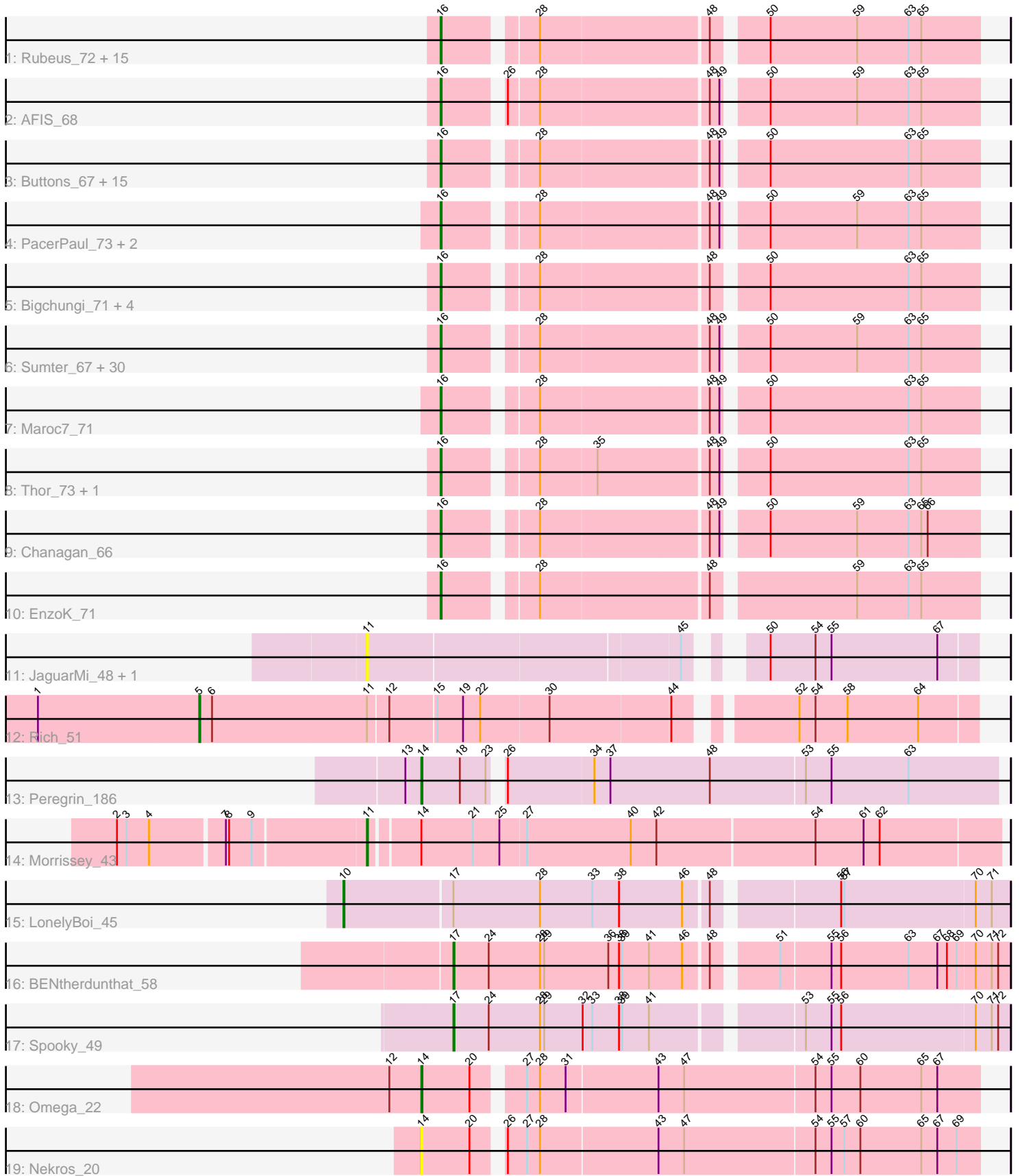


Pham 308439



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 308439 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308439 has 87 members, 8 are drafts.

Phages represented in each track:

