

Pham 303369



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 303369 Report

This analysis was run 06/08/26 on database version 649.

Pham number 303369 has 64 members, 17 are drafts.

Phages represented in each track:

- Track 1 : Basilisk_65, Ruchi_63
- Track 2 : Niblet_62
- Track 3 : Chicken_64
- Track 4 : Amanises_67, Shen_62, Zixiang_64
- Track 5 : Orcanus_64
- Track 6 : KendraB23_75
- Track 7 : Jamun_62
- Track 8 : Chickaboom_65, WileyE_65
- Track 9 : Brynnie_63
- Track 10 : Galaxy_64
- Track 11 : TaylorSipht_64
- Track 12 : Gravel_75, Pelletreau_75
- Track 13 : Toad24_67, Westrich_73
- Track 14 : Eesa_64
- Track 15 : Kepler_74, Amelia_70, Coral_71, Bedetta_74, Melons_72, Colusalem_70, Lunar_72, Damocles_73, Jerole_69
- Track 16 : OtsoOtso_71, HannahPhantana_71, Polka_70, GramZayde_72
- Track 17 : Pineda_73
- Track 18 : LittleTokyo_71
- Track 19 : Cygnet_72
- Track 20 : Cote_74
- Track 21 : Antrice_74
- Track 22 : PhirstandPhine_77
- Track 23 : Bible12_74
- Track 24 : Kuleana_75
- Track 25 : Daob_70
- Track 26 : Fingolfin_70, Camara_68, Amphitrite_68, Atlantica_69, Glotell_70, HamCheese_68, AdoptaAdorbs_67, AmiCi24_67, DanHam62_69, Juno112_68
- Track 27 : Renna12_71
- Track 28 : StuartMinion_60
- Track 29 : Oppalora_67
- Track 30 : Andrew_71
- Track 31 : Babushka_65
- Track 32 : PhluffyCoco_67
- Track 33 : Rattail_70
- Track 34 : KHumphrey_69
- Track 35 : Azaz_71

- Track 36 : Leona_67
- Track 37 : RedFox_70
- Track 38 : AlexMinion_70

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

The start number called the most often in the published annotations is 56, it was called in 19 of the 47 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AdoptaAdorbs_67, AmiCi24_67, Amphitrite_68, Atlantica_69, Basilisk_65, Camara_68, Chickaboom_65, Chicken_64, Cygnet_72, DanHam62_69, Fingolfin_70, Galaxy_64, Glotell_70, HamCheese_68, Juno112_68, KHumphrey_69, Oppalora_67, Rattail_70, RedFox_70, Ruchi_63, StuartMinion_60, TaylorSipht_64, WileyE_65,

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

- AlexMinion_70, Azaz_71, Babushka_65, Jamun_62, Leona_67, LittleTokyo_71, Niblet_62, PhluffyCoco_67, Renna12_71, Toad24_67, Westrich_73,

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

- Amanises_67, Amelia_70, Andrew_71, Antrice_74, Bedetta_74, Bibble12_74, Brynnie_63, Colusalem_70, Coral_71, Cote_74, Damocles_73, Daob_70, Eesa_64, GramZayde_72, Gravel_75, HannahPhantana_71, Jerole_69, KendraB23_75, Kepler_74, Kuleana_75, Lunar_72, Melons_72, Orcanus_64, OtsoOtso_71, Pelletreau_75, PhirstandPhine_77, Pineda_73, Polka_70, Shen_62, Zixiang_64,

Summary by start number:

Start 18:

- Found in 1 of 64 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LittleTokyo_71 (AS2),

Start 26:

- Found in 16 of 64 (25.0%) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 6.2% of time when present
- Phage (with cluster) where this start called: PhluffyCoco_67 (AS3),

Start 33:

- Found in 1 of 64 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Andrew_71 (AS3),

Start 40:

- Found in 3 of 64 (4.7%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present

- Phage (with cluster) where this start called: AlexMinion_70 (AS3),

Start 44:

- Found in 3 of 64 (4.7%) of genes in pham
- Manual Annotations of this start: 2 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Azaz_71 (AS3), Leona_67 (AS3), Renna12_71 (AS3),

