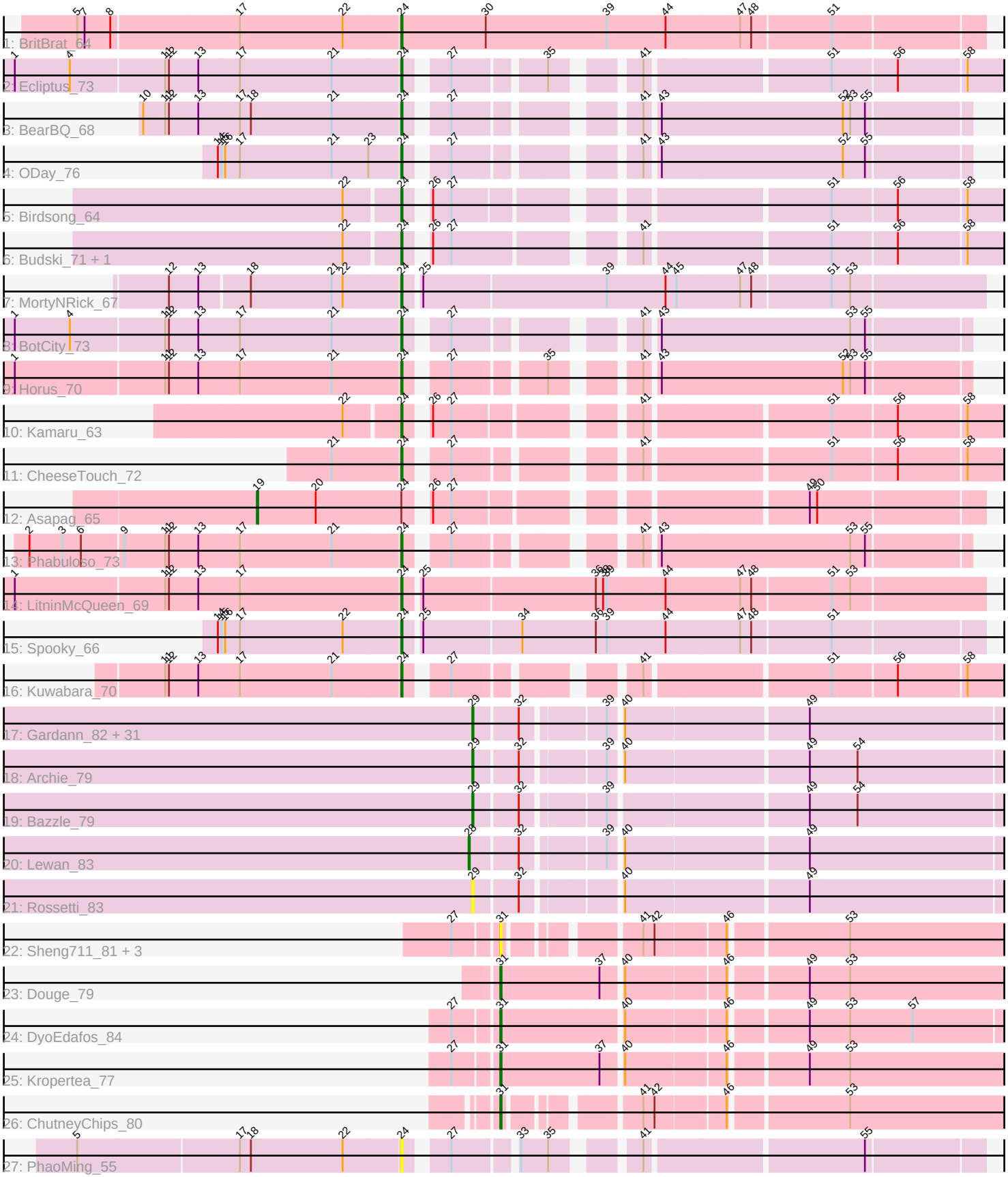
Pham 347628


1: BritBrat_64
2: Ecliptus_73
3: BearBQ_68
4: ODay_76
5: Birdsong_64
6: Budski_71 + 1
7: MortyNRick_67
8: BotCity_73
9: Horus_70
10: Kamaru_63
11: CheeseTouch_72
12: Asapag_65
13: Phabuloso_73
14: LitninMcQueen_69
15: Spooky_66
16: Kuwabara_70
17: Gardann_82 + 31
18: Archie_79
19: Bazzle_79
20: Lewan_83
21: Rossetti_83
22: Sheng711_81 + 3
23: Douge_79
24: DyoEdafos_84
25: Kropertea_77
26: ChutneyChips_80
27: PhaoMing_55

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 347628 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347628 has 62 members, 13 are drafts.

