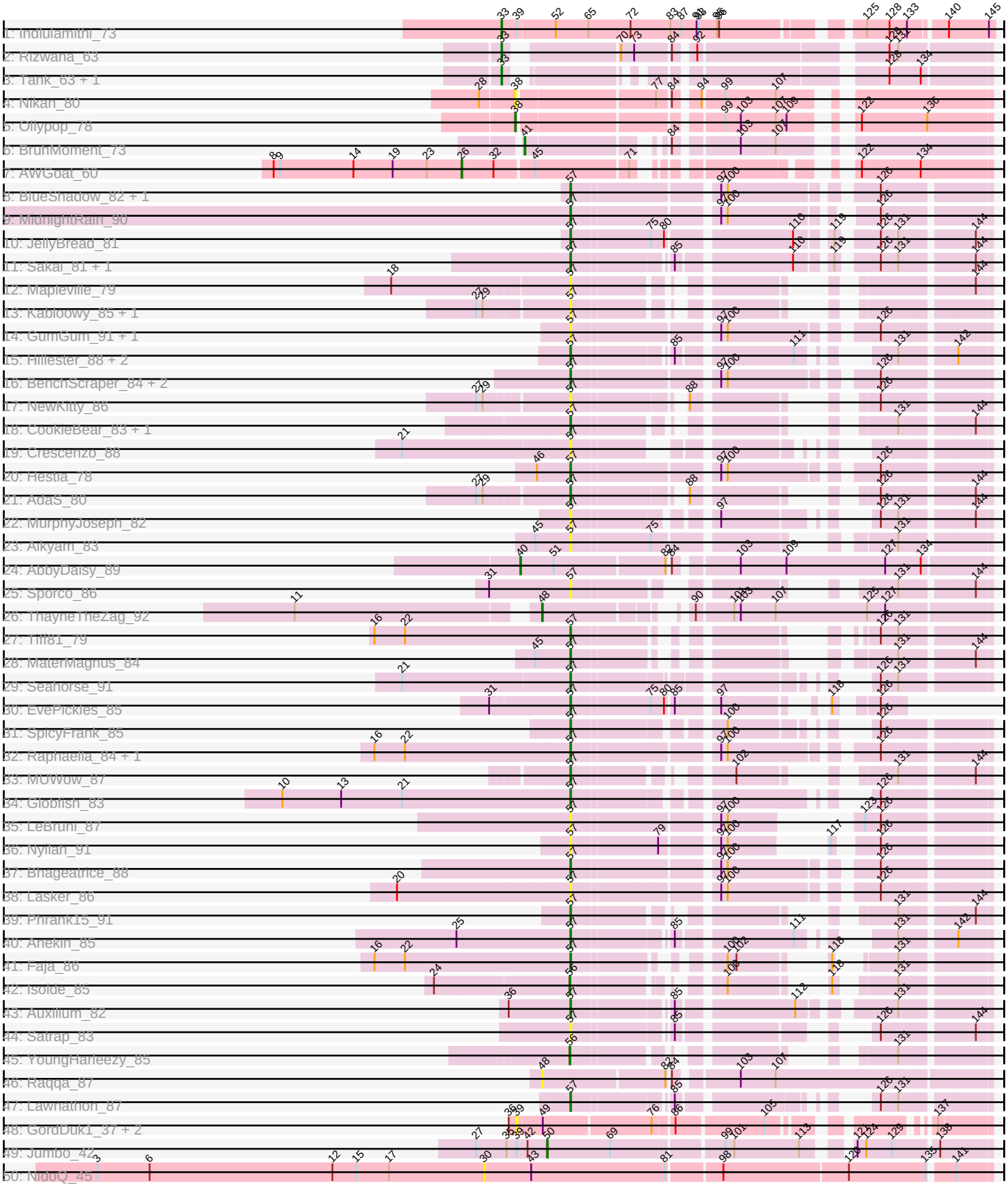
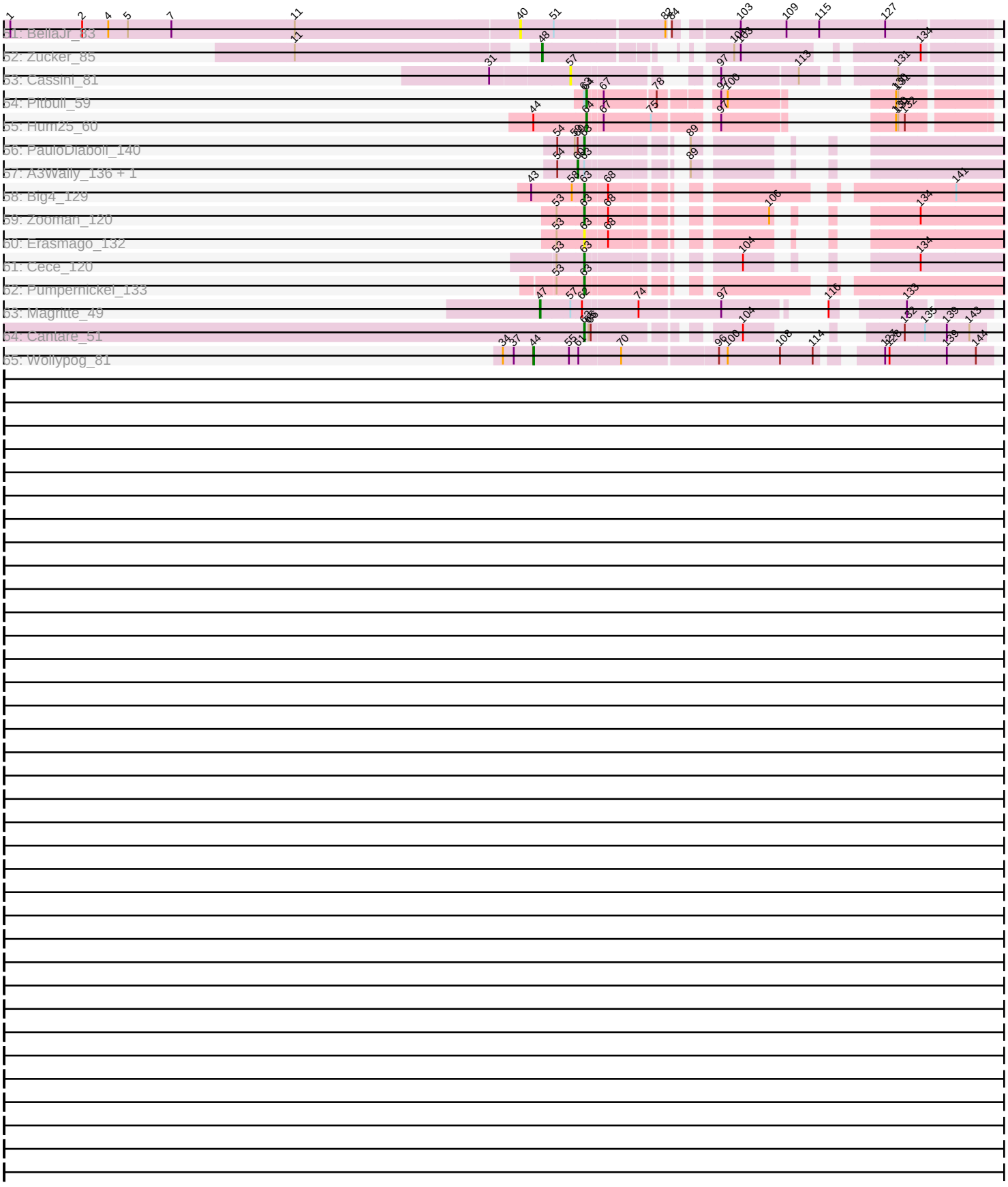
Pham 294663