- Track 1 : Rubeus_72, ShortQueendom_65, Rufus_74, Anglerfish_72, BigPaolini_68, Fajezeel_73, GrecoEtereo_74, Tripl3t_74, Euphoria_71, Acme_74, Sandaddy_68, Sorpresa_69, Rhynn_67, Greg_73, Zephyr_73, Blackflame_66
- Track 2 : AFIS_68
- Track 3 : Buttons_67, Ohno789_73, Pinto_71, Licorice_71, Arlo_70, Phlippers_68, McSinger_70, Pelly_73, KyMonks1A_76, Rajelicia_72, GageAP_73, Corvo_72, Marsha_70, CactusRose_73, Bob3_73, Parliament_71
- Track 4 : PacerPaul_73, Francis47_70, Agaliana_66
- Track 5 : Bigchungu_71, Moose_73, Snazzy_70, Bethlehem_73, Forsytheast_73
- Track 6 : Sumter_67, Dexes_71, Lamina13_74, Bircsak_70, Dulcie_71, BPBiabs31_75, Pari_75, Smeagol_72, Burton_72, ConceptII_75, Altman_73, HarryOW_71, Fascinus_67, Jorgensen_76, Bigfoot_65, HermioneGrange_75, Kanely_72, BarrowTuph_73, BigMau_74, StewieG_65, Arcanine_74, Jerm2_73, Scowl_71, Pippin_71, Watermelon_73, MPlant7149_72, Barriga_73, Atkinbua_76, Gompeii16_70, Rohr_74, Carlyle_71
- Track 7 : Maroc7_71
- Track 8 : Thor_73, SarFire_73
- Track 9 : Chanagan_66
- Track 10 : EnzoK_71
- Track 11 : JaguarMi_48, Xincheng_47
- Track 12 : Rich_51
- Track 13 : Peregrin_186
- Track 14 : Morrissey_43
- Track 15 : LonelyBoi_45
- Track 16 : BENtherdunthat_58
- Track 17 : Spooky_49
- Track 18 : Omega_22
- Track 19 : Nekros_20

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

The start number called the most often in the published annotations is 16, it was called in 72 of the 79 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AFIS_68, Acme_74, Agaliana_66, Altman_73, Anglerfish_72, Arcanine_74, Arlo_70, Atkinbua_76, BPBiebs31_75, Barriga_73, BarrowTuph_73, Bethlehem_73, BigMau_74, BigPaolini_68, Bigchungu_71, Bigfoot_65, Bircsak_70, Blackflame_66, Bob3_73, Burton_72, Buttons_67, CactusRose_73, Carlyle_71, Chanagan_66, Conceptll_75, Corvo_72, Dexes_71, Dulcie_71, EnzoK_71, Euphoria_71, Fajezeel_73, Fascinus_67, Forsytheast_73, Francis47_70, GageAP_73, Gompeii16_70, GrecoEtereo_74, Greg_73, HarryOW_71, HermioneGrange_75, Jerm2_73, Jorgensen_76, Kanely_72, KyMonks1A_76, Lamina13_74, Licorice_71, MPlant7149_72, Maroc7_71, Marsha_70, McSinger_70, Moose_73, Ohno789_73, PacerPaul_73, Pari_75, Parliament_71, Pelly_73, Phlippers_68, Pinto_71, Pippin_71, Rajelicia_72, Rhynn_67, Rohr_74, Rubeus_72, Rufus_74, Sandaddy_68, SarFire_73, Scowl_71, ShortQueendom_65, Smeagol_72, Snazzy_70, Sorpresa_69, StewieG_65, Sumter_67, Thor_73, Tripl3t_74, Watermelon_73, Zephyr_73,

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

-

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

- BENtherdunthat_58, JaguarMi_48, LonelyBoi_45, Morrissey_43, Nekros_20, Omega_22, Peregrin_186, Rich_51, Spooky_49, Xincheng_47,

Summary by start number:

Start 5:

- Found in 1 of 87 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Rich_51 (B5),

Start 10:

- Found in 1 of 87 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: LonelyBoi_45 (CY7),

Start 11:

- Found in 4 of 87 (4.6%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 75.0% of time when present
- Phage (with cluster) where this start called: JaguarMi_48 (B4), Morrissey_43 (CD), Xincheng_47 (B4),

Start 14:

- Found in 4 of 87 (4.6%) of genes in pham
- Manual Annotations of this start: 2 of 79
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Nekros_20 (J), Omega_22 (J), Peregrin_186 (CB),

Start 16:

- Found in 77 of 87 (88.5%) of genes in pham
- Manual Annotations of this start: 72 of 79

