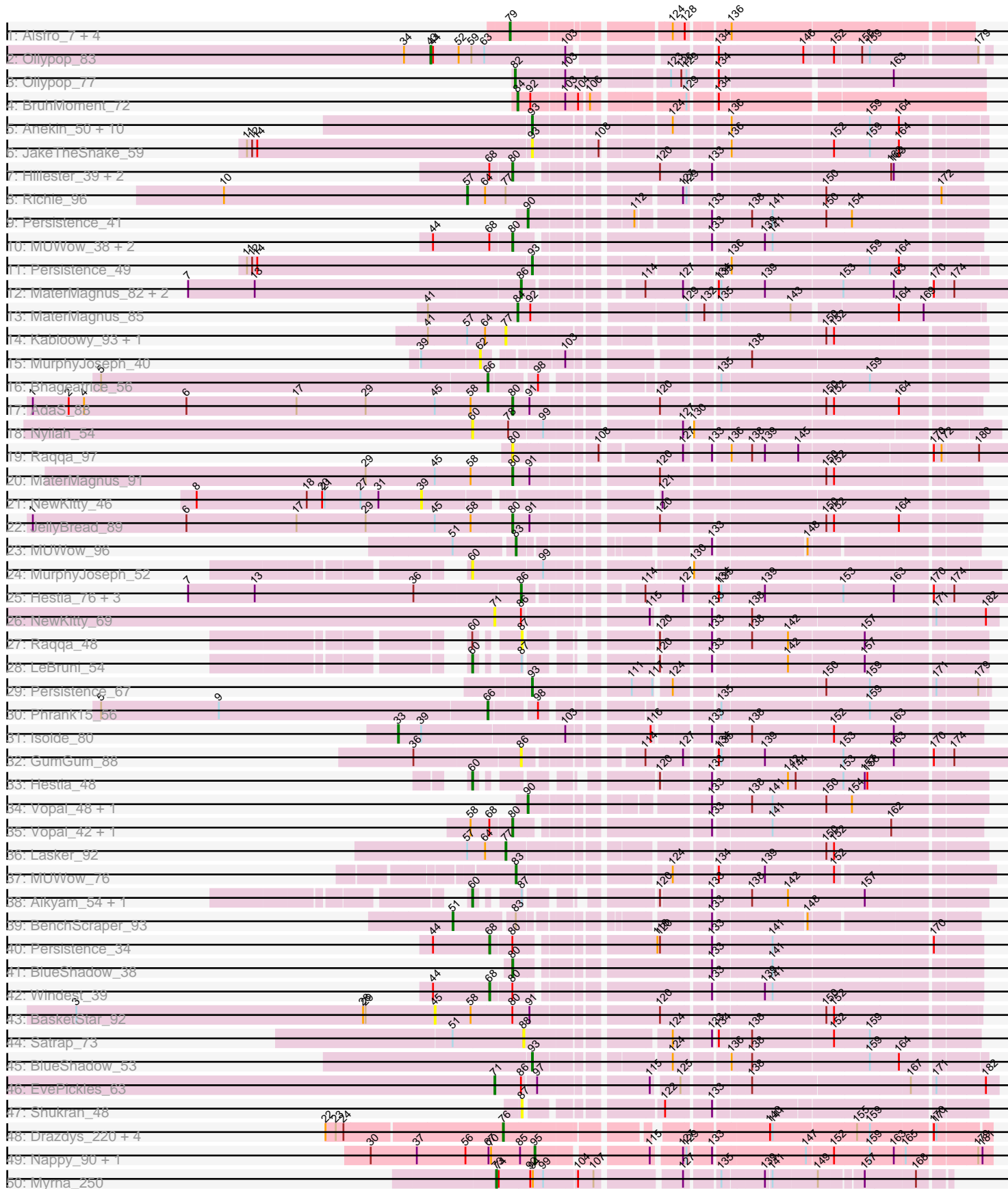


Pham 311335



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 311335 Report

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

Pham number 311335 has 146 members, 29 are drafts.