1: Indulamithi_73
2: Rizwana_63
3: Tank_63 + 1
4: Nikan_80
5: Ollypop_78
6: BrunMoment_73
7: AWGoat_60
8: BlueShadow_82 + 1
9: MidnightRain_90
10: JellyBread_81
11: Sakai_81 + 1
12: Mapleville_79
13: Kabloowy_85 + 1
14: GumGum_91 + 1
15: Hillester_88 + 2
16: BenchScraper_84 + 2
17: NewKitty_86
18: CookieBear_83 + 1
19: Crescenzo_88
20: Hestia_78
21: AdaS_80
22: MurphyJoseph_82
23: Aikyam_83
24: AbbyDaisy_89
25: Sporco_86
26: ThayneTheZag_92
27: Tim81_79
28: MaterMagnus_84
29: Seahorse_91
30: EvePickles_85
31: SpicyFrank_85
32: Raphaella_84 + 1
33: MOWow_87
34: Globfish_83
35: LeBrunt_87
36: Nyllah_91
37: Bhageatrice_88
38: Lasker_86
39: Phrank15_91
40: Anekin_85
41: Faja_86
42: Isolde_85
43: Auxilium_82
44: Satrap_83
45: YoungHarleezy_85
46: Raqqa_87
47: Lawnathon_87
48: GordDuk1_37 + 2
49: Jumbo_42
50: NidoQ_45

Pham 294663


51: BellaJr_83
52: Zucker_85
53: Cassini_81
54: Pitbull_59
55: Rum25_60
56: PauloDiaboli_140
57: A3Wally_136 + 1
58: Big4_129
59: Zooman_120
60: Erasmago_132
61: Cece_120
62: Pumpernickel_133
63: Magritte_49
64: Cantare_51
65: Wollypog_81

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 294663 Report

This analysis was run 04/18/26 on database version 643.

Pham number 294663 has 79 members, 27 are drafts.