Phages represented in each track:
• Track 1 : BritBrat_64
• Track 2 : Ecliptus_73
• Track 3 : BearBQ_68
• Track 4 : ODay_76
• Track 5 : Birdsong_64
• Track 6 : Budski_71, Whitney_66
• Track 7 : MortyNRick_67
• Track 8 : BotCity_73
• Track 9 : Horus_70
• Track 10 : Kamaru_63
• Track 11 : CheeseTouch_72
• Track 12 : Asapag_65
• Track 13 : Phabuloso_73
• Track 14 : LitninMcQueen_69
• Track 15 : Spooky_66
• Track 16 : Kuwabara_70
• Track 17 : Gardann_82, Nicholasp3_82, Itos_81, Hiraya_82, Winky_82, Crossroads_82, Rumpelstiltskin_79, Faith1_82, GuuelaD_80, Vetrix_81, Miley16_82, SoJulia_84, Soap141_82, Sarshaun_83, BobsGarage_82, Wilder_83, Loadrie_81, Netyap_83, MkaliMitinis3_83, Molivier_74, Gabriela_81, Underpass_73, Lynnae_84, Breezona_82, Kahlid_82, DrSeegs_82, Zakai_83, OverPar_83, BigCheese_82, LilDestine_81, ChengKai98_82, Wigglewiggle_81
• Track 18 : Archie_79
• Track 19 : Bazzle_79
• Track 20 : Lewan_83
• Track 21 : Rossetti_83
• Track 22 : Sheng711_81, BrainDrainer_80, PYPDinur_79, Douzhi_80
• Track 23 : Douge_79
• Track 24 : DyoEdafos_84
• Track 25 : Kropertea_77
• Track 26 : ChutneyChips_80
• Track 27 : PhaoMing_55

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

The start number called the most often in the published annotations is 29, it was called in 27 of the 49 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Archie_79, Bazzle_79, BigCheese_82, BobsGarage_82, Breezona_82, ChengKai98_82, Crossroads_82, DrSeegs_82, Faith1_82, Gabriela_81, Gardann_82, GuuelaD_80, Hiraya_82, Itos_81, Kahlid_82, LilDestine_81, Loadrie_81, Lynnae_84, Miley16_82, MkaliMitinis3_83, Molivier_74, Netyap_83, Nicholasp3_82, OverPar_83, Rossetti_83, Rumpelstiltskin_79, Sarshaun_83, SoJulia_84, Soap141_82, Underpass_73, Vetrix_81, Wigglewiggle_81, Wilder_83, Winky_82, Zakai_83,

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

Genes that do not have the "Most Annotated" start:
• Asapag_65, BearBQ_68, Birdsong_64, BotCity_73, BrainDrainer_80, BritBrat_64, Budski_71, CheeseTouch_72, ChutneyChips_80, Douge_79, Douzhi_80, DyoEdafos_84, Ecliptus_73, Horus_70, Kamaru_63, Kropertea_77, Kuwabara_70, Lewan_83, LitninMcQueen_69, MortyNRick_67, ODay_76, PYPDinur_79, Phabuloso_73, PhaoMing_55, Sheng711_81, Spooky_66, Whitney_66,

Summary by start number:

Start 19:
• Found in 1 of 62 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 49
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Asapag_65 (DN1),

Start 24:
• Found in 18 of 62 (29.0%) of genes in pham
• Manual Annotations of this start: 16 of 49
• Called 94.4% of time when present
• Phage (with cluster) where this start called: BearBQ_68 (DN), Birdsong_64 (DN), BotCity_73 (DN), BritBrat_64 (CY2), Budski_71 (DN), CheeseTouch_72 (DN1), Ecliptus_73 (DN), Horus_70 (DN1), Kamaru_63 (DN1), Kuwabara_70 (DN4), LitninMcQueen_69 (DN1), MortyNRick_67 (DN), ODay_76 (DN), Phabuloso_73 (DN1), PhaoMing_55 (UNK), Spooky_66 (DN2), Whitney_66 (DN1),