Phages represented in each track:

- Track 1 : Alsfro_7, Watermelon_6, Trouble_4, Tripl3t_5, Peterson_6
- Track 2 : Ollypop_83
- Track 3 : Ollypop_77
- Track 4 : BruhMoment_72
- Track 5 : Anekin_50, Faja_54, RadFad_57, BenchScraper_52, BillyTP_55, Raqqa_45, Vopal_56, Crescenzo_53, Hillester_57, BasketStar_55, MidnightRain_57
- Track 6 : JakeTheSnake_59
- Track 7 : Hillester_39, RadFad_39, Cassini_30
- Track 8 : Richie_96
- Track 9 : Persistence_41
- Track 10 : MUWow_38, SonDevVon_39, Phrank15_38
- Track 11 : Persistence_49
- Track 12 : MaterMagnus_82, BlueShadow_80, Aikyam_81
- Track 13 : MaterMagnus_85
- Track 14 : Kabloowy_93, JakeTheSnake_97
- Track 15 : MurphyJoseph_40
- Track 16 : Bhageatrice_56
- Track 17 : AdaS_88
- Track 18 : Nyilah_54
- Track 19 : Raqqa_97
- Track 20 : MaterMagnus_91
- Track 21 : NewKitty_46
- Track 22 : JellyBread_89
- Track 23 : MUWow_96
- Track 24 : MurphyJoseph_52
- Track 25 : Hestia_76, BillyTP_83, Lawnathon_84, MurphyJoseph_79
- Track 26 : NewKitty_69
- Track 27 : Raqqa_48
- Track 28 : LeBruni_54
- Track 29 : Persistence_67
- Track 30 : Phrank15_56
- Track 31 : Isolde_80
- Track 32 : GumGum_88
- Track 33 : Hestia_48
- Track 34 : Vopal_48, Tiff81_42
- Track 35 : Vopal_42, BillyTP_41
- Track 36 : Lasker_92

- Track 37 : MUWow_76
- Track 38 : Aikyam_54, MaterMagnus_56
- Track 39 : BenchScraper_93
- Track 40 : Persistence_34
- Track 41 : BlueShadow_38
- Track 42 : Windest_39
- Track 43 : BasketStar_92
- Track 44 : Satrap_73
- Track 45 : BlueShadow_53
- Track 46 : EvePickles_63
- Track 47 : Shukran_48
- Track 48 : Drazdys_220, ShiaLabeouf_219, Nappy_223, Ading_223, Jemmno_221
- Track 49 : Nappy_90, Cane17_77
- Track 50 : Myrna_250
- Track 51 : Faith5x5_46
- Track 52 : SharkTale_7
- Track 53 : ShawBrad_105
- Track 54 : Sisko_10
- Track 55 : Holt_44, Sunshine924_65, Flabslab_17
- Track 56 : DoctorDiddles_43
- Track 57 : Bubbles123_14
- Track 58 : JalFarm20_15, Alexphander_15, Polka14_14, DaWorst_15, OwlsT2W_15, Phasih_14
- Track 59 : Coco12_15, Job42_15, Minnie_14, BuzzLyseyear_15, SuperGrey_14, Violac_14
- Track 60 : Rialto_15, Bobi_15, Wee_14, Sandalphon_14, Phatniss_14, Firehouse51_14, Moonbeam_14
- Track 61 : Cheesepuff_14, Latretium_14
- Track 62 : Doug_14
- Track 63 : Sarge_50
- Track 64 : Sarge_34
- Track 65 : Jinkies_23
- Track 66 : Divya_26
- Track 67 : AirForce1_21
- Track 68 : Bauer_91
- Track 69 : BlackSpider_81
- Track 70 : Cassini_39, MidnightRain_47
- Track 71 : Zucker_62
- Track 72 : Cassini_50, SpicyFrank_59
- Track 73 : Pitbull_27
- Track 74 : Lucky2013_46, Courthouse_46, MiaZeal_46, Ariel_46, Porcelain_45, Superphikiman_46
- Track 75 : Hidrated_47, Bobby_46
- Track 76 : Squint_45
- Track 77 : Murai_54, Corndog_56, Smooch_56, YungJamal_57, Ashwin_55, Vorrips_53, Mori_53
- Track 78 : KingPhillip3_95, Bora_94
- Track 79 : Firecracker_54
- Track 80 : Stellammi_131

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

The start number called the most often in the published annotations is 50, it was called in 20 of the 117 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Alexphander_15, Ariel_46, Bobi_15, Bubbles123_14, Courthouse_46, DaWorst_15, Firehouse51_14, JalFarm20_15, Lucky2013_46, MiaZeal_46, Moonbeam_14, OwlsT2W_15, Phasih_14, Phatniss_14, Polka14_14, Porcelain_45, Rialto_15, Sandalphon_14, Superphikiman_46, Wee_14,