Phages represented in each track:
- Track 1 : Indlulamithi_73
- Track 2 : Rizwana_63
- Track 3 : Tank_63, Wilde_65
- Track 4 : Nikan_80
- Track 5 : Ollypop_78
- Track 6 : BruhMoment_73
- Track 7 : AWGoat_60
- Track 8 : BlueShadow_82, BillyTP_85
- Track 9 : MidnightRain_90
- Track 10 : JellyBread_81
- Track 11 : Sakai_81, Gorpy_82
- Track 12 : Mapleville_79
- Track 13 : Kabloowy_85, DarwinJr_89
- Track 14 : GumGum_91, CosmicBrownie_83
- Track 15 : Hillester_88, RadFad_89, BasketStar_84
- Track 16 : BenchScraper_84, Windest_88, Richie_87
- Track 17 : NewKitty_86
- Track 18 : CookieBear_83, SonDevVon_92
- Track 19 : Crescenzo_88
- Track 20 : Hestia_78
- Track 21 : AdaS_80
- Track 22 : MurphyJoseph_82
- Track 23 : Aikyam_83
- Track 24 : AbbyDaisy_89
- Track 25 : Sporco_86
- Track 26 : ThayneTheZag_92
- Track 27 : Tiff81_79
- Track 28 : MaterMagnus_84
- Track 29 : Seahorse_91
- Track 30 : EvePickles_85
- Track 31 : SpicyFrank_85
- Track 32 : Raphaella_84, Vopal_85
- Track 33 : MUWow_87
- Track 34 : Globfish_83
- Track 35 : LeBruni_87
- Track 36 : Nyilah_91
- Track 37 : Bhageatrice_88

• Track 38 : Lasker_86
• Track 39 : Phrank15_91
• Track 40 : Anekin_85
• Track 41 : Faja_86
• Track 42 : Isolde_85
• Track 43 : Auxilium_82
• Track 44 : Satrap_83
• Track 45 : YoungHarleezy_85
• Track 46 : Raqqa_87
• Track 47 : Lawnathon_87
• Track 48 : GordDuk1_37, GordTnk2_37, Gmala1_37
• Track 49 : Jumbo_42
• Track 50 : NidoQ_45
• Track 51 : BellaJr_83
• Track 52 : Zucker_85
• Track 53 : Cassini_81
• Track 54 : Pitbull_59
• Track 55 : Hum25_60
• Track 56 : PauloDiaboli_140
• Track 57 : A3Wally_136, Dodo_139
• Track 58 : Big4_129
• Track 59 : Zooman_120
• Track 60 : Erasmago_132
• Track 61 : Cece_120
• Track 62 : Pumpernickel_133
• Track 63 : Magritte_49
• Track 64 : Cantare_51
• Track 65 : Wollypog_81

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

The start number called the most often in the published annotations is 57, it was called in 28 of the 52 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AdaS_80, Aikyam_83, Anekin_85, Auxilium_82, BasketStar_84, BenchScraper_84, Bhageatrice_88, BillyTP_85, BlueShadow_82, Cassini_81, CookieBear_83, CosmicBrownie_83, Crescenzo_88, DarwinJr_89, EvePickles_85, Faja_86, Globfish_83, Gorpy_82, GumGum_91, Hestia_78, Hillester_88, JellyBread_81, Kabloowy_85, Lasker_86, Lawnathon_87, LeBruni_87, MUWow_87, Mapleville_79, MaterMagnus_84, MidnightRain_90, MurphyJoseph_82, NewKitty_86, Nyilah_91, Phrank15_91, RadFad_89, Raphaella_84, Richie_87, Sakai_81, Satrap_83, Seahorse_91, SonDevVon_92, SpicyFrank_85, Sporco_86, Tiff81_79, Vopal_85, Windest_88,

Genes that have the "Most Annotated" start but do not call it:
• Magritte_49,

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

• A3Wally_136, AWGoat_60, AbbyDaisy_89, BellaJr_83, Big4_129, BruhMoment_73, Cantare_51, Cece_120, Dodo_139, Erasmago_132, Gmala1_37, GordDuk1_37, GordTnk2_37, Hum25_60, Indlulamithi_73, Isolde_85, Jumbo_42, NidoQ_45, Nikan_80, Ollypop_78, PauloDiaboli_140, Pitbull_59, Pumpernickel_133, Raqqa_87, Rizwana_63, Tank_63, ThayneTheZag_92, Wilde_65, Wollypog_81, YoungHarleezy_85, Zooman_120, Zucker_85,

Summary by start number:

Start 26:
• Found in 1 of 79 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AWGoat_60 (AP4),

Start 30:
• Found in 1 of 79 (1.3%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: NidoQ_45 (FA),

Start 33:
• Found in 4 of 79 (5.1%) of genes in pham
• Manual Annotations of this start: 4 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Indlulamithi_73 (AC), Rizwana_63 (AP1), Tank_63 (AP1), Wilde_65 (AP1),

Start 38:
• Found in 2 of 79 (2.5%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Nikan_80 (AP2), Ollypop_78 (AP2),

Start 39:
• Found in 5 of 79 (6.3%) of genes in pham
• No Manual Annotations of this start.
• Called 60.0% of time when present
• Phage (with cluster) where this start called: Gmala1_37 (DF1), GordDuk1_37 (DF1), GordTnk2_37 (DF1),

Start 40:
• Found in 2 of 79 (2.5%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: AbbyDaisy_89 (AY), BellaJr_83 (FN),

Start 41:
• Found in 1 of 79 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: BruhMoment_73 (AP3),