Start 46:

- Found in 4 of 64 (6.2%) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Babushka_65 (AS3),

Start 50:

- Found in 20 of 64 (31.2%) of genes in pham
- Manual Annotations of this start: 12 of 47
- Called 90.0% of time when present
- Phage (with cluster) where this start called: Amelia_70 (AS2), Bedetta_74 (AS2), Bible12_74 (AS2), Colusalem_70 (AS2), Coral_71 (AS2), Cote_74 (AS2), Damocles_73 (AS2), Daob_70 (AS2), GramZayde_72 (AS2), HannahPhantana_71 (AS2), Jerole_69 (AS2), Kepler_74 (AS2), Lunar_72 (AS2), Melons_72 (AS2), OtsoOtso_71 (AS2), PhirstandPhine_77 (AS2), Pineda_73 (AS2), Polka_70 (AS2),

Start 51:

- Found in 1 of 64 (1.6%) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Kuleana_75 (AS2),

Start 52:

- Found in 2 of 64 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Toad24_67 (AS1), Westrich_73 (AS1),

Start 53:

- Found in 2 of 64 (3.1%) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Antrice_74 (AS2),

Start 54:

- Found in 5 of 64 (7.8%) of genes in pham
- Manual Annotations of this start: 1 of 47
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Niblet_62 (AS1),

Start 55:

- Found in 8 of 64 (12.5%) of genes in pham
- Manual Annotations of this start: 4 of 47
- Called 100.0% of time when present

- Phage (with cluster) where this start called: Amanises_67 (AS1), Eesa_64 (AS1), Gravel_75 (AS1), KendraB23_75 (AS1), Orcanus_64 (AS1), Pelletreau_75 (AS1), Shen_62 (AS1), Zixiang_64 (AS1),

Start 56:

- Found in 34 of 64 (53.1%) of genes in pham
- Manual Annotations of this start: 19 of 47
- Called 67.6% of time when present
- Phage (with cluster) where this start called: AdoptaAdorbs_67 (AS3), AmiCi24_67 (AS3), Amphitrite_68 (AS3), Atlantica_69 (AS3), Basilisk_65 (AS1), Camara_68 (AS3), Chickaboom_65 (AS1), Chicken_64 (AS1), Cygnet_72 (AS2), DanHam62_69 (AS3), Fingolfin_70 (AS3), Galaxy_64 (AS1), Glotell_70 (AS3), HamCheese_68 (AS3), Juno112_68 (AS3), KHumphrey_69 (AS3), Oppalora_67 (AS3), Rattail_70 (AS3), RedFox_70 (AS3), Ruchi_63 (AS1), StuartMinion_60 (AS3), TaylorSipht_64 (AS1), WileyE_65 (AS1),

Start 63:

- Found in 46 of 64 (71.9%) of genes in pham
- Manual Annotations of this start: 2 of 47
- Called 4.3% of time when present
- Phage (with cluster) where this start called: Brynnie_63 (AS1), Jamun_62 (AS1),

Summary by clusters:

There are 3 clusters represented in this pham: AS3, AS2, AS1,

Info for manual annotations of cluster AS1:

- Start number 52 was manually annotated 1 time for cluster AS1.
- Start number 54 was manually annotated 1 time for cluster AS1.
- Start number 55 was manually annotated 4 times for cluster AS1.
- Start number 56 was manually annotated 7 times for cluster AS1.
- Start number 63 was manually annotated 2 times for cluster AS1.

Info for manual annotations of cluster AS2:

- Start number 18 was manually annotated 1 time for cluster AS2.
- Start number 50 was manually annotated 12 times for cluster AS2.
- Start number 51 was manually annotated 1 time for cluster AS2.
- Start number 53 was manually annotated 1 time for cluster AS2.
- Start number 56 was manually annotated 1 time for cluster AS2.

Info for manual annotations of cluster AS3:

- Start number 26 was manually annotated 1 time for cluster AS3.
- Start number 33 was manually annotated 1 time for cluster AS3.
- Start number 44 was manually annotated 2 times for cluster AS3.
- Start number 46 was manually annotated 1 time for cluster AS3.
- Start number 56 was manually annotated 11 times for cluster AS3.