- Called 100.0% of time when present
- Phage (with cluster) where this start called: AFIS_68 (A1), Acme_74 (A1), Agaliana_66 (A1), Altman_73 (A1), Anglerfish_72 (A1), Arcanine_74 (A1), Arlo_70 (A1), Atkinbua_76 (A1), BPBiebs31_75 (A1), Barriga_73 (A1), BarrowTuph_73 (A1), Bethlehem_73 (A1), BigMau_74 (A1), BigPaolini_68 (A1), Bigchungi_71 (A1), Bigfoot_65 (A1), Bircsak_70 (A1), Blackflame_66 (A1), Bob3_73 (A1), Burton_72 (A1), Buttons_67 (A1), CactusRose_73 (A1), Carlyle_71 (A1), Chanagan_66 (A1), Conceptll_75 (A1), Corvo_72 (A1), Dexes_71 (A1), Dulcie_71 (A1), EnzoK_71 (A1), Euphoria_71 (A1), Fajezeel_73 (A1), Fascinus_67 (A1), Forsytheast_73 (A1), Francis47_70 (A1), GageAP_73 (A1), Gompeii16_70 (A1), GrecoEtereo_74 (A1), Greg_73 (A1), HarryOW_71 (A1), HermioneGrange_75 (A1), Jerm2_73 (A1), Jorgensen_76 (A1), Kanely_72 (A1), KyMonks1A_76 (A1), Lamina13_74 (A1), Licorice_71 (A1), MPlant7149_72 (A1), Maroc7_71 (A1), Marsha_70 (A1), McSinger_70 (A1), Moose_73 (A1), Ohno789_73 (A1), PacerPaul_73 (A1), Pari_75 (A1), Parliament_71 (A1), Pelly_73 (A1), Phlippers_68 (A1), Pinto_71 (A1), Pippin_71 (A1), Rajelicia_72 (A1), Rhynn_67 (A1), Rohr_74 (A1), Rubeus_72 (A1), Rufus_74 (A1), Sandaddy_68 (A1), SarFire_73 (A1), Scowl_71 (A1), ShortQueendom_65 (A1), Smeagol_72 (A1), Snazzy_70 (A1), Sorpresa_69 (A1), StewieG_65 (A1), Sumter_67 (A1), Thor_73 (A1), Tripl3t_74 (A1), Watermelon_73 (A1), Zephyr_73 (A1),

Start 17:

- Found in 3 of 87 (3.4%) of genes in pham
- Manual Annotations of this start: 2 of 79
- Called 66.7% of time when present
- Phage (with cluster) where this start called: BENtherdunthat_58 (DN1), Spooky_49 (DN2),

Summary by clusters:

There are 9 clusters represented in this pham: B4, CY7, CB, J, CD, A1, B5, DN1, DN2,

Info for manual annotations of cluster A1:

- Start number 16 was manually annotated 72 times for cluster A1.

Info for manual annotations of cluster B5:

- Start number 5 was manually annotated 1 time for cluster B5.

Info for manual annotations of cluster CB:

- Start number 14 was manually annotated 1 time for cluster CB.

Info for manual annotations of cluster CD:

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

Info for manual annotations of cluster CY7:

- Start number 10 was manually annotated 1 time for cluster CY7.

Info for manual annotations of cluster DN1:

- Start number 17 was manually annotated 1 time for cluster DN1.

Info for manual annotations of cluster DN2:

- Start number 17 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster J:

•Start number 14 was manually annotated 1 time for cluster J.

Gene Information:

Gene: AFIS_68 Start: 45423, Stop: 44962, Start Num: 16

Candidate Starts for AFIS_68:

(Start: 16 @45423 has 72 MA's), (26, 45375), (28, 45348), (48, 45198), (49, 45189), (50, 45156), (59, 45075), (63, 45027), (65, 45015),

Gene: Acme_74 Start: 46760, Stop: 46299, Start Num: 16

Candidate Starts for Acme_74:

(Start: 16 @46760 has 72 MA's), (28, 46685), (48, 46535), (50, 46493), (59, 46412), (63, 46364), (65, 46352),

Gene: Agaliana_66 Start: 42804, Stop: 42343, Start Num: 16

Candidate Starts for Agaliana_66:

(Start: 16 @42804 has 72 MA's), (28, 42729), (48, 42579), (49, 42570), (50, 42537), (59, 42456), (63, 42408), (65, 42396),

Gene: Altman_73 Start: 45642, Stop: 45181, Start Num: 16

Candidate Starts for Altman_73:

(Start: 16 @45642 has 72 MA's), (28, 45567), (48, 45417), (49, 45408), (50, 45375), (59, 45294), (63, 45246), (65, 45234),

Gene: Anglerfish_72 Start: 45968, Stop: 45507, Start Num: 16

Candidate Starts for Anglerfish_72:

(Start: 16 @45968 has 72 MA's), (28, 45893), (48, 45743), (50, 45701), (59, 45620), (63, 45572), (65, 45560),

Gene: Arcanine_74 Start: 46693, Stop: 46232, Start Num: 16

Candidate Starts for Arcanine_74:

(Start: 16 @46693 has 72 MA's), (28, 46618), (48, 46468), (49, 46459), (50, 46426), (59, 46345), (63, 46297), (65, 46285),

Gene: Arlo_70 Start: 45471, Stop: 45010, Start Num: 16

Candidate Starts for Arlo_70:

(Start: 16 @45471 has 72 MA's), (28, 45396), (48, 45246), (49, 45237), (50, 45204), (63, 45075), (65, 45063),

Gene: Atkinbua_76 Start: 45999, Stop: 45532, Start Num: 16

Candidate Starts for Atkinbua_76:

(Start: 16 @45999 has 72 MA's), (28, 45918), (48, 45768), (49, 45759), (50, 45726), (59, 45645), (63, 45597), (65, 45585),

