crete_31:

(Start: 4 @35432 has 28 MA's), (13, 35576), (21, 35642), (30, 35759), (44, 36143), (49, 36242), (50, 36260), (62, 36461), (77, 36659), (78, 36686), (79, 36689), (87, 36788), (91, 36836), (105, 36965), (107, 37007), (109, 37016), (114, 37058), (126, 37256), (128, 37262), (138, 37388), (140, 37433),

Gene: Dakiti_30 Start: 36037, Stop: 38052, Start Num: 4

Candidate Starts for Dakiti_30:

(Start: 4 @36037 has 28 MA's), (12, 36178), (17, 36208), (21, 36247), (30, 36364), (49, 36847), (50, 36865), (62, 37066), (70, 37159), (78, 37291), (79, 37294), (81, 37303), (87, 37393), (91, 37441), (108, 37618), (109, 37621), (110, 37636), (124, 37822), (125, 37843), (131, 37909), (135, 37957), (138, 37993),

Gene: DatBoi_38 Start: 33647, Stop: 35323, Start Num: 19

Candidate Starts for DatBoi_38:

(Start: 19 @33647 has 4 MA's), (21, 33677), (31, 33788), (38, 33920), (43, 34061), (47, 34103), (57, 34343), (58, 34358), (62, 34367), (68, 34424), (73, 34526), (78, 34580), (80, 34589), (81, 34592), (84, 34637), (90, 34727), (96, 34754), (99, 34790), (100, 34793), (110, 34916), (117, 34991), (123, 35084), (138, 35267), (139, 35291),

Gene: Demosthenes_29 Start: 36740, Stop: 38725, Start Num: 3

Candidate Starts for Demosthenes_29:

(Start: 2 @36737 has 1 MA's), (Start: 3 @36740 has 9 MA's), (8, 36845), (18, 36917), (22, 36965), (30, 37070), (46, 37463), (52, 37661), (68, 37790), (69, 37826), (72, 37859), (79, 37961), (83, 38012), (91, 38111), (92, 38114), (97, 38147), (113, 38324), (115, 38330), (126, 38522), (132, 38585), (137, 38657), (140, 38711),

Gene: DumpTruck_29 Start: 26034, Stop: 27992, Start Num: 5

Candidate Starts for DumpTruck_29:

(Start: 5 @26034 has 2 MA's), (6, 26046), (16, 26151), (17, 26160), (18, 26163), (Start: 19 @26169 has 4 MA's), (20, 26172), (25, 26241), (32, 26346), (33, 26367), (40, 26514), (41, 26532), (50, 26811), (51, 26922), (54, 26958), (70, 27099), (78, 27234), (79, 27237), (82, 27285), (87, 27336), (89, 27351), (91, 27384), (98, 27435), (101, 27468), (113, 27603), (115, 27609), (124, 27765), (127, 27804), (134, 27888), (140, 27981),

Gene: Eggsie_30 Start: 35106, Stop: 37196, Start Num: 4

Candidate Starts for Eggsie_30:

(Start: 4 @35106 has 28 MA's), (12, 35247), (13, 35250), (Start: 19 @35286 has 4 MA's), (21, 35316), (26, 35385), (30, 35433), (46, 35934), (52, 36132), (60, 36201), (68, 36261), (69, 36297), (79, 36432), (82, 36480), (83, 36483), (86, 36528), (91, 36582), (92, 36585), (97, 36618), (103, 36699), (113, 36795), (115, 36801), (122, 36942), (126, 36993), (137, 37128), (140, 37182),

Gene: Ekhein_30 Start: 35078, Stop: 37075, Start Num: 4

Candidate Starts for Ekhein_30:

(Start: 4 @35078 has 28 MA's), (8, 35180), (9, 35189), (12, 35219), (18, 35252), (Start: 19 @35258 has 4 MA's), (30, 35405), (61, 36074), (70, 36179), (75, 36260), (78, 36311), (79, 36314), (81, 36323), (87, 36413), (91, 36461), (104, 36587), (109, 36641), (110, 36656), (126, 36881), (128, 36887), (138, 37016),

Gene: Exiguo_30 Start: 35090, Stop: 37087, Start Num: 4

Candidate Starts for Exiguo_30:

(Start: 4 @35090 has 28 MA's), (8, 35192), (9, 35201), (12, 35231), (18, 35264), (Start: 19 @35270 has 4 MA's), (30, 35417), (61, 36086), (70, 36191), (75, 36272), (78, 36323), (79, 36326), (81, 36335), (87, 36425), (91, 36473), (104, 36599), (109, 36653), (110, 36668), (126, 36893), (128, 36899), (138, 37028),

Gene: Flakey_30 Start: 35954, Stop: 37951, Start Num: 4

Candidate Starts for Flakey_30:

(Start: 4 @35954 has 28 MA's), (9, 36065), (12, 36095), (18, 36128), (Start: 19 @36134 has 4 MA's), (21, 36164), (30, 36281), (61, 36950), (70, 37055), (75, 37136), (78, 37187), (79, 37190), (81, 37199), (87, 37289), (91, 37337), (104, 37463), (109, 37517), (110, 37532), (126, 37757), (128, 37763), (138, 37892),

Gene: Gorko_30 Start: 35082, Stop: 37079, Start Num: 4

Candidate Starts for Gorko_30:

(Start: 4 @35082 has 28 MA's), (9, 35193), (12, 35223), (18, 35256), (Start: 19 @35262 has 4 MA's), (21, 35292), (30, 35409), (61, 36078), (70, 36183), (75, 36264), (78, 36315), (79, 36318), (81, 36327), (87, 36417), (91, 36465), (104, 36591), (109, 36645), (110, 36660), (126, 36885), (128, 36891), (138, 37020),

Gene: GourdThymes_30 Start: 35956, Stop: 37953, Start Num: 4

Candidate Starts for GourdThymes_30:

(Start: 4 @35956 has 28 MA's), (9, 36067), (12, 36097), (13, 36100), (18, 36130), (Start: 19 @36136 has 4 MA's), (21, 36166), (30, 36283), (61, 36952), (70, 37057), (75, 37138), (78, 37189), (79, 37192), (81, 37201), (87, 37291), (91, 37339), (104, 37465), (109, 37519), (110, 37534), (126, 37759), (128, 37765), (138, 37894),

Gene: Hollow_30 Start: 37188, Stop: 39122, Start Num: 3

Candidate Starts for Hollow_30:

(Start: 2 @37185 has 1 MA's), (Start: 3 @37188 has 9 MA's), (8, 37293), (11, 37320), (14, 37338), (18, 37365), (Start: 19 @37371 has 4 MA's), (27, 37485), (30, 37518), (34, 37590), (49, 37914), (55, 38085), (75, 38307), (79, 38361), (81, 38370), (87, 38460), (91, 38508), (104, 38634), (109, 38688), (110, 38703), (126, 38928), (128, 38934), (138, 39063),

Gene: Hotorobo_30 Start: 35961, Stop: 37958, Start Num: 4

Candidate Starts for Hotorobo_30:

(Start: 4 @35961 has 28 MA's), (7, 36036), (10, 36075), (13, 36105), (17, 36132), (18, 36135), (Start: 19 @36141 has 4 MA's), (21, 36171), (30, 36288), (61, 36957), (70, 37062), (75, 37143), (78, 37194),

(79, 37197), (81, 37206), (87, 37296), (91, 37344), (104, 37470), (109, 37524), (110, 37539), (126, 37764), (128, 37770), (138, 37899),

Gene: Katyusha_29 Start: 36845, Stop: 38806, Start Num: 3

Candidate Starts for Katyusha_29:

(Start: 2 @36842 has 1 MA's), (Start: 3 @36845 has 9 MA's), (8, 36950), (14, 36995), (Start: 19 @37028 has 4 MA's), (22, 37070), (27, 37142), (30, 37175), (45, 37538), (55, 37787), (59, 37811), (79, 38042), (83, 38096), (85, 38117), (92, 38198), (94, 38219), (118, 38531), (121, 38558), (128, 38618), (138, 38747),

Gene: Kelzog_30 Start: 35968, Stop: 37965, Start Num: 4

Candidate Starts for Kelzog_30:

(Start: 4 @35968 has 28 MA's), (8, 36070), (9, 36079), (12, 36109), (18, 36142), (Start: 19 @36148 has 4 MA's), (30, 36295), (61, 36964), (70, 37069), (75, 37150), (78, 37201), (79, 37204), (81, 37213), (87, 37303), (91, 37351), (104, 37477), (109, 37531), (110, 37546), (126, 37771), (128, 37777), (138, 37906),

Gene: Kvothe_29 Start: 36765, Stop: 38705, Start Num: 3

Candidate Starts for Kvothe_29:

(Start: 2 @36762 has 1 MA's), (Start: 3 @36765 has 9 MA's), (8, 36870), (14, 36915), (Start: 19 @36948 has 4 MA's), (22, 36990), (27, 37062), (30, 37095), (45, 37437), (55, 37686), (59, 37710), (78, 37938), (79, 37941), (83, 37995), (85, 38016), (92, 38097), (94, 38118), (118, 38430), (121, 38457), (128, 38517), (138, 38646),

Gene: Linetti_31 Start: 36163, Stop: 38178, Start Num: 4

Candidate Starts for Linetti_31:

(Start: 4 @36163 has 28 MA's), (12, 36304), (17, 36334), (21, 36373), (27, 36457), (30, 36490), (44, 36874), (49, 36973), (62, 37192), (70, 37285), (78, 37417), (79, 37420), (87, 37519), (91, 37567), (104, 37693), (108, 37744), (110, 37762), (114, 37789), (124, 37948), (125, 37969), (131, 38035), (135, 38083), (138, 38119),

Gene: Lizzo_30 Start: 35950, Stop: 37947, Start Num: 4

Candidate Starts for Lizzo_30:

(Start: 4 @35950 has 28 MA's), (9, 36061), (12, 36091), (18, 36124), (Start: 19 @36130 has 4 MA's), (21, 36160), (30, 36277), (49, 36739), (55, 36910), (70, 37051), (75, 37132), (78, 37183), (79, 37186), (81, 37195), (87, 37285), (91, 37333), (104, 37459), (109, 37513), (110, 37528), (126, 37753), (128, 37759), (138, 37888),

Gene: ModicumRichard_22 Start: 19702, Stop: 21441, Start Num: 15

Candidate Starts for ModicumRichard_22:

(Start: 15 @19702 has 4 MA's), (23, 19783), (28, 19843), (43, 20161), (66, 20527), (68, 20539), (78, 20695), (80, 20704), (81, 20707), (84, 20752), (90, 20842), (96, 20869), (99, 20905), (110, 21031), (117, 21106), (119, 21184), (120, 21190), (137, 21376), (139, 21409),

Gene: Mollymur_38 Start: 34128, Stop: 35807, Start Num: 19

Candidate Starts for Mollymur_38:

(Start: 19 @34128 has 4 MA's), (21, 34158), (24, 34185), (31, 34269), (35, 34359), (38, 34401), (48, 34599), (49, 34644), (71, 34932), (89, 35136), (90, 35169), (93, 35184), (95, 35199), (102, 35271), (106, 35301), (111, 35379), (112, 35382), (116, 35430), (129, 35637), (133, 35685), (136, 35703), (137, 35733),

Gene: Monty_29 Start: 35100, Stop: 37097, Start Num: 4

Candidate Starts for Monty_29:

(Start: 4 @35100 has 28 MA's), (9, 35211), (12, 35241), (18, 35274), (Start: 19 @35280 has 4 MA's), (21, 35310), (30, 35427), (61, 36096), (70, 36201), (75, 36282), (78, 36333), (79, 36336), (81, 36345), (87, 36435), (91, 36483), (104, 36609), (109, 36663), (110, 36678), (126, 36903), (128, 36909), (138, 37038),

Gene: Niagara_29 Start: 36802, Stop: 38763, Start Num: 3

Candidate Starts for Niagara_29:

(Start: 2 @36799 has 1 MA's), (Start: 3 @36802 has 9 MA's), (8, 36907), (14, 36952), (Start: 19 @36985 has 4 MA's), (22, 37027), (27, 37099), (30, 37132), (45, 37495), (55, 37744), (59, 37768), (79, 37999), (83, 38053), (85, 38074), (92, 38155), (94, 38176), (118, 38488), (121, 38515), (128, 38575), (138, 38704),