Gene Information:

Gene: AdoptaAdorbs_67 Start: 37524, Stop: 37748, Start Num: 56

Candidate Starts for AdoptaAdorbs_67:

(Start: 26 @37452 has 1 MA's), (Start: 56 @37524 has 19 MA's), (Start: 63 @37551 has 2 MA's), (68, 37584), (70, 37599), (78, 37671), (80, 37689), (81, 37701), (85, 37728),

Gene: AlexMinion_70 Start: 37426, Stop: 37698, Start Num: 40

Candidate Starts for AlexMinion_70:

(27, 37390), (38, 37417), (40, 37426), (Start: 46 @37444 has 1 MA's), (Start: 56 @37474 has 19 MA's), (Start: 63 @37501 has 2 MA's), (68, 37534), (70, 37549), (78, 37621), (80, 37639), (81, 37651), (85, 37678),

Gene: Amanises_67 Start: 39009, Stop: 39209, Start Num: 55

Candidate Starts for Amanises_67:

(6, 38820), (11, 38853), (19, 38907), (30, 38937), (37, 38955), (Start: 55 @39009 has 4 MA's), (Start: 63 @39036 has 2 MA's), (66, 39063), (71, 39108), (76, 39144), (79, 39165),

Gene: Amelia_70 Start: 37346, Stop: 37591, Start Num: 50

Candidate Starts for Amelia_70:

(21, 37262), (Start: 50 @37346 has 12 MA's), (58, 37373), (60, 37382), (62, 37385), (66, 37415), (68, 37421), (73, 37466), (75, 37481), (80, 37532), (85, 37571),

Gene: AmiCi24_67 Start: 37633, Stop: 37857, Start Num: 56

Candidate Starts for AmiCi24_67:

(Start: 26 @37561 has 1 MA's), (Start: 56 @37633 has 19 MA's), (Start: 63 @37660 has 2 MA's), (68, 37693), (70, 37708), (78, 37780), (80, 37798), (81, 37810), (85, 37837),

Gene: Amphitrite_68 Start: 37538, Stop: 37762, Start Num: 56

Candidate Starts for Amphitrite_68:

(Start: 26 @37466 has 1 MA's), (Start: 56 @37538 has 19 MA's), (Start: 63 @37565 has 2 MA's), (68, 37598), (70, 37613), (78, 37685), (80, 37703), (81, 37715), (85, 37742),

Gene: Andrew_71 Start: 37949, Stop: 38230, Start Num: 33

Candidate Starts for Andrew_71:

(Start: 33 @37949 has 1 MA's), (Start: 50 @37994 has 12 MA's), (Start: 54 @38003 has 1 MA's), (Start: 63 @38033 has 2 MA's), (67, 38063), (68, 38066), (70, 38081), (73, 38111), (74, 38117), (78, 38153), (85, 38210),

Gene: Antrice_74 Start: 38347, Stop: 38604, Start Num: 53

Candidate Starts for Antrice_74:

(Start: 53 @38347 has 1 MA's), (59, 38371), (60, 38374), (62, 38377), (Start: 63 @38380 has 2 MA's), (68, 38413), (70, 38428), (72, 38455), (73, 38458), (79, 38509), (87, 38575),

Gene: Atlantica_69 Start: 37635, Stop: 37859, Start Num: 56

Candidate Starts for Atlantica_69:

(Start: 26 @37563 has 1 MA's), (Start: 56 @37635 has 19 MA's), (Start: 63 @37662 has 2 MA's), (68, 37695), (70, 37710), (78, 37782), (80, 37800), (81, 37812), (85, 37839),

Gene: Azaz_71 Start: 37771, Stop: 38022, Start Num: 44

Candidate Starts for Azaz_71:

(10, 37645), (13, 37669), (17, 37693), (28, 37729), (32, 37735), (Start: 44 @37771 has 2 MA's), (Start: 56 @37798 has 19 MA's), (Start: 63 @37825 has 2 MA's), (68, 37858), (70, 37873), (78, 37945), (80, 37963), (81, 37975), (85, 38002),