Start 44:
• Found in 2 of 79 (2.5%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 50.0% of time when present
• Phage (with cluster) where this start called: Wollypog_81 (singleton),

Start 47:
• Found in 1 of 79 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Magritte_49 (singleton),

Start 48:
• Found in 3 of 79 (3.8%) of genes in pham
• Manual Annotations of this start: 2 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Raqqa_87 (AY), ThayneTheZag_92 (AY), Zucker_85 (FN),

Start 50:
• Found in 1 of 79 (1.3%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Jumbo_42 (DF3),

Start 56:
• Found in 2 of 79 (2.5%) of genes in pham
• Manual Annotations of this start: 2 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Isolde_85 (AY), YoungHarleezy_85 (AY),

Start 57:
• Found in 47 of 79 (59.5%) of genes in pham
• Manual Annotations of this start: 28 of 52
• Called 97.9% of time when present
• Phage (with cluster) where this start called: AdaS_80 (AY), Aikyam_83 (AY), Anekin_85 (AY), Auxilium_82 (AY), BasketStar_84 (AY), BenchScraper_84 (AY), Bhageatrice_88 (AY), BillyTP_85 (AY), BlueShadow_82 (AY), Cassini_81 (FN), CookieBear_83 (AY), CosmicBrownie_83 (AY), Crescenzo_88 (AY), DarwinJr_89 (AY), EvePickles_85 (AY), Faja_86 (AY), Globfish_83 (AY), Gorpy_82 (AY), GumGum_91 (AY), Hestia_78 (AY), Hillester_88 (AY), JellyBread_81 (AY), Kabloowy_85 (AY), Lasker_86 (AY), Lawnathon_87 (AY), LeBruni_87 (AY), MUWow_87 (AY), Mapleville_79 (AY), MaterMagnus_84 (AY), MidnightRain_90 (AY), MurphyJoseph_82 (AY), NewKitty_86 (AY), Nyilah_91 (AY), Phrank15_91 (AY), RadFad_89 (AY), Raphaella_84 (AY), Richie_87 (AY), Sakai_81 (AY), Satrap_83 (AY), Seahorse_91 (AY), SonDevVon_92 (AY), SpicyFrank_85 (AY), Sporco_86 (AY), Tiff81_79 (AY), Vopal_85 (AY), Windest_88 (AY),

Start 60:
• Found in 3 of 79 (3.8%) of genes in pham
• Manual Annotations of this start: 1 of 52
• Called 66.7% of time when present

• Phage (with cluster) where this start called: A3Wally_136 (GD1), Dodo_139 (GD1),

Start 63:
• Found in 10 of 79 (12.7%) of genes in pham
• Manual Annotations of this start: 6 of 52
• Called 70.0% of time when present
• Phage (with cluster) where this start called: Big4_129 (GD2), Cantare_51 (singleton), Cece_120 (GD3), Erasmago_132 (GD2), PauloDiaboli_140 (GD1), Pumpernickel_133 (GD4), Zooman_120 (GD2),

Start 64:
• Found in 2 of 79 (2.5%) of genes in pham
• Manual Annotations of this start: 2 of 52
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Hum25_60 (FQ), Pitbull_59 (FQ),

Summary by clusters:

There are 16 clusters represented in this pham: FQ, GD2, GD3, GD4, GD1, AP2, AP3, AP1, DF1, AC, AP4, FA, DF3, AY, singleton, FN,

Info for manual annotations of cluster AC:
•Start number 33 was manually annotated 1 time for cluster AC.

Info for manual annotations of cluster AP1:
•Start number 33 was manually annotated 3 times for cluster AP1.

Info for manual annotations of cluster AP2:
•Start number 38 was manually annotated 1 time for cluster AP2.

Info for manual annotations of cluster AP3:
•Start number 41 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AP4:
•Start number 26 was manually annotated 1 time for cluster AP4.

Info for manual annotations of cluster AY:
•Start number 40 was manually annotated 1 time for cluster AY.
•Start number 48 was manually annotated 1 time for cluster AY.
•Start number 56 was manually annotated 2 times for cluster AY.
•Start number 57 was manually annotated 28 times for cluster AY.

Info for manual annotations of cluster DF3:
•Start number 50 was manually annotated 1 time for cluster DF3.

Info for manual annotations of cluster FN:
•Start number 48 was manually annotated 1 time for cluster FN.

Info for manual annotations of cluster FQ:
•Start number 64 was manually annotated 2 times for cluster FQ.

Info for manual annotations of cluster GD1:
•Start number 60 was manually annotated 1 time for cluster GD1.
•Start number 63 was manually annotated 1 time for cluster GD1.

Info for manual annotations of cluster GD2:
•Start number 63 was manually annotated 2 times for cluster GD2.

Info for manual annotations of cluster GD3:
•Start number 63 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:
•Start number 63 was manually annotated 1 time for cluster GD4.