Gene: ObLaDi_22 Start: 19681, Stop: 21420, Start Num: 15

Candidate Starts for ObLaDi_22:

(Start: 15 @19681 has 4 MA's), (23, 19762), (28, 19822), (43, 20140), (66, 20506), (68, 20518), (78, 20674), (80, 20683), (81, 20686), (83, 20725), (84, 20731), (90, 20821), (96, 20848), (99, 20884), (110, 21010), (117, 21085), (119, 21163), (120, 21169), (137, 21355), (139, 21388),

Gene: PierreThree_30 Start: 36034, Stop: 38049, Start Num: 4

Candidate Starts for PierreThree_30:

(Start: 4 @36034 has 28 MA's), (12, 36175), (13, 36178), (30, 36361), (44, 36745), (49, 36844), (50, 36862), (62, 37063), (78, 37288), (79, 37291), (87, 37390), (91, 37438), (108, 37615), (109, 37618), (110, 37633), (124, 37819), (125, 37840), (131, 37906), (135, 37954), (138, 37990),

Gene: PokyPuppy_29 Start: 35986, Stop: 37971, Start Num: 4

Candidate Starts for PokyPuppy_29:

(Start: 4 @35986 has 28 MA's), (12, 36127), (13, 36130), (21, 36196), (30, 36313), (52, 36907), (53, 36910), (56, 36952), (63, 36988), (68, 37036), (69, 37072), (79, 37207), (83, 37258), (86, 37303), (91, 37357), (92, 37360), (97, 37393), (103, 37474), (113, 37570), (115, 37576), (126, 37768), (130, 37813), (132, 37831), (134, 37858), (135, 37870), (137, 37903), (140, 37957),

Gene: RemRem_31 Start: 35090, Stop: 37087, Start Num: 4

Candidate Starts for RemRem_31:

(Start: 4 @35090 has 28 MA's), (8, 35192), (9, 35201), (12, 35231), (18, 35264), (Start: 19 @35270 has 4 MA's), (30, 35417), (61, 36086), (70, 36191), (75, 36272), (78, 36323), (79, 36326), (81, 36335), (87, 36425), (91, 36473), (104, 36599), (109, 36653), (110, 36668), (126, 36893), (128, 36899), (138, 37028),

Gene: RoyalG_31 Start: 35588, Stop: 37576, Start Num: 4

Candidate Starts for RoyalG_31:

(Start: 4 @35588 has 28 MA's), (9, 35699), (12, 35729), (18, 35762), (Start: 19 @35768 has 4 MA's), (21, 35798), (30, 35915), (49, 36377), (68, 36647), (74, 36752), (78, 36818), (79, 36821), (81, 36830), (82, 36869), (87, 36920), (91, 36968), (108, 37145), (138, 37520),

Gene: Sam12_30 Start: 35090, Stop: 37087, Start Num: 4

Candidate Starts for Sam12_30:

(Start: 4 @35090 has 28 MA's), (8, 35192), (9, 35201), (12, 35231), (18, 35264), (Start: 19 @35270 has 4 MA's), (30, 35417), (61, 36086), (70, 36191), (75, 36272), (78, 36323), (79, 36326), (81, 36335), (87, 36425), (91, 36473), (104, 36599), (109, 36653), (110, 36668), (126, 36893), (128, 36899), (138, 37028),

Gene: Sombrero_30 Start: 35092, Stop: 37089, Start Num: 4

Candidate Starts for Sombrero_30:

(Start: 4 @35092 has 28 MA's), (9, 35203), (12, 35233), (18, 35266), (Start: 19 @35272 has 4 MA's), (21, 35302), (30, 35419), (49, 35881), (55, 36052), (75, 36274), (79, 36328), (81, 36337), (87, 36427), (91, 36475), (104, 36601), (109, 36655), (110, 36670), (126, 36895), (128, 36901), (138, 37030),

Gene: SpeedDemon_390 Start: 34766, Stop: 36442, Start Num: 19

Candidate Starts for SpeedDemon_390:

(Start: 19 @34766 has 4 MA's), (21, 34796), (24, 34823), (31, 34907), (38, 35039), (47, 35222), (57, 35462), (62, 35486), (68, 35543), (78, 35699), (80, 35708), (81, 35711), (84, 35756), (90, 35846), (96, 35873), (99, 35909), (100, 35912), (110, 36035), (117, 36110), (123, 36203), (138, 36386), (139, 36410),