Gene: Babushka_65 Start: 37513, Stop: 37767, Start Num: 46

Candidate Starts for Babushka_65:

(2, 37303), (15, 37411), (16, 37417), (20, 37438), (23, 37447), (25, 37456), (39, 37489), (Start: 46 @37513 has 1 MA's), (Start: 56 @37543 has 19 MA's), (Start: 63 @37570 has 2 MA's), (68, 37603), (70, 37618), (81, 37720), (85, 37747),

Gene: Basilisk_65 Start: 37815, Stop: 38027, Start Num: 56

Candidate Starts for Basilisk_65:

(6, 37620), (36, 37752), (Start: 56 @37815 has 19 MA's), (Start: 63 @37842 has 2 MA's), (64, 37851), (71, 37914), (79, 37971), (81, 37992),

Gene: Bedetta_74 Start: 37509, Stop: 37754, Start Num: 50

Candidate Starts for Bedetta_74:

(21, 37425), (Start: 50 @37509 has 12 MA's), (58, 37536), (60, 37545), (62, 37548), (66, 37578), (68, 37584), (73, 37629), (75, 37644), (80, 37695), (85, 37734),

Gene: Bible12_74 Start: 37919, Stop: 38164, Start Num: 50

Candidate Starts for Bible12_74:

(21, 37838), (34, 37871), (45, 37904), (Start: 50 @37919 has 12 MA's), (58, 37946), (60, 37955), (62, 37958), (66, 37988), (68, 37994), (73, 38039), (75, 38054), (85, 38144),

Gene: Brynnie_63 Start: 37788, Stop: 37973, Start Num: 63

Candidate Starts for Brynnie_63:

(Start: 53 @37755 has 1 MA's), (Start: 63 @37788 has 2 MA's), (64, 37797), (71, 37860), (79, 37917), (81, 37938),

Gene: Camara_68 Start: 37526, Stop: 37750, Start Num: 56

Candidate Starts for Camara_68:

(Start: 26 @37454 has 1 MA's), (Start: 56 @37526 has 19 MA's), (Start: 63 @37553 has 2 MA's), (68, 37586), (70, 37601), (78, 37673), (80, 37691), (81, 37703), (85, 37730),

Gene: Chickaboom_65 Start: 37923, Stop: 38135, Start Num: 56

Candidate Starts for Chickaboom_65:

(Start: 26 @37848 has 1 MA's), (38, 37875), (43, 37896), (Start: 54 @37920 has 1 MA's), (Start: 56 @37923 has 19 MA's), (58, 37935), (Start: 63 @37950 has 2 MA's), (64, 37959), (71, 38022), (79, 38079), (81, 38100),

Gene: Chicken_64 Start: 38731, Stop: 38931, Start Num: 56

Candidate Starts for Chicken_64:

(Start: 54 @38728 has 1 MA's), (Start: 56 @38731 has 19 MA's), (Start: 63 @38758 has 2 MA's), (65, 38779), (66, 38785), (71, 38830), (76, 38866),

Gene: Colusalem_70 Start: 37323, Stop: 37568, Start Num: 50

Candidate Starts for Colusalem_70:

(21, 37239), (Start: 50 @37323 has 12 MA's), (58, 37350), (60, 37359), (62, 37362), (66, 37392), (68, 37398), (73, 37443), (75, 37458), (80, 37509), (85, 37548),

Gene: Coral_71 Start: 37538, Stop: 37783, Start Num: 50

Candidate Starts for Coral_71:

(21, 37454), (Start: 50 @37538 has 12 MA's), (58, 37565), (60, 37574), (62, 37577), (66, 37607), (68, 37613), (73, 37658), (75, 37673), (80, 37724), (85, 37763),

Gene: Cote_74 Start: 38262, Stop: 38507, Start Num: 50

Candidate Starts for Cote_74:

(21, 38181), (34, 38214), (45, 38247), (Start: 50 @38262 has 12 MA's), (58, 38289), (60, 38298), (62, 38301), (66, 38331), (68, 38337), (73, 38382), (75, 38397), (80, 38448), (85, 38487),

Gene: Cygnet_72 Start: 38655, Stop: 38879, Start Num: 56

Candidate Starts for Cygnet_72:

(27, 38574), (38, 38601), (40, 38610), (Start: 46 @38628 has 1 MA's), (Start: 56 @38655 has 19 MA's), (59, 38673), (62, 38679), (Start: 63 @38682 has 2 MA's), (68, 38715), (70, 38730), (78, 38802), (80, 38820), (81, 38832), (85, 38859),

Gene: Damocles_73 Start: 37482, Stop: 37727, Start Num: 50

Candidate Starts for Damocles_73:

(21, 37398), (Start: 50 @37482 has 12 MA's), (58, 37509), (60, 37518), (62, 37521), (66, 37551), (68, 37557), (73, 37602), (75, 37617), (80, 37668), (85, 37707),

Gene: DanHam62_69 Start: 37634, Stop: 37858, Start Num: 56

Candidate Starts for DanHam62_69:

(Start: 26 @37562 has 1 MA's), (Start: 56 @37634 has 19 MA's), (Start: 63 @37661 has 2 MA's), (68, 37694), (70, 37709), (78, 37781), (80, 37799), (81, 37811), (85, 37838),

Gene: Daob_70 Start: 37188, Stop: 37433, Start Num: 50

Candidate Starts for Daob_70:

(1, 36969), (3, 36978), (4, 37014), (7, 37035), (8, 37044), (Start: 50 @37188 has 12 MA's), (58, 37215), (60, 37224), (62, 37227), (66, 37257), (68, 37263), (73, 37308), (75, 37323), (85, 37413),

Gene: Eesa_64 Start: 39050, Stop: 39250, Start Num: 55

Candidate Starts for Eesa_64:

(6, 38861), (11, 38894), (19, 38948), (30, 38978), (37, 38996), (Start: 55 @39050 has 4 MA's), (Start: 63 @39077 has 2 MA's), (66, 39104), (70, 39125), (71, 39149), (76, 39185), (79, 39206),

Gene: Fingolfin_70 Start: 37637, Stop: 37861, Start Num: 56

Candidate Starts for Fingolfin_70:

(Start: 26 @37565 has 1 MA's), (Start: 56 @37637 has 19 MA's), (Start: 63 @37664 has 2 MA's), (68, 37697), (70, 37712), (78, 37784), (80, 37802), (81, 37814), (85, 37841),

Gene: Galaxy_64 Start: 36960, Stop: 37175, Start Num: 56

Candidate Starts for Galaxy_64:

(6, 36777), (11, 36810), (Start: 56 @36960 has 19 MA's), (61, 36984), (Start: 63 @36990 has 2 MA's), (64, 36999), (71, 37062), (77, 37101), (79, 37119), (81, 37140),

Gene: Glotell_70 Start: 37681, Stop: 37905, Start Num: 56

Candidate Starts for Glotell_70:

(Start: 26 @37609 has 1 MA's), (Start: 56 @37681 has 19 MA's), (Start: 63 @37708 has 2 MA's), (68, 37741), (70, 37756), (78, 37828), (80, 37846), (81, 37858), (85, 37885),

Gene: GramZayde_72 Start: 38034, Stop: 38279, Start Num: 50

Candidate Starts for GramZayde_72:

(21, 37950), (Start: 50 @38034 has 12 MA's), (58, 38061), (60, 38070), (62, 38073), (66, 38103), (68, 38109), (73, 38154), (75, 38169), (85, 38259),

Gene: Gravel_75 Start: 39306, Stop: 39506, Start Num: 55

Candidate Starts for Gravel_75:

(6, 39117), (11, 39150), (19, 39204), (30, 39234), (37, 39252), (Start: 55 @39306 has 4 MA's), (Start: 63 @39333 has 2 MA's), (66, 39360), (70, 39381), (73, 39411), (76, 39441), (79, 39462),

Gene: HamCheese_68 Start: 37621, Stop: 37845, Start Num: 56

Candidate Starts for HamCheese_68:

(Start: 26 @37549 has 1 MA's), (Start: 56 @37621 has 19 MA's), (Start: 63 @37648 has 2 MA's), (68, 37681), (70, 37696), (78, 37768), (80, 37786), (81, 37798), (85, 37825),