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

- BuzzLyseyear_15, Cheese puff_14, Coco12_15, Doug_14, Job42_15, Latretium_14, Minnie_14, Squint_45, SuperGrey_14, Violac_14,

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

- AdaS_88, Ading_223, Aikyam_54, Aikyam_81, AirForce1_21, Alsfro_7, Anekin_50, Ashwin_55, BasketStar_55, BasketStar_92, Bauer_91, BenchScraper_52, BenchScraper_93, Bhageatrice_56, BillyTP_41, BillyTP_55, BillyTP_83, BlackSpider_81, BlueShadow_38, BlueShadow_53, BlueShadow_80, Bobby_46, Bora_94, BruhMoment_72, Cane17_77, Cassini_30, Cassini_39, Cassini_50, Corndog_56, Crescenzo_53, Divya_26, DoctorDiddles_43, Drazdys_220, EvePickles_63, Faith5x5_46, Faja_54, Firecracker_54, Flabslab_17, GumGum_88, Hestia_48, Hestia_76, Hidrated_47, Hillester_39, Hillester_57, Holt_44, Isolde_80, JakeTheSnake_59, JakeTheSnake_97, JellyBread_89, Jemmno_221, Jinkies_23, Kabloowy_93, KingPhillip3_95, Lasker_92, Lawnathon_84, LeBruni_54, MUWow_38, MUWow_76, MUWow_96, MaterMagnus_56, MaterMagnus_82, MaterMagnus_85, MaterMagnus_91, MidnightRain_47, MidnightRain_57, Mori_53, Murai_54, MurphyJoseph_40, MurphyJoseph_52, MurphyJoseph_79, Myrna_250, Nappy_223, Nappy_90, NewKitty_46, NewKitty_69, Nyilah_54, Ollypop_77, Ollypop_83, Persistence_34, Persistence_41, Persistence_49, Persistence_67, Peterson_6, Phrank15_38, Phrank15_56, Pitbull_27, RadFad_39, RadFad_57, Raqqa_45, Raqqa_48, Raqqa_97, Richie_96, Sarge_34, Sarge_50, Satrap_73, SharkTale_7, ShawBrad_105, ShiaLabeouf_219, Shukran_48, Sisko_10, Smooch_56, SonDevVon_39, SpicyFrank_59, Stellammi_131, Sunshine924_65, Tiff81_42, Tripl3t_5, Trouble_4, Vopal_42, Vopal_48, Vopal_56, Vorrps_53, Watermelon_6, Windest_39, YungJamal_57, Zucker_62,

Summary by start number:

Start 33:

- Found in 1 of 146 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Isolde_80 (AY),

Start 37:

- Found in 6 of 146 (4.1%) of genes in pham
- Manual Annotations of this start: 4 of 117
- Called 66.7% of time when present
- Phage (with cluster) where this start called: DoctorDiddles_43 (E), Flabslab_17 (C1), Holt_44 (E), Sunshine924_65 (A1),

Start 38:

- Found in 1 of 146 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sarge_50 (FB),

Start 39:

- Found in 9 of 146 (6.2%) of genes in pham
- Manual Annotations of this start: 4 of 117
- Called 77.8% of time when present
- Phage (with cluster) where this start called: AirForce1_21 (FL), Cassini_39 (FN), Divya_26 (FL), Jinkies_23 (FL), MidnightRain_47 (AY), NewKitty_46 (AY), ShawBrad_105 (DN1),

Start 40:

- Found in 24 of 146 (16.4%) of genes in pham
- Manual Annotations of this start: 17 of 117
- Called 70.8% of time when present
- Phage (with cluster) where this start called: Ashwin_55 (O), BuzzLyseyear_15 (F1), CheesePuff_14 (F1), Coco12_15 (F1), Corndog_56 (O), Doug_14 (F1), Firecracker_54 (O), Job42_15 (F1), Latretium_14 (F1), Minnie_14 (F1), Mori_53 (O), Murai_54 (O), Smooch_56 (O), SuperGrey_14 (F1), Violac_14 (F1), Vorrps_53 (O), YungJamal_57 (O),

Start 43:

- Found in 1 of 146 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ollypop_83 (AP2),

Start 45:

- Found in 12 of 146 (8.2%) of genes in pham
- No Manual Annotations of this start.
- Called 8.3% of time when present
- Phage (with cluster) where this start called: BasketStar_92 (AY),