Start 28:
• Found in 1 of 62 (1.6%) of genes in pham
• Manual Annotations of this start: 1 of 49
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Lewan_83 (L2),

Start 29:
• Found in 35 of 62 (56.5%) of genes in pham
• Manual Annotations of this start: 27 of 49
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Archie_79 (L2), Bazzle_79 (L2), BigCheese_82 (L2), BobsGarage_82 (L2), Breezona_82 (L2), ChengKai98_82 (L2), Crossroads_82 (L2), DrSeegs_82 (L2), Faith1_82 (L2), Gabriela_81 (L2),

Gardann_82 (L2), GuuelaD_80 (L2), Hiraya_82 (L2), Itos_81 (L2), Kahlid_82 (L2), LilDestine_81 (L2), Loadrie_81 (L2), Lynnae_84 (L2), Miley16_82 (L2), MkaliMitinis3_83 (L2), Molivier_74 (L2), Netyap_83 (L2), Nicholasp3_82 (L2), OverPar_83 (L2), Rossetti_83 (L2), Rumpelstiltskin_79 (L2), Sarshaun_83 (L2), SoJulia_84 (L2), Soap141_82 (L2), Underpass_73 (L2), Vetrix_81 (L2), Wigglewiggle_81 (L2), Wilder_83 (L2), Winky_82 (L2), Zakai_83 (L2),

Start 31:
• Found in 8 of 62 (12.9%) of genes in pham
• Manual Annotations of this start: 4 of 49
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BrainDrainer_80 (L4), ChutneyChips_80 (L4), Douge_79 (L4), Douzhi_80 (L4), DyoEdafos_84 (L4), Kropertea_77 (L4), PYPDinur_79 (L4), Sheng711_81 (L4),

Summary by clusters:

There are 8 clusters represented in this pham: DN, CY2, DN4, L4, DN1, DN2, L2, UNK,

Info for manual annotations of cluster CY2:
•Start number 24 was manually annotated 1 time for cluster CY2.

Info for manual annotations of cluster DN:
•Start number 24 was manually annotated 7 times for cluster DN.

Info for manual annotations of cluster DN1:
•Start number 19 was manually annotated 1 time for cluster DN1.
•Start number 24 was manually annotated 6 times for cluster DN1.

Info for manual annotations of cluster DN2:
•Start number 24 was manually annotated 1 time for cluster DN2.

Info for manual annotations of cluster DN4:
•Start number 24 was manually annotated 1 time for cluster DN4.

Info for manual annotations of cluster L2:
•Start number 28 was manually annotated 1 time for cluster L2.
•Start number 29 was manually annotated 27 times for cluster L2.

Info for manual annotations of cluster L4:
•Start number 31 was manually annotated 4 times for cluster L4.

Gene Information:

Gene: Archie_79 Start: 53799, Stop: 54203, Start Num: 29
Candidate Starts for Archie_79:
(Start: 29 @53799 has 27 MA's), (32, 53832), (39, 53892), (40, 53901), (49, 54045), (54, 54084),

Gene: Asapag_65 Start: 39896, Stop: 40423, Start Num: 19

Candidate Starts for Asapag_65:
(Start: 19 @39896 has 1 MA's), (20, 39944), (Start: 24 @40013 has 16 MA's), (26, 40025), (27, 40040), (49, 40286), (50, 40292),

Gene: Bazzle_79 Start: 53988, Stop: 54392, Start Num: 29
Candidate Starts for Bazzle_79:
(Start: 29 @53988 has 27 MA's), (32, 54021), (39, 54081), (49, 54234), (54, 54273),

Gene: BearBQ_68 Start: 43140, Stop: 43541, Start Num: 24
Candidate Starts for BearBQ_68:
(10, 42933), (11, 42951), (12, 42954), (13, 42978), (17, 43011), (18, 43020), (21, 43086), (Start: 24 @43140 has 16 MA's), (27, 43167), (41, 43287), (43, 43296), (52, 43443), (53, 43449), (55, 43461),