Gene Information:

Gene: A3Wally_136 Start: 86849, Stop: 87247, Start Num: 60
Candidate Starts for A3Wally_136:
(54, 86822), (Start: 60 @86849 has 1 MA's), (Start: 63 @86858 has 6 MA's), (89, 86957),

Gene: AWGoat_60 Start: 44171, Stop: 43587, Start Num: 26
Candidate Starts for AWGoat_60:
(8, 44426), (9, 44417), (14, 44318), (19, 44264), (23, 44219), (Start: 26 @44171 has 1 MA's), (32, 44129), (45, 44078), (71, 43961), (122, 43760), (134, 43682),

Gene: AbbyDaisy_89 Start: 50820, Stop: 51422, Start Num: 40
Candidate Starts for AbbyDaisy_89:
(Start: 40 @50820 has 1 MA's), (51, 50865), (82, 51009), (84, 51012), (103, 51087), (109, 51150), (127, 51285), (134, 51333),

Gene: AdaS_80 Start: 44928, Stop: 45341, Start Num: 57
Candidate Starts for AdaS_80:
(27, 44811), (29, 44820), (Start: 57 @44928 has 28 MA's), (88, 45054), (126, 45204), (144, 45321),

Gene: Aikyam_83 Start: 45953, Stop: 46399, Start Num: 57
Candidate Starts for Aikyam_83:
(45, 45908), (Start: 57 @45953 has 28 MA's), (75, 46055), (131, 46286),

Gene: Anekin_85 Start: 48188, Stop: 48622, Start Num: 57
Candidate Starts for Anekin_85:
(25, 48032), (Start: 57 @48188 has 28 MA's), (85, 48305), (111, 48443), (131, 48509), (142, 48578),

Gene: Auxilium_82 Start: 45357, Stop: 45833, Start Num: 57
Candidate Starts for Auxilium_82:
(36, 45273), (Start: 57 @45357 has 28 MA's), (85, 45474), (112, 45618), (131, 45720),

Gene: BasketStar_84 Start: 47969, Stop: 48403, Start Num: 57
Candidate Starts for BasketStar_84:
(Start: 57 @47969 has 28 MA's), (85, 48086), (111, 48224), (131, 48290), (142, 48359),

Gene: BellaJr_83 Start: 47858, Stop: 48460, Start Num: 40
Candidate Starts for BellaJr_83:

(1, 47168), (2, 47267), (4, 47303), (5, 47330), (7, 47390), (11, 47558), (Start: 40 @47858 has 1 MA's), (51, 47903), (82, 48047), (84, 48050), (103, 48125), (109, 48188), (115, 48233), (127, 48323),

Gene: BenchScraper_84 Start: 46314, Stop: 46808, Start Num: 57
Candidate Starts for BenchScraper_84:
(Start: 57 @46314 has 28 MA's), (97, 46491), (100, 46500), (126, 46671),

Gene: Bhageatrice_88 Start: 50590, Stop: 51084, Start Num: 57
Candidate Starts for Bhageatrice_88:
(Start: 57 @50590 has 28 MA's), (97, 50767), (100, 50776), (126, 50947),

Gene: Big4_129 Start: 85559, Stop: 86026, Start Num: 63
Candidate Starts for Big4_129:
(43, 85493), (58, 85544), (Start: 63 @85559 has 6 MA's), (68, 85589), (141, 85961),

Gene: BillyTP_85 Start: 48420, Stop: 48914, Start Num: 57
Candidate Starts for BillyTP_85:
(Start: 57 @48420 has 28 MA's), (97, 48597), (100, 48606), (126, 48777),

Gene: BlueShadow_82 Start: 47675, Stop: 48169, Start Num: 57
Candidate Starts for BlueShadow_82:
(Start: 57 @47675 has 28 MA's), (97, 47852), (100, 47861), (126, 48032),

Gene: BruhMoment_73 Start: 49223, Stop: 48708, Start Num: 41
Candidate Starts for BruhMoment_73:
(Start: 41 @49223 has 1 MA's), (84, 49073), (103, 48998), (107, 48950),

Gene: Cantare_51 Start: 46110, Stop: 46487, Start Num: 63
Candidate Starts for Cantare_51:
(Start: 63 @46110 has 6 MA's), (65, 46116), (66, 46119), (104, 46278), (132, 46380), (135, 46407), (139, 46437), (143, 46467),

Gene: Cassini_81 Start: 46935, Stop: 47390, Start Num: 57
Candidate Starts for Cassini_81:
(31, 46830), (Start: 57 @46935 has 28 MA's), (97, 47073), (113, 47175), (131, 47277),

Gene: Cece_120 Start: 88234, Stop: 88626, Start Num: 63
Candidate Starts for Cece_120:
(53, 88198), (Start: 63 @88234 has 6 MA's), (104, 88387), (134, 88513),

Gene: CookieBear_83 Start: 46991, Stop: 47392, Start Num: 57
Candidate Starts for CookieBear_83:
(Start: 57 @46991 has 28 MA's), (131, 47279), (144, 47372),

Gene: CosmicBrownie_83 Start: 46516, Stop: 47010, Start Num: 57
Candidate Starts for CosmicBrownie_83:
(Start: 57 @46516 has 28 MA's), (97, 46693), (100, 46702), (126, 46873),

Gene: Crescenzo_88 Start: 49356, Stop: 49757, Start Num: 57
Candidate Starts for Crescenzo_88:
(21, 49128), (Start: 57 @49356 has 28 MA's),