Gene: Squibbles_30 Start: 35953, Stop: 37950, Start Num: 4

Candidate Starts for Squibbles_30:

(Start: 4 @35953 has 28 MA's), (8, 36055), (9, 36064), (12, 36094), (18, 36127), (Start: 19 @36133 has 4 MA's), (30, 36280), (61, 36949), (70, 37054), (75, 37135), (78, 37186), (79, 37189), (81, 37198), (87, 37288), (91, 37336), (104, 37462), (109, 37516), (110, 37531), (126, 37756), (128, 37762), (138, 37891),

Gene: SteveFrench_30 Start: 35811, Stop: 37808, Start Num: 4

Candidate Starts for SteveFrench_30:

(Start: 4 @35811 has 28 MA's), (9, 35922), (12, 35952), (18, 35985), (Start: 19 @35991 has 4 MA's), (21, 36021), (30, 36138), (49, 36600), (71, 36921), (75, 36993), (79, 37047), (81, 37056), (87, 37146), (91, 37194), (104, 37320), (109, 37374), (110, 37389), (126, 37614), (128, 37620), (134, 37701), (138, 37749),

Gene: Teatealatte_29 Start: 36747, Stop: 38708, Start Num: 3

Candidate Starts for Teatealatte_29:

(Start: 2 @36744 has 1 MA's), (Start: 3 @36747 has 9 MA's), (8, 36852), (14, 36897), (Start: 19 @36930 has 4 MA's), (22, 36972), (27, 37044), (30, 37077), (45, 37440), (55, 37689), (59, 37713), (79, 37944), (83, 37998), (85, 38019), (92, 38100), (94, 38121), (118, 38433), (121, 38460), (128, 38520), (138, 38649),

Gene: Teech_29 Start: 36548, Stop: 38509, Start Num: 3

Candidate Starts for Teech_29:

(Start: 2 @36545 has 1 MA's), (Start: 3 @36548 has 9 MA's), (8, 36653), (14, 36698), (Start: 19 @36731 has 4 MA's), (22, 36773), (30, 36878), (37, 36986), (45, 37241), (55, 37490), (59, 37514), (79, 37745), (83, 37799), (85, 37820), (92, 37901), (94, 37922), (118, 38234), (121, 38261), (128, 38321), (138, 38450),

Gene: Tredge_29 Start: 36747, Stop: 38708, Start Num: 3

Candidate Starts for Tredge_29:

(Start: 2 @36744 has 1 MA's), (Start: 3 @36747 has 9 MA's), (8, 36852), (14, 36897), (Start: 19 @36930 has 4 MA's), (22, 36972), (27, 37044), (30, 37077), (45, 37440), (55, 37689), (59, 37713), (79, 37944), (83, 37998), (85, 38019), (92, 38100), (94, 38121), (118, 38433), (121, 38460), (128, 38520), (138, 38649),

Gene: Worcestershire_30 Start: 35092, Stop: 37089, Start Num: 4

Candidate Starts for Worcestershire_30:

(Start: 4 @35092 has 28 MA's), (8, 35194), (9, 35203), (12, 35233), (18, 35266), (Start: 19 @35272 has 4 MA's), (30, 35419), (61, 36088), (70, 36193), (75, 36274), (78, 36325), (79, 36328), (81, 36337), (87, 36427), (91, 36475), (104, 36601), (109, 36655), (110, 36670), (126, 36895), (128, 36901), (138, 37030),

Gene: Xenia2_30 Start: 26076, Stop: 28034, Start Num: 5

Candidate Starts for Xenia2_30:

(Start: 5 @26076 has 2 MA's), (6, 26088), (16, 26193), (17, 26202), (18, 26205), (Start: 19 @26211 has 4 MA's), (20, 26214), (25, 26283), (29, 26349), (39, 26544), (41, 26574), (51, 26964), (54, 27000), (70, 27141), (76, 27234), (78, 27276), (79, 27279), (82, 27327), (87, 27378), (89, 27393), (91, 27426), (98, 27477), (101, 27510), (113, 27645), (115, 27651), (124, 27807), (127, 27846), (134, 27930), (140, 28023),