Gene: BigCheese_82 Start: 54215, Stop: 54619, Start Num: 29
Candidate Starts for BigCheese_82:
(Start: 29 @54215 has 27 MA's), (32, 54248), (39, 54308), (40, 54317), (49, 54461),

Gene: Birdsong_64 Start: 39677, Stop: 40105, Start Num: 24
Candidate Starts for Birdsong_64:
(22, 39638), (Start: 24 @39677 has 16 MA's), (26, 39689), (27, 39704), (51, 39968), (56, 40019), (58, 40073),

Gene: BobsGarage_82 Start: 54215, Stop: 54619, Start Num: 29
Candidate Starts for BobsGarage_82:
(Start: 29 @54215 has 27 MA's), (32, 54248), (39, 54308), (40, 54317), (49, 54461),

Gene: BotCity_73 Start: 43376, Stop: 43777, Start Num: 24
Candidate Starts for BotCity_73:
(1, 43067), (4, 43112), (11, 43187), (12, 43190), (13, 43214), (17, 43247), (21, 43322), (Start: 24 @43376 has 16 MA's), (27, 43403), (41, 43523), (43, 43532), (53, 43685), (55, 43697),

Gene: BrainDrainer_80 Start: 53020, Stop: 53388, Start Num: 31
Candidate Starts for BrainDrainer_80:
(27, 52987), (Start: 31 @53020 has 4 MA's), (41, 53107), (42, 53116), (46, 53170), (53, 53260),

Gene: Breezona_82 Start: 54215, Stop: 54619, Start Num: 29
Candidate Starts for Breezona_82:
(Start: 29 @54215 has 27 MA's), (32, 54248), (39, 54308), (40, 54317), (49, 54461),

Gene: BritBrat_64 Start: 42558, Stop: 43025, Start Num: 24
Candidate Starts for BritBrat_64:
(5, 42300), (7, 42306), (8, 42327), (17, 42429), (22, 42513), (Start: 24 @42558 has 16 MA's), (30, 42627), (39, 42726), (44, 42774), (47, 42834), (48, 42843), (51, 42906),

Gene: Budski_71 Start: 41798, Stop: 42229, Start Num: 24
Candidate Starts for Budski_71:
(22, 41759), (Start: 24 @41798 has 16 MA's), (26, 41810), (27, 41825), (41, 41951), (51, 42092), (56, 42143), (58, 42197),

Gene: CheeseTouch_72 Start: 38570, Stop: 38995, Start Num: 24
Candidate Starts for CheeseTouch_72:
(21, 38516), (Start: 24 @38570 has 16 MA's), (27, 38597), (41, 38717), (51, 38858), (56, 38909), (58, 38963),

Gene: ChengKai98_82 Start: 54052, Stop: 54456, Start Num: 29
Candidate Starts for ChengKai98_82:
(Start: 29 @54052 has 27 MA's), (32, 54085), (39, 54145), (40, 54154), (49, 54298),

Gene: ChutneyChips_80 Start: 52991, Stop: 53359, Start Num: 31
Candidate Starts for ChutneyChips_80:
(Start: 31 @52991 has 4 MA's), (41, 53078), (42, 53087), (46, 53141), (53, 53231),

Gene: Crossroads_82 Start: 54290, Stop: 54694, Start Num: 29
Candidate Starts for Crossroads_82:
(Start: 29 @54290 has 27 MA's), (32, 54323), (39, 54383), (40, 54392), (49, 54536),

Gene: Douge_79 Start: 52584, Stop: 52973, Start Num: 31
Candidate Starts for Douge_79:
(Start: 31 @52584 has 4 MA's), (37, 52662), (40, 52677), (46, 52755), (49, 52812), (53, 52845),

Gene: Douzhi_80 Start: 52837, Stop: 53205, Start Num: 31
Candidate Starts for Douzhi_80:
(27, 52804), (Start: 31 @52837 has 4 MA's), (41, 52924), (42, 52933), (46, 52987), (53, 53077),