Gene: DarwinJr_89 Start: 49470, Stop: 49871, Start Num: 57

Candidate Starts for DarwinJr_89:
(27, 49353), (29, 49362), (Start: 57 @49470 has 28 MA's),

Gene: Dodo_139 Start: 87192, Stop: 87590, Start Num: 60
Candidate Starts for Dodo_139:
(54, 87165), (Start: 60 @87192 has 1 MA's), (Start: 63 @87201 has 6 MA's), (89, 87300),

Gene: Erasmago_132 Start: 83948, Stop: 84340, Start Num: 63
Candidate Starts for Erasmago_132:
(53, 83912), (Start: 63 @83948 has 6 MA's), (68, 83978),

Gene: EvePickles_85 Start: 48837, Stop: 49178, Start Num: 57
Candidate Starts for EvePickles_85:
(31, 48729), (Start: 57 @48837 has 28 MA's), (75, 48939), (80, 48957), (85, 48966), (97, 49014), (118, 49107), (126, 49143),

Gene: Faja_86 Start: 48359, Stop: 48745, Start Num: 57
Candidate Starts for Faja_86:
(16, 48092), (22, 48134), (Start: 57 @48359 has 28 MA's), (100, 48506), (102, 48518), (118, 48587), (131, 48632),

Gene: Globfish_83 Start: 46114, Stop: 46545, Start Num: 57
Candidate Starts for Globfish_83:
(10, 45718), (13, 45799), (21, 45883), (Start: 57 @46114 has 28 MA's), (126, 46408),

Gene: Gmala1_37 Start: 39458, Stop: 38919, Start Num: 39
Candidate Starts for Gmala1_37:
(36, 39467), (39, 39458), (49, 39425), (76, 39281), (86, 39257), (105, 39143), (137, 38987),

Gene: GordDuk1_37 Start: 39399, Stop: 38860, Start Num: 39
Candidate Starts for GordDuk1_37:
(36, 39408), (39, 39399), (49, 39366), (76, 39222), (86, 39198), (105, 39084), (137, 38928),

Gene: GordTnk2_37 Start: 39365, Stop: 38826, Start Num: 39
Candidate Starts for GordTnk2_37:
(36, 39374), (39, 39365), (49, 39332), (76, 39188), (86, 39164), (105, 39050), (137, 38894),

Gene: Gorpy_82 Start: 48333, Stop: 48809, Start Num: 57
Candidate Starts for Gorpy_82:
(Start: 57 @48333 has 28 MA's), (85, 48450), (110, 48591), (119, 48630), (126, 48672), (131, 48696), (144, 48789),

Gene: GumGum_91 Start: 48480, Stop: 48974, Start Num: 57
Candidate Starts for GumGum_91:
(Start: 57 @48480 has 28 MA's), (97, 48657), (100, 48666), (126, 48837),

Gene: Hestia_78 Start: 45289, Stop: 45783, Start Num: 57
Candidate Starts for Hestia_78:
(46, 45244), (Start: 57 @45289 has 28 MA's), (97, 45466), (100, 45475), (126, 45646),

Gene: Hillester_88 Start: 48096, Stop: 48530, Start Num: 57
Candidate Starts for Hillester_88:
(Start: 57 @48096 has 28 MA's), (85, 48213), (111, 48351), (131, 48417), (142, 48486),

Gene: Hum25_60 Start: 34774, Stop: 35166, Start Num: 64
Candidate Starts for Hum25_60:
(Start: 44 @34702 has 1 MA's), (Start: 64 @34774 has 2 MA's), (67, 34792), (75, 34855), (97, 34930), (130, 35050), (131, 35053), (132, 35062),

Gene: Indlulamithi_73 Start: 51686, Stop: 52294, Start Num: 33
Candidate Starts for Indlulamithi_73:
(Start: 33 @51686 has 4 MA's), (39, 51707), (52, 51758), (65, 51800), (72, 51857), (83, 51911), (87, 51926), (91, 51947), (93, 51950), (95, 51974), (96, 51977), (125, 52136), (128, 52166), (133, 52190), (140, 52235), (145, 52286),

Gene: Isolde_85 Start: 48621, Stop: 49019, Start Num: 56
Candidate Starts for Isolde_85:
(24, 48438), (Start: 56 @48621 has 2 MA's), (100, 48768), (118, 48849), (131, 48906),

Gene: JellyBread_81 Start: 47381, Stop: 47875, Start Num: 57
Candidate Starts for JellyBread_81:
(Start: 57 @47381 has 28 MA's), (75, 47483), (80, 47501), (110, 47657), (119, 47696), (126, 47738), (131, 47762), (144, 47855),

Gene: Jumbo_42 Start: 45467, Stop: 44925, Start Num: 50
Candidate Starts for Jumbo_42:
(27, 45563), (35, 45521), (39, 45509), (42, 45494), (Start: 50 @45467 has 1 MA's), (69, 45380), (99, 45239), (101, 45227), (113, 45140), (121, 45095), (124, 45083), (129, 45050), (138, 44993),