Gene: BENtherdunthat_58 Start: 36926, Stop: 37417, Start Num: 17

Candidate Starts for BENtherdunthat_58:

(Start: 17 @36926 has 2 MA's), (24, 36959), (28, 37007), (29, 37010), (36, 37070), (38, 37079), (39, 37082), (41, 37106), (46, 37136), (48, 37157), (51, 37208), (55, 37253), (56, 37262), (63, 37325), (67, 37352), (68, 37361), (69, 37370), (70, 37385), (71, 37400), (72, 37406),

Gene: BPBiebs31_75 Start: 46583, Stop: 46122, Start Num: 16

Candidate Starts for BPBiebs31_75:

(Start: 16 @46583 has 72 MA's), (28, 46508), (48, 46358), (49, 46349), (50, 46316), (59, 46235), (63, 46187), (65, 46175),

Gene: Barriga_73 Start: 44296, Stop: 43832, Start Num: 16

Candidate Starts for Barriga_73:

(Start: 16 @44296 has 72 MA's), (28, 44221), (48, 44071), (49, 44062), (50, 44029), (59, 43948), (63, 43900), (65, 43888),

Gene: BarrowTuph_73 Start: 45663, Stop: 45202, Start Num: 16

Candidate Starts for BarrowTuph_73:

(Start: 16 @45663 has 72 MA's), (28, 45588), (48, 45438), (49, 45429), (50, 45396), (59, 45315), (63, 45267), (65, 45255),

Gene: Bethlehem_73 Start: 47499, Stop: 47038, Start Num: 16

Candidate Starts for Bethlehem_73:

(Start: 16 @47499 has 72 MA's), (28, 47424), (48, 47274), (50, 47232), (63, 47103), (65, 47091),

Gene: BigMau_74 Start: 46391, Stop: 45930, Start Num: 16

Candidate Starts for BigMau_74:

(Start: 16 @46391 has 72 MA's), (28, 46316), (48, 46166), (49, 46157), (50, 46124), (59, 46043), (63, 45995), (65, 45983),

Gene: BigPaolini_68 Start: 43739, Stop: 43278, Start Num: 16

Candidate Starts for BigPaolini_68:

(Start: 16 @43739 has 72 MA's), (28, 43664), (48, 43514), (50, 43472), (59, 43391), (63, 43343), (65, 43331),

Gene: Bigchungj_71 Start: 46173, Stop: 45712, Start Num: 16

Candidate Starts for Bigchungj_71:

(Start: 16 @46173 has 72 MA's), (28, 46098), (48, 45948), (50, 45906), (63, 45777), (65, 45765),

Gene: Bigfoot_65 Start: 44823, Stop: 44362, Start Num: 16

Candidate Starts for Bigfoot_65:

(Start: 16 @44823 has 72 MA's), (28, 44748), (48, 44598), (49, 44589), (50, 44556), (59, 44475), (63, 44427), (65, 44415),

Gene: Bircsak_70 Start: 47097, Stop: 46636, Start Num: 16

Candidate Starts for Bircsak_70:

(Start: 16 @47097 has 72 MA's), (28, 47022), (48, 46872), (49, 46863), (50, 46830), (59, 46749), (63, 46701), (65, 46689),

Gene: Blackflame_66 Start: 44836, Stop: 44375, Start Num: 16

Candidate Starts for Blackflame_66:

(Start: 16 @44836 has 72 MA's), (28, 44761), (48, 44611), (50, 44569), (59, 44488), (63, 44440), (65, 44428),

Gene: Bob3_73 Start: 45659, Stop: 45198, Start Num: 16

Candidate Starts for Bob3_73:

(Start: 16 @45659 has 72 MA's), (28, 45584), (48, 45434), (49, 45425), (50, 45392), (63, 45263), (65, 45251),

Gene: Burton_72 Start: 47074, Stop: 46613, Start Num: 16

Candidate Starts for Burton_72:

(Start: 16 @47074 has 72 MA's), (28, 46999), (48, 46849), (49, 46840), (50, 46807), (59, 46726), (63, 46678), (65, 46666),

Gene: Buttons_67 Start: 42788, Stop: 42327, Start Num: 16

Candidate Starts for Buttons_67:

(Start: 16 @42788 has 72 MA's), (28, 42713), (48, 42563), (49, 42554), (50, 42521), (63, 42392), (65, 42380),

Gene: CactusRose_73 Start: 45841, Stop: 45380, Start Num: 16

Candidate Starts for CactusRose_73:

(Start: 16 @45841 has 72 MA's), (28, 45766), (48, 45616), (49, 45607), (50, 45574), (63, 45445), (65, 45433),

Gene: Carlyle_71 Start: 44184, Stop: 43723, Start Num: 16

Candidate Starts for Carlyle_71:

(Start: 16 @44184 has 72 MA's), (28, 44109), (48, 43959), (49, 43950), (50, 43917), (59, 43836), (63, 43788), (65, 43776),

Gene: Chanagan_66 Start: 43057, Stop: 42596, Start Num: 16

Candidate Starts for Chanagan_66:

(Start: 16 @43057 has 72 MA's), (28, 42982), (48, 42832), (49, 42823), (50, 42790), (59, 42709), (63, 42661), (65, 42649), (66, 42643),

Gene: ConceptII_75 Start: 46872, Stop: 46411, Start Num: 16

Candidate Starts for ConceptII_75:

(Start: 16 @46872 has 72 MA's), (28, 46797), (48, 46647), (49, 46638), (50, 46605), (59, 46524), (63, 46476), (65, 46464),

Gene: Corvo_72 Start: 46506, Stop: 46045, Start Num: 16

Candidate Starts for Corvo_72:

(Start: 16 @46506 has 72 MA's), (28, 46431), (48, 46281), (49, 46272), (50, 46239), (63, 46110), (65, 46098),

Gene: Dexes_71 Start: 47121, Stop: 46660, Start Num: 16

Candidate Starts for Dexes_71:

(Start: 16 @47121 has 72 MA's), (28, 47046), (48, 46896), (49, 46887), (50, 46854), (59, 46773), (63, 46725), (65, 46713),

Gene: Dulcie_71 Start: 47007, Stop: 46546, Start Num: 16

Candidate Starts for Dulcie_71:

(Start: 16 @47007 has 72 MA's), (28, 46932), (48, 46782), (49, 46773), (50, 46740), (59, 46659), (63, 46611), (65, 46599),

Gene: EnzoK_71 Start: 43038, Stop: 42577, Start Num: 16

Candidate Starts for EnzoK_71:

(Start: 16 @43038 has 72 MA's), (28, 42963), (48, 42813), (59, 42690), (63, 42642), (65, 42630),

Gene: Euphoria_71 Start: 45517, Stop: 45056, Start Num: 16

Candidate Starts for Euphoria_71:

(Start: 16 @45517 has 72 MA's), (28, 45442), (48, 45292), (50, 45250), (59, 45169), (63, 45121), (65, 45109),

Gene: Fajezeel_73 Start: 46050, Stop: 45589, Start Num: 16

Candidate Starts for Fajezeel_73:

(Start: 16 @46050 has 72 MA's), (28, 45975), (48, 45825), (50, 45783), (59, 45702), (63, 45654), (65, 45642),

Gene: Fascinus_67 Start: 45337, Stop: 44876, Start Num: 16

Candidate Starts for Fascinus_67:

(Start: 16 @45337 has 72 MA's), (28, 45262), (48, 45112), (49, 45103), (50, 45070), (59, 44989), (63, 44941), (65, 44929),

Gene: Forsytheast_73 Start: 45599, Stop: 45138, Start Num: 16

Candidate Starts for Forsytheast_73:

(Start: 16 @45599 has 72 MA's), (28, 45524), (48, 45374), (50, 45332), (63, 45203), (65, 45191),

Gene: Francis47_70 Start: 46648, Stop: 46187, Start Num: 16

Candidate Starts for Francis47_70:

(Start: 16 @46648 has 72 MA's), (28, 46573), (48, 46423), (49, 46414), (50, 46381), (59, 46300), (63, 46252), (65, 46240),

Gene: GageAP_73 Start: 46830, Stop: 46369, Start Num: 16

Candidate Starts for GageAP_73:

(Start: 16 @46830 has 72 MA's), (28, 46755), (48, 46605), (49, 46596), (50, 46563), (63, 46434), (65, 46422),

Gene: Gompeii16_70 Start: 47098, Stop: 46637, Start Num: 16

Candidate Starts for Gompeii16_70:

(Start: 16 @47098 has 72 MA's), (28, 47023), (48, 46873), (49, 46864), (50, 46831), (59, 46750), (63, 46702), (65, 46690),

Gene: GrecoEtereo_74 Start: 46526, Stop: 46065, Start Num: 16

Candidate Starts for GrecoEtereo_74:

(Start: 16 @46526 has 72 MA's), (28, 46451), (48, 46301), (50, 46259), (59, 46178), (63, 46130), (65, 46118),

Gene: Greg_73 Start: 46050, Stop: 45589, Start Num: 16

Candidate Starts for Greg_73:

(Start: 16 @46050 has 72 MA's), (28, 45975), (48, 45825), (50, 45783), (59, 45702), (63, 45654), (65, 45642),

Gene: HarryOW_71 Start: 46454, Stop: 45993, Start Num: 16

Candidate Starts for HarryOW_71:

(Start: 16 @46454 has 72 MA's), (28, 46379), (48, 46229), (49, 46220), (50, 46187), (59, 46106), (63, 46058), (65, 46046),