Gene: DrSeegs_82 Start: 54215, Stop: 54619, Start Num: 29
Candidate Starts for DrSeegs_82:
(Start: 29 @54215 has 27 MA's), (32, 54248), (39, 54308), (40, 54317), (49, 54461),

Gene: DyoEdafos_84 Start: 53485, Stop: 53871, Start Num: 31
Candidate Starts for DyoEdafos_84:
(27, 53452), (Start: 31 @53485 has 4 MA's), (40, 53578), (46, 53656), (49, 53713), (53, 53746), (57, 53797),

Gene: Ecliptus_73 Start: 43891, Stop: 44316, Start Num: 24
Candidate Starts for Ecliptus_73:
(1, 43582), (4, 43627), (11, 43702), (12, 43705), (13, 43729), (17, 43762), (21, 43837), (Start: 24 @43891 has 16 MA's), (27, 43918), (35, 43984), (41, 44038), (51, 44179), (56, 44230), (58, 44284),

Gene: Faith1_82 Start: 54215, Stop: 54619, Start Num: 29
Candidate Starts for Faith1_82:
(Start: 29 @54215 has 27 MA's), (32, 54248), (39, 54308), (40, 54317), (49, 54461),

Gene: Gabriela_81 Start: 53561, Stop: 53965, Start Num: 29
Candidate Starts for Gabriela_81:
(Start: 29 @53561 has 27 MA's), (32, 53594), (39, 53654), (40, 53663), (49, 53807),

Gene: Gardann_82 Start: 54050, Stop: 54454, Start Num: 29
Candidate Starts for Gardann_82:
(Start: 29 @54050 has 27 MA's), (32, 54083), (39, 54143), (40, 54152), (49, 54296),

Gene: GuuelaD_80 Start: 54330, Stop: 54740, Start Num: 29
Candidate Starts for GuuelaD_80:
(Start: 29 @54330 has 27 MA's), (32, 54363), (39, 54423), (40, 54432), (49, 54576),

Gene: Hiraya_82 Start: 54087, Stop: 54491, Start Num: 29
Candidate Starts for Hiraya_82:

(Start: 29 @54087 has 27 MA's), (32, 54120), (39, 54180), (40, 54189), (49, 54333),

Gene: Horus_70 Start: 43096, Stop: 43497, Start Num: 24
Candidate Starts for Horus_70:
(1, 42787), (11, 42907), (12, 42910), (13, 42934), (17, 42967), (21, 43042), (Start: 24 @43096 has 16 MA's), (27, 43123), (35, 43189), (41, 43243), (43, 43252), (52, 43399), (53, 43405), (55, 43417),

Gene: Itos_81 Start: 53121, Stop: 53525, Start Num: 29
Candidate Starts for Itos_81:
(Start: 29 @53121 has 27 MA's), (32, 53154), (39, 53214), (40, 53223), (49, 53367),

Gene: Kahlid_82 Start: 54221, Stop: 54631, Start Num: 29
Candidate Starts for Kahlid_82:
(Start: 29 @54221 has 27 MA's), (32, 54254), (39, 54314), (40, 54323), (49, 54467),

Gene: Kamaru_63 Start: 39862, Stop: 40290, Start Num: 24
Candidate Starts for Kamaru_63:
(22, 39823), (Start: 24 @39862 has 16 MA's), (26, 39874), (27, 39889), (41, 40012), (51, 40153), (56, 40204), (58, 40258),

Gene: Kropertea_77 Start: 52767, Stop: 53156, Start Num: 31
Candidate Starts for Kropertea_77:
(27, 52734), (Start: 31 @52767 has 4 MA's), (37, 52845), (40, 52860), (46, 52938), (49, 52995), (53, 53028),

Gene: Kuwabara_70 Start: 43219, Stop: 43644, Start Num: 24
Candidate Starts for Kuwabara_70:
(11, 43030), (12, 43033), (13, 43057), (17, 43090), (21, 43165), (Start: 24 @43219 has 16 MA's), (27, 43246), (41, 43366), (51, 43507), (56, 43558), (58, 43612),

Gene: Lewan_83 Start: 54273, Stop: 54686, Start Num: 28
Candidate Starts for Lewan_83:
(Start: 28 @54273 has 1 MA's), (32, 54309), (39, 54369), (40, 54378), (49, 54522),