Gene: Kabloowy_85 Start: 48367, Stop: 48768, Start Num: 57
Candidate Starts for Kabloowy_85:
(27, 48250), (29, 48259), (Start: 57 @48367 has 28 MA's),

Gene: Lasker_86 Start: 48414, Stop: 48908, Start Num: 57
Candidate Starts for Lasker_86:
(20, 48180), (Start: 57 @48414 has 28 MA's), (97, 48591), (100, 48600), (126, 48771),

Gene: Lawnathon_87 Start: 47552, Stop: 47980, Start Num: 57
Candidate Starts for Lawnathon_87:
(Start: 57 @47552 has 28 MA's), (85, 47669), (126, 47843), (131, 47867),

Gene: LeBruni_87 Start: 47711, Stop: 48136, Start Num: 57
Candidate Starts for LeBruni_87:
(Start: 57 @47711 has 28 MA's), (97, 47888), (100, 47897), (123, 47978), (126, 47999),

Gene: MUWow_87 Start: 49154, Stop: 49555, Start Num: 57
Candidate Starts for MUWow_87:
(Start: 57 @49154 has 28 MA's), (102, 49316), (131, 49442), (144, 49535),

Gene: Magritte_49 Start: 48175, Stop: 48675, Start Num: 47
Candidate Starts for Magritte_49:
(Start: 47 @48175 has 1 MA's), (Start: 57 @48214 has 28 MA's), (62, 48229), (74, 48301), (97, 48409), (116, 48493), (133, 48571),

Gene: Mapleville_79 Start: 46363, Stop: 46764, Start Num: 57
Candidate Starts for Mapleville_79:

(18, 46129), (Start: 57 @46363 has 28 MA's), (144, 46744),

Gene: MaterMagnus_84 Start: 48125, Stop: 48532, Start Num: 57
Candidate Starts for MaterMagnus_84:
(45, 48080), (Start: 57 @48125 has 28 MA's), (131, 48419), (144, 48512),

Gene: MidnightRain_90 Start: 48881, Stop: 49366, Start Num: 57
Candidate Starts for MidnightRain_90:
(Start: 57 @48881 has 28 MA's), (97, 49058), (100, 49067), (126, 49229),

Gene: MurphyJoseph_82 Start: 46404, Stop: 46835, Start Num: 57
Candidate Starts for MurphyJoseph_82:
(Start: 57 @46404 has 28 MA's), (97, 46560), (126, 46698), (131, 46722), (144, 46815),

Gene: NewKitty_86 Start: 48783, Stop: 49196, Start Num: 57
Candidate Starts for NewKitty_86:
(27, 48666), (29, 48675), (Start: 57 @48783 has 28 MA's), (88, 48909), (126, 49059),

Gene: NidoQ_45 Start: 31597, Stop: 32259, Start Num: 30
Candidate Starts for NidoQ_45:
(3, 31066), (6, 31138), (12, 31390), (15, 31423), (17, 31468), (30, 31597), (43, 31660), (81, 31843), (98, 31912), (120, 32080), (135, 32182), (141, 32212),

Gene: Nikan_80 Start: 49613, Stop: 49059, Start Num: 38
Candidate Starts for Nikan_80:
(28, 49658), (Start: 38 @49613 has 1 MA's), (77, 49439), (84, 49424), (94, 49397), (99, 49370), (107, 49301),

Gene: Nyilah_91 Start: 47700, Stop: 48131, Start Num: 57
Candidate Starts for Nyilah_91:
(Start: 57 @47700 has 28 MA's), (79, 47811), (97, 47877), (100, 47886), (117, 47955), (126, 47994),

Gene: Ollypop_78 Start: 50399, Stop: 49848, Start Num: 38
Candidate Starts for Ollypop_78:
(Start: 38 @50399 has 1 MA's), (99, 50156), (103, 50135), (107, 50087), (109, 50072), (122, 50021), (136, 49934),

Gene: PauloDiaboli_140 Start: 86201, Stop: 86590, Start Num: 63
Candidate Starts for PauloDiaboli_140:
(54, 86165), (59, 86189), (Start: 60 @86192 has 1 MA's), (Start: 63 @86201 has 6 MA's), (89, 86300),

Gene: Phrank15_91 Start: 48788, Stop: 49189, Start Num: 57
Candidate Starts for Phrank15_91:
(Start: 57 @48788 has 28 MA's), (131, 49076), (144, 49169),

Gene: Pitbull_59 Start: 33633, Stop: 34013, Start Num: 64
Candidate Starts for Pitbull_59:
(Start: 63 @33630 has 6 MA's), (Start: 64 @33633 has 2 MA's), (67, 33651), (78, 33717), (97, 33777), (100, 33786), (130, 33897), (131, 33900),

Gene: Pumpernickel_133 Start: 86998, Stop: 87462, Start Num: 63
Candidate Starts for Pumpernickel_133:
(53, 86962), (Start: 63 @86998 has 6 MA's),

Gene: RadFad_89 Start: 48096, Stop: 48530, Start Num: 57
Candidate Starts for RadFad_89:
(Start: 57 @48096 has 28 MA's), (85, 48213), (111, 48351), (131, 48417), (142, 48486),