Gene: HannahPhantana_71 Start: 37341, Stop: 37586, Start Num: 50

Candidate Starts for HannahPhantana_71:

(21, 37257), (Start: 50 @37341 has 12 MA's), (58, 37368), (60, 37377), (62, 37380), (66, 37410), (68, 37416), (73, 37461), (75, 37476), (85, 37566),

Gene: Jamun_62 Start: 38028, Stop: 38213, Start Num: 63

Candidate Starts for Jamun_62:

(6, 37818), (Start: 56 @38001 has 19 MA's), (Start: 63 @38028 has 2 MA's), (71, 38100), (79, 38157), (81, 38178),

Gene: Jerole_69 Start: 37465, Stop: 37710, Start Num: 50

Candidate Starts for Jerole_69:

(21, 37381), (Start: 50 @37465 has 12 MA's), (58, 37492), (60, 37501), (62, 37504), (66, 37534), (68, 37540), (73, 37585), (75, 37600), (80, 37651), (85, 37690),

Gene: Juno112_68 Start: 37637, Stop: 37861, Start Num: 56

Candidate Starts for Juno112_68:

(Start: 26 @37565 has 1 MA's), (Start: 56 @37637 has 19 MA's), (Start: 63 @37664 has 2 MA's), (68, 37697), (70, 37712), (78, 37784), (80, 37802), (81, 37814), (85, 37841),

Gene: KHumphrey_69 Start: 37510, Stop: 37734, Start Num: 56

Candidate Starts for KHumphrey_69:

(Start: 26 @37438 has 1 MA's), (42, 37483), (Start: 56 @37510 has 19 MA's), (Start: 63 @37537 has 2 MA's), (68, 37570), (70, 37585), (78, 37657), (80, 37675), (81, 37687), (85, 37714),

Gene: KendraB23_75 Start: 39011, Stop: 39211, Start Num: 55

Candidate Starts for KendraB23_75:

(6, 38822), (11, 38855), (19, 38909), (30, 38939), (37, 38957), (Start: 55 @39011 has 4 MA's), (Start: 63 @39038 has 2 MA's), (66, 39065), (71, 39110), (76, 39146),

Gene: Kepler_74 Start: 37670, Stop: 37915, Start Num: 50

Candidate Starts for Kepler_74:

(21, 37586), (Start: 50 @37670 has 12 MA's), (58, 37697), (60, 37706), (62, 37709), (66, 37739), (68, 37745), (73, 37790), (75, 37805), (80, 37856), (85, 37895),

Gene: Kuleana_75 Start: 38064, Stop: 38273, Start Num: 51

Candidate Starts for Kuleana_75:

(5, 37878), (22, 37974), (29, 37995), (31, 37998), (47, 38055), (48, 38058), (Start: 50 @38061 has 12 MA's), (Start: 51 @38064 has 1 MA's), (57, 38082), (58, 38091), (60, 38100), (62, 38103), (Start: 63 @38106 has 2 MA's), (66, 38133), (68, 38139), (70, 38154), (79, 38232),

Gene: Leona_67 Start: 37757, Stop: 38008, Start Num: 44

Candidate Starts for Leona_67:

(10, 37649), (17, 37679), (28, 37715), (32, 37721), (Start: 44 @37757 has 2 MA's), (Start: 56 @37784 has 19 MA's), (Start: 63 @37811 has 2 MA's), (68, 37844), (70, 37859), (78, 37931), (80, 37949), (81, 37961), (85, 37988),

Gene: LittleTokyo_71 Start: 37065, Stop: 37412, Start Num: 18

Candidate Starts for LittleTokyo_71:

(9, 37011), (12, 37038), (14, 37047), (Start: 18 @37065 has 1 MA's), (28, 37101), (Start: 56 @37176 has 19 MA's), (60, 37197), (62, 37200), (Start: 63 @37203 has 2 MA's), (66, 37230), (69, 37245), (70, 37251), (72, 37278), (73, 37281), (79, 37332), (83, 37359), (87, 37398),

Gene: Lunar_72 Start: 37670, Stop: 37915, Start Num: 50

Candidate Starts for Lunar_72:

(21, 37586), (Start: 50 @37670 has 12 MA's), (58, 37697), (60, 37706), (62, 37709), (66, 37739), (68, 37745), (73, 37790), (75, 37805), (80, 37856), (85, 37895),

Gene: Melons_72 Start: 37679, Stop: 37924, Start Num: 50

Candidate Starts for Melons_72:

(21, 37595), (Start: 50 @37679 has 12 MA's), (58, 37706), (60, 37715), (62, 37718), (66, 37748), (68, 37754), (73, 37799), (75, 37814), (80, 37865), (85, 37904),

Gene: Niblet_62 Start: 38397, Stop: 38600, Start Num: 54

Candidate Starts for Niblet_62:

(Start: 54 @38397 has 1 MA's), (Start: 56 @38400 has 19 MA's), (Start: 63 @38427 has 2 MA's), (65, 38448), (66, 38454), (70, 38475), (71, 38499), (76, 38535), (82, 38580),

Gene: Oppalora_67 Start: 37635, Stop: 37859, Start Num: 56

Candidate Starts for Oppalora_67:

(Start: 26 @37563 has 1 MA's), (Start: 56 @37635 has 19 MA's), (60, 37656), (Start: 63 @37662 has 2 MA's), (68, 37695), (70, 37710), (78, 37782), (80, 37800), (81, 37812), (85, 37839),

Gene: Orcanus_64 Start: 38537, Stop: 38737, Start Num: 55

Candidate Starts for Orcanus_64:

(6, 38348), (11, 38381), (19, 38435), (30, 38465), (37, 38483), (Start: 55 @38537 has 4 MA's), (Start: 63 @38564 has 2 MA's), (66, 38591), (71, 38636), (73, 38642), (76, 38672), (79, 38693), (84, 38732),

Gene: OtsoOtso_71 Start: 37295, Stop: 37540, Start Num: 50

Candidate Starts for OtsoOtso_71:

(21, 37211), (Start: 50 @37295 has 12 MA's), (58, 37322), (60, 37331), (62, 37334), (66, 37364), (68, 37370), (73, 37415), (75, 37430), (85, 37520),

Gene: Pelletreau_75 Start: 39306, Stop: 39506, Start Num: 55

Candidate Starts for Pelletreau_75:

(6, 39117), (11, 39150), (19, 39204), (30, 39234), (37, 39252), (Start: 55 @39306 has 4 MA's), (Start: 63 @39333 has 2 MA's), (66, 39360), (70, 39381), (73, 39411), (76, 39441), (79, 39462),

Gene: PhirstandPhine_77 Start: 37484, Stop: 37729, Start Num: 50

Candidate Starts for PhirstandPhine_77:

(Start: 50 @37484 has 12 MA's), (58, 37511), (60, 37520), (62, 37523), (66, 37553), (68, 37559), (73, 37604), (75, 37619), (80, 37670), (85, 37709),

Gene: PhluffyCoco_67 Start: 37664, Stop: 37960, Start Num: 26

Candidate Starts for PhluffyCoco_67:

(Start: 26 @37664 has 1 MA's), (Start: 56 @37736 has 19 MA's), (Start: 63 @37763 has 2 MA's), (68, 37796), (70, 37811), (78, 37883), (80, 37901), (81, 37913), (85, 37940),

Gene: Pineda_73 Start: 37640, Stop: 37885, Start Num: 50

Candidate Starts for Pineda_73:

(21, 37556), (Start: 50 @37640 has 12 MA's), (58, 37667), (60, 37676), (62, 37679), (66, 37709), (68, 37715), (73, 37760), (80, 37826), (85, 37865),

Gene: Polka_70 Start: 37295, Stop: 37540, Start Num: 50

Candidate Starts for Polka_70:

(21, 37211), (Start: 50 @37295 has 12 MA's), (58, 37322), (60, 37331), (62, 37334), (66, 37364), (68, 37370), (73, 37415), (75, 37430), (85, 37520),

Gene: Rattail_70 Start: 38032, Stop: 38256, Start Num: 56

Candidate Starts for Rattail_70:

(Start: 26 @37960 has 1 MA's), (Start: 56 @38032 has 19 MA's), (Start: 63 @38059 has 2 MA's), (68, 38092), (70, 38107), (78, 38179), (80, 38197), (81, 38209), (85, 38236), (86, 38242),

Gene: RedFox_70 Start: 37895, Stop: 38119, Start Num: 56

Candidate Starts for RedFox_70:

(41, 37856), (49, 37877), (Start: 56 @37895 has 19 MA's), (Start: 63 @37922 has 2 MA's), (68, 37955), (70, 37970), (80, 38060), (81, 38072), (85, 38099),

Gene: Renna12_71 Start: 38335, Stop: 38586, Start Num: 44

Candidate Starts for Renna12_71:

(24, 38281), (28, 38293), (32, 38299), (Start: 44 @38335 has 2 MA's), (Start: 56 @38362 has 19 MA's), (Start: 63 @38389 has 2 MA's), (68, 38422), (70, 38437), (78, 38509), (80, 38527), (81, 38539), (85, 38566),

Gene: Ruchi_63 Start: 37737, Stop: 37949, Start Num: 56

Candidate Starts for Ruchi_63:

(6, 37542), (36, 37674), (Start: 56 @37737 has 19 MA's), (Start: 63 @37764 has 2 MA's), (64, 37773), (71, 37836), (79, 37893), (81, 37914),

Gene: Shen_62 Start: 36923, Stop: 37123, Start Num: 55

Candidate Starts for Shen_62:

(6, 36734), (11, 36767), (19, 36821), (30, 36851), (37, 36869), (Start: 55 @36923 has 4 MA's), (Start: 63 @36950 has 2 MA's), (66, 36977), (71, 37022), (76, 37058), (79, 37079),

Gene: StuartMinion_60 Start: 34373, Stop: 34597, Start Num: 56

Candidate Starts for StuartMinion_60:

(27, 34289), (38, 34316), (40, 34325), (Start: 46 @34343 has 1 MA's), (Start: 56 @34373 has 19 MA's), (Start: 63 @34400 has 2 MA's), (68, 34433), (70, 34448), (78, 34520), (80, 34538), (81, 34550), (85, 34577),

Gene: TaylorSipt_64 Start: 38271, Stop: 38459, Start Num: 56

Candidate Starts for TaylorSipt_64:

(15, 38142), (35, 38211), (39, 38217), (Start: 56 @38271 has 19 MA's), (60, 38292), (62, 38295), (Start: 63 @38298 has 2 MA's), (64, 38307), (71, 38370), (78, 38418), (79, 38427), (81, 38448),

Gene: Toad24_67 Start: 39060, Stop: 39266, Start Num: 52

Candidate Starts for Toad24_67:

(30, 39006), (Start: 52 @39060 has 1 MA's), (Start: 56 @39066 has 19 MA's), (Start: 63 @39093 has 2 MA's), (66, 39120), (70, 39141), (71, 39165), (76, 39201), (79, 39222),

Gene: Westrich_73 Start: 39227, Stop: 39433, Start Num: 52

Candidate Starts for Westrich_73:

(30, 39173), (Start: 52 @39227 has 1 MA's), (Start: 56 @39233 has 19 MA's), (Start: 63 @39260 has 2 MA's), (66, 39287), (70, 39308), (71, 39332), (76, 39368), (79, 39389),

Gene: WileyE_65 Start: 37923, Stop: 38135, Start Num: 56

Candidate Starts for WileyE_65:

(Start: 26 @37848 has 1 MA's), (38, 37875), (43, 37896), (Start: 54 @37920 has 1 MA's), (Start: 56 @37923 has 19 MA's), (58, 37935), (Start: 63 @37950 has 2 MA's), (64, 37959), (71, 38022), (79, 38079), (81, 38100),

Gene: Zixiang_64 Start: 38427, Stop: 38627, Start Num: 55

Candidate Starts for Zixiang_64:

(6, 38238), (11, 38271), (19, 38325), (30, 38355), (37, 38373), (Start: 55 @38427 has 4 MA's), (Start: 63 @38454 has 2 MA's), (66, 38481), (71, 38526), (76, 38562), (79, 38583),