Gene: LilDestine_81 Start: 54125, Stop: 54535, Start Num: 29
Candidate Starts for LilDestine_81:
(Start: 29 @54125 has 27 MA's), (32, 54158), (39, 54218), (40, 54227), (49, 54371),

Gene: LitninMcQueen_69 Start: 42046, Stop: 42507, Start Num: 24
Candidate Starts for LitninMcQueen_69:
(1, 41737), (11, 41857), (12, 41860), (13, 41884), (17, 41917), (Start: 24 @42046 has 16 MA's), (25, 42058), (36, 42196), (38, 42202), (39, 42205), (44, 42253), (47, 42313), (48, 42322), (51, 42385), (53, 42400),

Gene: Loadrie_81 Start: 54300, Stop: 54710, Start Num: 29
Candidate Starts for Loadrie_81:
(Start: 29 @54300 has 27 MA's), (32, 54333), (39, 54393), (40, 54402), (49, 54546),

Gene: Lynnae_84 Start: 54233, Stop: 54643, Start Num: 29
Candidate Starts for Lynnae_84:
(Start: 29 @54233 has 27 MA's), (32, 54266), (39, 54326), (40, 54335), (49, 54479),

Gene: Miley16_82 Start: 54215, Stop: 54619, Start Num: 29

Candidate Starts for Miley16_82:
(Start: 29 @54215 has 27 MA's), (32, 54248), (39, 54308), (40, 54317), (49, 54461),

Gene: MkaliMitinis3_83 Start: 54284, Stop: 54694, Start Num: 29
Candidate Starts for MkaliMitinis3_83:
(Start: 29 @54284 has 27 MA's), (32, 54317), (39, 54377), (40, 54386), (49, 54530),

Gene: Molivier_74 Start: 49082, Stop: 49486, Start Num: 29
Candidate Starts for Molivier_74:
(Start: 29 @49082 has 27 MA's), (32, 49115), (39, 49175), (40, 49184), (49, 49328),

Gene: MortyNRick_67 Start: 43266, Stop: 43727, Start Num: 24
Candidate Starts for MortyNRick_67:
(12, 43083), (13, 43107), (18, 43146), (21, 43212), (22, 43221), (Start: 24 @43266 has 16 MA's), (25, 43278), (39, 43425), (44, 43473), (45, 43482), (47, 43533), (48, 43542), (51, 43605), (53, 43620),

Gene: Netyap_83 Start: 54216, Stop: 54620, Start Num: 29
Candidate Starts for Netyap_83:
(Start: 29 @54216 has 27 MA's), (32, 54249), (39, 54309), (40, 54318), (49, 54462),

Gene: Nicholasp3_82 Start: 54050, Stop: 54454, Start Num: 29
Candidate Starts for Nicholasp3_82:
(Start: 29 @54050 has 27 MA's), (32, 54083), (39, 54143), (40, 54152), (49, 54296),

Gene: ODay_76 Start: 44332, Stop: 44733, Start Num: 24
Candidate Starts for ODay_76:
(14, 44185), (15, 44188), (16, 44191), (17, 44203), (21, 44278), (23, 44308), (Start: 24 @44332 has 16 MA's), (27, 44359), (41, 44479), (43, 44488), (52, 44635), (55, 44653),

Gene: OverPar_83 Start: 54300, Stop: 54710, Start Num: 29
Candidate Starts for OverPar_83:
(Start: 29 @54300 has 27 MA's), (32, 54333), (39, 54393), (40, 54402), (49, 54546),

Gene: PYPDinur_79 Start: 53272, Stop: 53640, Start Num: 31
Candidate Starts for PYPDinur_79:
(27, 53239), (Start: 31 @53272 has 4 MA's), (41, 53359), (42, 53368), (46, 53422), (53, 53512),

Gene: Phabuloso_73 Start: 42594, Stop: 42995, Start Num: 24
Candidate Starts for Phabuloso_73:
(2, 42297), (3, 42324), (6, 42339), (9, 42372), (11, 42405), (12, 42408), (13, 42432), (17, 42465), (21, 42540), (Start: 24 @42594 has 16 MA's), (27, 42621), (41, 42741), (43, 42750), (53, 42903), (55, 42915),