Gene: HermioneGrange_75 Start: 46885, Stop: 46424, Start Num: 16

Candidate Starts for HermioneGrange_75:

(Start: 16 @46885 has 72 MA's), (28, 46810), (48, 46660), (49, 46651), (50, 46618), (59, 46537), (63, 46489), (65, 46477),

Gene: JaguarMi_48 Start: 46655, Stop: 46143, Start Num: 11

Candidate Starts for JaguarMi_48:

(Start: 11 @46655 has 1 MA's), (45, 46376), (50, 46334), (54, 46292), (55, 46277), (67, 46178),

Gene: Jerm2_73 Start: 46955, Stop: 46494, Start Num: 16

Candidate Starts for Jerm2_73:

(Start: 16 @46955 has 72 MA's), (28, 46880), (48, 46730), (49, 46721), (50, 46688), (59, 46607), (63, 46559), (65, 46547),

Gene: Jorgensen_76 Start: 46175, Stop: 45714, Start Num: 16

Candidate Starts for Jorgensen_76:

(Start: 16 @46175 has 72 MA's), (28, 46100), (48, 45950), (49, 45941), (50, 45908), (59, 45827), (63, 45779), (65, 45767),

Gene: Kanely_72 Start: 45419, Stop: 44958, Start Num: 16

Candidate Starts for Kanely_72:

(Start: 16 @45419 has 72 MA's), (28, 45344), (48, 45194), (49, 45185), (50, 45152), (59, 45071), (63, 45023), (65, 45011),

Gene: KyMonks1A_76 Start: 46045, Stop: 45584, Start Num: 16

Candidate Starts for KyMonks1A_76:

(Start: 16 @46045 has 72 MA's), (28, 45970), (48, 45820), (49, 45811), (50, 45778), (63, 45649), (65, 45637),

Gene: Lamina13_74 Start: 47192, Stop: 46731, Start Num: 16

Candidate Starts for Lamina13_74:

(Start: 16 @47192 has 72 MA's), (28, 47117), (48, 46967), (49, 46958), (50, 46925), (59, 46844), (63, 46796), (65, 46784),

Gene: Licorice_71 Start: 46738, Stop: 46277, Start Num: 16

Candidate Starts for Licorice_71:

(Start: 16 @46738 has 72 MA's), (28, 46663), (48, 46513), (49, 46504), (50, 46471), (63, 46342), (65, 46330),

Gene: LonelyBoi_45 Start: 36873, Stop: 37463, Start Num: 10

Candidate Starts for LonelyBoi_45:

(Start: 10 @36873 has 1 MA's), (Start: 17 @36972 has 2 MA's), (28, 37053), (33, 37101), (38, 37125), (46, 37182), (48, 37203), (56, 37308), (57, 37311), (70, 37431), (71, 37446),

Gene: MPlant7149_72 Start: 44769, Stop: 44308, Start Num: 16

Candidate Starts for MPlant7149_72:

(Start: 16 @44769 has 72 MA's), (28, 44694), (48, 44544), (49, 44535), (50, 44502), (59, 44421), (63, 44373), (65, 44361),

Gene: Maroc7_71 Start: 46325, Stop: 45864, Start Num: 16

Candidate Starts for Maroc7_71:

(Start: 16 @46325 has 72 MA's), (28, 46250), (48, 46100), (49, 46091), (50, 46058), (63, 45929), (65, 45917),

Gene: Marsha_70 Start: 46412, Stop: 45951, Start Num: 16

Candidate Starts for Marsha_70:

(Start: 16 @46412 has 72 MA's), (28, 46337), (48, 46187), (49, 46178), (50, 46145), (63, 46016), (65, 46004),

Gene: McSinger_70 Start: 45135, Stop: 44674, Start Num: 16

Candidate Starts for McSinger_70:

(Start: 16 @45135 has 72 MA's), (28, 45060), (48, 44910), (49, 44901), (50, 44868), (63, 44739), (65, 44727),

Gene: Moose_73 Start: 45599, Stop: 45138, Start Num: 16

Candidate Starts for Moose_73:

(Start: 16 @45599 has 72 MA's), (28, 45524), (48, 45374), (50, 45332), (63, 45203), (65, 45191),

Gene: Morrissey_43 Start: 34094, Stop: 33522, Start Num: 11

Candidate Starts for Morrissey_43:

(2, 34313), (3, 34304), (4, 34283), (7, 34217), (8, 34214), (9, 34193), (Start: 11 @34094 has 1 MA's), (Start: 14 @34052 has 2 MA's), (21, 34004), (25, 33980), (27, 33956), (40, 33860), (42, 33836), (54, 33692), (61, 33647), (62, 33632),

Gene: Nekros_20 Start: 14628, Stop: 14128, Start Num: 14

Candidate Starts for Nekros_20:

(Start: 14 @14628 has 2 MA's), (20, 14583), (26, 14562), (27, 14544), (28, 14532), (43, 14424), (47, 14400), (54, 14280), (55, 14265), (57, 14253), (60, 14238), (65, 14181), (67, 14166), (69, 14148),

Gene: Ohno789_73 Start: 46463, Stop: 46002, Start Num: 16

Candidate Starts for Ohno789_73:

(Start: 16 @46463 has 72 MA's), (28, 46388), (48, 46238), (49, 46229), (50, 46196), (63, 46067), (65, 46055),

Gene: Omega_22 Start: 16309, Stop: 15809, Start Num: 14

Candidate Starts for Omega_22:

(12, 16339), (Start: 14 @16309 has 2 MA's), (20, 16264), (27, 16225), (28, 16213), (31, 16189), (43, 16105), (47, 16081), (54, 15961), (55, 15946), (60, 15919), (65, 15862), (67, 15847),

Gene: PacerPaul_73 Start: 46015, Stop: 45554, Start Num: 16

Candidate Starts for PacerPaul_73:

(Start: 16 @46015 has 72 MA's), (28, 45940), (48, 45790), (49, 45781), (50, 45748), (59, 45667), (63, 45619), (65, 45607),

Gene: Pari_75 Start: 45202, Stop: 44741, Start Num: 16

Candidate Starts for Pari_75:

(Start: 16 @45202 has 72 MA's), (28, 45127), (48, 44977), (49, 44968), (50, 44935), (59, 44854), (63, 44806), (65, 44794),

Gene: Parliament_71 Start: 47500, Stop: 47039, Start Num: 16

Candidate Starts for Parliament_71:

(Start: 16 @47500 has 72 MA's), (28, 47425), (48, 47275), (49, 47266), (50, 47233), (63, 47104), (65, 47092),

Gene: Pelly_73 Start: 47669, Stop: 47208, Start Num: 16

Candidate Starts for Pelly_73:

(Start: 16 @47669 has 72 MA's), (28, 47594), (48, 47444), (49, 47435), (50, 47402), (63, 47273), (65, 47261),

Gene: Peregrin_186 Start: 98215, Stop: 98733, Start Num: 14

Candidate Starts for Peregrin_186:

(13, 98200), (Start: 14 @98215 has 2 MA's), (18, 98251), (23, 98275), (26, 98281), (34, 98359), (37, 98374), (48, 98467), (53, 98554), (55, 98578), (63, 98650),

Gene: Phlippers_68 Start: 46229, Stop: 45768, Start Num: 16

Candidate Starts for Phlippers_68:

(Start: 16 @46229 has 72 MA's), (28, 46154), (48, 46004), (49, 45995), (50, 45962), (63, 45833), (65, 45821),

Gene: Pinto_71 Start: 45425, Stop: 44964, Start Num: 16

Candidate Starts for Pinto_71:

(Start: 16 @45425 has 72 MA's), (28, 45350), (48, 45200), (49, 45191), (50, 45158), (63, 45029), (65, 45017),

Gene: Pippin_71 Start: 44801, Stop: 44340, Start Num: 16

Candidate Starts for Pippin_71:

(Start: 16 @44801 has 72 MA's), (28, 44726), (48, 44576), (49, 44567), (50, 44534), (59, 44453), (63, 44405), (65, 44393),

Gene: Rajelicia_72 Start: 47201, Stop: 46740, Start Num: 16

Candidate Starts for Rajelicia_72:

(Start: 16 @47201 has 72 MA's), (28, 47126), (48, 46976), (49, 46967), (50, 46934), (63, 46805), (65, 46793),

Gene: Rhynn_67 Start: 44789, Stop: 44328, Start Num: 16

Candidate Starts for Rhynn_67:

(Start: 16 @44789 has 72 MA's), (28, 44714), (48, 44564), (50, 44522), (59, 44441), (63, 44393), (65, 44381),

Gene: Rich_51 Start: 47710, Stop: 47030, Start Num: 5

Candidate Starts for Rich_51:

(1, 47860), (Start: 5 @47710 has 1 MA's), (6, 47698), (Start: 11 @47554 has 1 MA's), (12, 47536), (15, 47494), (19, 47470), (22, 47455), (30, 47392), (44, 47284), (52, 47194), (54, 47179), (58, 47149), (64, 47083),

Gene: Rohr_74 Start: 47031, Stop: 46570, Start Num: 16

Candidate Starts for Rohr_74:

(Start: 16 @47031 has 72 MA's), (28, 46956), (48, 46806), (49, 46797), (50, 46764), (59, 46683), (63, 46635), (65, 46623),

Gene: Rubeus_72 Start: 43531, Stop: 43070, Start Num: 16

Candidate Starts for Rubeus_72:

(Start: 16 @43531 has 72 MA's), (28, 43456), (48, 43306), (50, 43264), (59, 43183), (63, 43135), (65, 43123),