Gene: Raphaella_84 Start: 46653, Stop: 47147, Start Num: 57
Candidate Starts for Raphaella_84:
(16, 46386), (22, 46428), (Start: 57 @46653 has 28 MA's), (97, 46830), (100, 46839), (126, 47010),

Gene: Raqqa_87 Start: 48508, Stop: 49080, Start Num: 48
Candidate Starts for Raqqa_87:
(Start: 48 @48508 has 2 MA's), (82, 48667), (84, 48670), (103, 48745), (107, 48793),

Gene: Richie_87 Start: 48886, Stop: 49380, Start Num: 57
Candidate Starts for Richie_87:
(Start: 57 @48886 has 28 MA's), (97, 49063), (100, 49072), (126, 49243),

Gene: Rizwana_63 Start: 46128, Stop: 45559, Start Num: 33
Candidate Starts for Rizwana_63:
(Start: 33 @46128 has 4 MA's), (70, 46002), (73, 45984), (84, 45939), (92, 45918), (128, 45690), (131, 45678),

Gene: Sakai_81 Start: 47044, Stop: 47520, Start Num: 57
Candidate Starts for Sakai_81:
(Start: 57 @47044 has 28 MA's), (85, 47161), (110, 47302), (119, 47341), (126, 47383), (131, 47407), (144, 47500),

Gene: Satrap_83 Start: 47191, Stop: 47619, Start Num: 57
Candidate Starts for Satrap_83:
(Start: 57 @47191 has 28 MA's), (85, 47308), (126, 47482), (144, 47599),

Gene: Seahorse_91 Start: 52291, Stop: 52725, Start Num: 57
Candidate Starts for Seahorse_91:
(21, 52063), (Start: 57 @52291 has 28 MA's), (126, 52588), (131, 52612),

Gene: SonDevVon_92 Start: 47989, Stop: 48390, Start Num: 57
Candidate Starts for SonDevVon_92:
(Start: 57 @47989 has 28 MA's), (131, 48277), (144, 48370),

Gene: SpicyFrank_85 Start: 47210, Stop: 47635, Start Num: 57
Candidate Starts for SpicyFrank_85:
(Start: 57 @47210 has 28 MA's), (100, 47375), (126, 47498),

Gene: Sporco_86 Start: 48755, Stop: 49153, Start Num: 57
Candidate Starts for Sporco_86:
(31, 48647), (Start: 57 @48755 has 28 MA's), (131, 49040), (144, 49133),

Gene: Tank_63 Start: 46124, Stop: 45591, Start Num: 33
Candidate Starts for Tank_63:
(Start: 33 @46124 has 4 MA's), (128, 45722), (134, 45680),

Gene: ThayneTheZag_92 Start: 49112, Stop: 49648, Start Num: 48
Candidate Starts for ThayneTheZag_92:

(11, 48812), (Start: 48 @49112 has 2 MA's), (90, 49262), (101, 49307), (103, 49316), (107, 49364), (125, 49487), (127, 49511),

Gene: Tiff81_79 Start: 45794, Stop: 46192, Start Num: 57
Candidate Starts for Tiff81_79:
(16, 45527), (22, 45569), (Start: 57 @45794 has 28 MA's), (126, 46055), (131, 46079),

Gene: Vopal_85 Start: 48719, Stop: 49213, Start Num: 57
Candidate Starts for Vopal_85:
(16, 48452), (22, 48494), (Start: 57 @48719 has 28 MA's), (97, 48896), (100, 48905), (126, 49076),

Gene: Wilde_65 Start: 46423, Stop: 45890, Start Num: 33
Candidate Starts for Wilde_65:
(Start: 33 @46423 has 4 MA's), (128, 46021), (134, 45979),

Gene: Windest_88 Start: 46371, Stop: 46865, Start Num: 57
Candidate Starts for Windest_88:
(Start: 57 @46371 has 28 MA's), (97, 46548), (100, 46557), (126, 46728),

Gene: Wollypog_81 Start: 56236, Stop: 56814, Start Num: 44
Candidate Starts for Wollypog_81:
(34, 56194), (37, 56209), (Start: 44 @56236 has 1 MA's), (55, 56284), (61, 56296), (70, 56350), (96, 56476), (100, 56488), (108, 56560), (114, 56605), (127, 56668), (128, 56674), (139, 56752), (144, 56791),

Gene: YoungHarleezy_85 Start: 48259, Stop: 48660, Start Num: 56
Candidate Starts for YoungHarleezy_85:
(Start: 56 @48259 has 2 MA's), (131, 48547),

Gene: Zooman_120 Start: 82979, Stop: 83374, Start Num: 63
Candidate Starts for Zooman_120:
(53, 82943), (Start: 63 @82979 has 6 MA's), (68, 83009), (106, 83171), (134, 83261),

Gene: Zucker_85 Start: 49487, Stop: 49963, Start Num: 48
Candidate Starts for Zucker_85:
(11, 49187), (Start: 48 @49487 has 2 MA's), (101, 49670), (103, 49679), (134, 49874),