Gene: PhaoMing_55 Start: 38362, Stop: 38769, Start Num: 24
Candidate Starts for PhaoMing_55:
(5, 38104), (17, 38233), (18, 38242), (22, 38317), (Start: 24 @38362 has 16 MA's), (27, 38389), (33, 38434), (35, 38455), (41, 38509), (55, 38677),

Gene: Rossetti_83 Start: 54624, Stop: 55034, Start Num: 29
Candidate Starts for Rossetti_83:
(Start: 29 @54624 has 27 MA's), (32, 54657), (40, 54726), (49, 54870),

Gene: Rumpelstiltskin_79 Start: 53843, Stop: 54247, Start Num: 29

Candidate Starts for Rumpelstiltskin_79:
(Start: 29 @53843 has 27 MA's), (32, 53876), (39, 53936), (40, 53945), (49, 54089),

Gene: Sarshaun_83 Start: 54308, Stop: 54712, Start Num: 29
Candidate Starts for Sarshaun_83:
(Start: 29 @54308 has 27 MA's), (32, 54341), (39, 54401), (40, 54410), (49, 54554),

Gene: Sheng711_81 Start: 52906, Stop: 53274, Start Num: 31
Candidate Starts for Sheng711_81:
(27, 52873), (Start: 31 @52906 has 4 MA's), (41, 52993), (42, 53002), (46, 53056), (53, 53146),

Gene: SoJulia_84 Start: 55376, Stop: 55780, Start Num: 29
Candidate Starts for SoJulia_84:
(Start: 29 @55376 has 27 MA's), (32, 55409), (39, 55469), (40, 55478), (49, 55622),

Gene: Soap141_82 Start: 54308, Stop: 54712, Start Num: 29
Candidate Starts for Soap141_82:
(Start: 29 @54308 has 27 MA's), (32, 54341), (39, 54401), (40, 54410), (49, 54554),

Gene: Spooky_66 Start: 41203, Stop: 41661, Start Num: 24
Candidate Starts for Spooky_66:
(14, 41056), (15, 41059), (16, 41062), (17, 41074), (22, 41158), (Start: 24 @41203 has 16 MA's), (25, 41215), (34, 41293), (36, 41353), (39, 41362), (44, 41410), (47, 41470), (48, 41479), (51, 41542),

Gene: Underpass_73 Start: 49086, Stop: 49490, Start Num: 29
Candidate Starts for Underpass_73:
(Start: 29 @49086 has 27 MA's), (32, 49119), (39, 49179), (40, 49188), (49, 49332),

Gene: Vetrix_81 Start: 54132, Stop: 54542, Start Num: 29
Candidate Starts for Vetrix_81:
(Start: 29 @54132 has 27 MA's), (32, 54165), (39, 54225), (40, 54234), (49, 54378),

Gene: Whitney_66 Start: 41711, Stop: 42142, Start Num: 24
Candidate Starts for Whitney_66:
(22, 41672), (Start: 24 @41711 has 16 MA's), (26, 41723), (27, 41738), (41, 41864), (51, 42005), (56, 42056), (58, 42110),

Gene: Wigglewiggle_81 Start: 54077, Stop: 54487, Start Num: 29
Candidate Starts for Wigglewiggle_81:
(Start: 29 @54077 has 27 MA's), (32, 54110), (39, 54170), (40, 54179), (49, 54323),

Gene: Wilder_83 Start: 54221, Stop: 54631, Start Num: 29
Candidate Starts for Wilder_83:
(Start: 29 @54221 has 27 MA's), (32, 54254), (39, 54314), (40, 54323), (49, 54467),

Gene: Winky_82 Start: 54215, Stop: 54619, Start Num: 29
Candidate Starts for Winky_82:
(Start: 29 @54215 has 27 MA's), (32, 54248), (39, 54308), (40, 54317), (49, 54461),

Gene: Zakai_83 Start: 54541, Stop: 54951, Start Num: 29
Candidate Starts for Zakai_83:
(Start: 29 @54541 has 27 MA's), (32, 54574), (39, 54634), (40, 54643), (49, 54787),