Gene: Rufus_74 Start: 46220, Stop: 45759, Start Num: 16

Candidate Starts for Rufus_74:

(Start: 16 @46220 has 72 MA's), (28, 46145), (48, 45995), (50, 45953), (59, 45872), (63, 45824), (65, 45812),

Gene: Sandaddy_68 Start: 45178, Stop: 44717, Start Num: 16

Candidate Starts for Sandaddy_68:

(Start: 16 @45178 has 72 MA's), (28, 45103), (48, 44953), (50, 44911), (59, 44830), (63, 44782), (65, 44770),

Gene: SarFire_73 Start: 46492, Stop: 46031, Start Num: 16

Candidate Starts for SarFire_73:

(Start: 16 @46492 has 72 MA's), (28, 46417), (35, 46366), (48, 46267), (49, 46258), (50, 46225), (63, 46096), (65, 46084),

Gene: Scowl_71 Start: 45023, Stop: 44562, Start Num: 16

Candidate Starts for Scowl_71:

(Start: 16 @45023 has 72 MA's), (28, 44948), (48, 44798), (49, 44789), (50, 44756), (59, 44675), (63, 44627), (65, 44615),

Gene: ShortQueendom_65 Start: 42908, Stop: 42447, Start Num: 16

Candidate Starts for ShortQueendom_65:

(Start: 16 @42908 has 72 MA's), (28, 42833), (48, 42683), (50, 42641), (59, 42560), (63, 42512), (65, 42500),

Gene: Smeagol_72 Start: 46872, Stop: 46411, Start Num: 16

Candidate Starts for Smeagol_72:

(Start: 16 @46872 has 72 MA's), (28, 46797), (48, 46647), (49, 46638), (50, 46605), (59, 46524), (63, 46476), (65, 46464),

Gene: Snazzy_70 Start: 45435, Stop: 44974, Start Num: 16

Candidate Starts for Snazzy_70:

(Start: 16 @45435 has 72 MA's), (28, 45360), (48, 45210), (50, 45168), (63, 45039), (65, 45027),

Gene: Sorpresa_69 Start: 45184, Stop: 44723, Start Num: 16

Candidate Starts for Sorpresa_69:

(Start: 16 @45184 has 72 MA's), (28, 45109), (48, 44959), (50, 44917), (59, 44836), (63, 44788), (65, 44776),

Gene: Spooky_49 Start: 35283, Stop: 35774, Start Num: 17

Candidate Starts for Spooky_49:

(Start: 17 @35283 has 2 MA's), (24, 35316), (28, 35364), (29, 35367), (32, 35403), (33, 35412), (38, 35436), (39, 35439), (41, 35463), (53, 35586), (55, 35610), (56, 35619), (70, 35742), (71, 35757), (72, 35763),

Gene: StewieG_65 Start: 41926, Stop: 41465, Start Num: 16

Candidate Starts for StewieG_65:

(Start: 16 @41926 has 72 MA's), (28, 41851), (48, 41701), (49, 41692), (50, 41659), (59, 41578), (63, 41530), (65, 41518),

Gene: Sumter_67 Start: 45529, Stop: 45068, Start Num: 16

Candidate Starts for Sumter_67:

(Start: 16 @45529 has 72 MA's), (28, 45454), (48, 45304), (49, 45295), (50, 45262), (59, 45181), (63, 45133), (65, 45121),

Gene: Thor_73 Start: 45850, Stop: 45389, Start Num: 16

Candidate Starts for Thor_73:

(Start: 16 @45850 has 72 MA's), (28, 45775), (35, 45724), (48, 45625), (49, 45616), (50, 45583), (63, 45454), (65, 45442),

Gene: Tripl3t_74 Start: 47802, Stop: 47341, Start Num: 16

Candidate Starts for Tripl3t_74:

(Start: 16 @47802 has 72 MA's), (28, 47727), (48, 47577), (50, 47535), (59, 47454), (63, 47406), (65, 47394),

Gene: Watermelon_73 Start: 46155, Stop: 45694, Start Num: 16

Candidate Starts for Watermelon_73:

(Start: 16 @46155 has 72 MA's), (28, 46080), (48, 45930), (49, 45921), (50, 45888), (59, 45807), (63, 45759), (65, 45747),

Gene: Xincheng_47 Start: 46631, Stop: 46119, Start Num: 11

Candidate Starts for Xincheng_47:

(Start: 11 @46631 has 1 MA's), (45, 46352), (50, 46310), (54, 46268), (55, 46253), (67, 46154),

Gene: Zephyr_73 Start: 45412, Stop: 44951, Start Num: 16

Candidate Starts for Zephyr_73:

(Start: 16 @45412 has 72 MA's), (28, 45337), (48, 45187), (50, 45145), (59, 45064), (63, 45016), (65, 45004),