Start 46:

- Found in 1 of 146 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Pitbull_27 (FQ1),

Start 50:

- Found in 30 of 146 (20.5%) of genes in pham
- Manual Annotations of this start: 20 of 117
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Alexphander_15 (F1), Ariel_46 (J), Bobi_15 (F1), Bubbles123_14 (F1), Courthouse_46 (J), DaWorst_15 (F1), Firehouse51_14 (F1), JalFarm20_15 (F1), Lucky2013_46 (J), MiaZeal_46 (J), Moonbeam_14 (F1), OwlsT2W_15 (F1), Phasih_14 (F1), Phatniss_14 (F1), Polka14_14 (F1), Porcelain_45 (J), Rialto_15 (F1), Sandalphon_14 (F1), Superphikiman_46 (J), Wee_14 (F1),

Start 51:

- Found in 3 of 146 (2.1%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 33.3% of time when present
- Phage (with cluster) where this start called: BenchScraper_93 (AY),

Start 54:

- Found in 1 of 146 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Sisko_10 (DR),

Start 57:

- Found in 4 of 146 (2.7%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 25.0% of time when present
- Phage (with cluster) where this start called: Richie_96 (AY),

Start 60:

- Found in 7 of 146 (4.8%) of genes in pham
- Manual Annotations of this start: 3 of 117
- Called 85.7% of time when present
- Phage (with cluster) where this start called: Aikyam_54 (AY), Hestia_48 (AY), LeBruni_54 (AY), MaterMagnus_56 (AY), MurphyJoseph_52 (AY), Nyilah_54 (AY),

Start 62:

- Found in 3 of 146 (2.1%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: MurphyJoseph_40 (AY),

Start 66:

- Found in 6 of 146 (4.1%) of genes in pham
- Manual Annotations of this start: 5 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bhageatrice_56 (AY), Bora_94 (O), Cassini_50 (FN), KingPhillip3_95 (O), Phrank15_56 (AY), SpicyFrank_59 (AY),

Start 67:

- Found in 3 of 146 (2.1%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Stellammi_131 (UNK),

Start 68:

- Found in 11 of 146 (7.5%) of genes in pham
- Manual Annotations of this start: 2 of 117
- Called 18.2% of time when present
- Phage (with cluster) where this start called: Persistence_34 (AY), Windest_39 (AY),

Start 71:

- Found in 3 of 146 (2.1%) of genes in pham
- Manual Annotations of this start: 2 of 117
- Called 100.0% of time when present

- Phage (with cluster) where this start called: EvePickles_63 (AY), NewKitty_69 (AY), Zucker_62 (FN),

Start 73:

- Found in 1 of 146 (0.7%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Myrna_250 (C2),

Start 75:

- Found in 9 of 146 (6.2%) of genes in pham
- Manual Annotations of this start: 2 of 117
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Bobby_46 (J), Hidrated_47 (J), Squint_45 (J),

Start 76:

- Found in 5 of 146 (3.4%) of genes in pham
- Manual Annotations of this start: 5 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ading_223 (C1), Drazdys_220 (C1), Jemmno_221 (C1), Nappy_223 (C1), ShiaLabeouf_219 (C1),

Start 77:

- Found in 4 of 146 (2.7%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 75.0% of time when present
- Phage (with cluster) where this start called: JakeTheSnake_97 (AY), Kabloowy_93 (AY), Lasker_92 (AY),

Start 79:

- Found in 5 of 146 (3.4%) of genes in pham
- Manual Annotations of this start: 5 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Alsfro_7 (A1), Peterson_6 (A1), Tripl3t_5 (A1), Trouble_4 (A1), Watermelon_6 (A1),

Start 80:

- Found in 18 of 146 (12.3%) of genes in pham
- Manual Annotations of this start: 11 of 117
- Called 83.3% of time when present
- Phage (with cluster) where this start called: AdaS_88 (AY), Bauer_91 (FN), BillyTP_41 (AY), BlackSpider_81 (FN), BlueShadow_38 (AY), Cassini_30 (FN), Hillester_39 (AY), JellyBread_89 (AY), MUWow_38 (AY), MaterMagnus_91 (AY), Phrank15_38 (AY), RadFad_39 (AY), Raqqa_97 (AY), SonDevVon_39 (AY), Vopal_42 (AY),

Start 82:

- Found in 2 of 146 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Ollypop_77 (AP2), SharkTale_7 (DC1),

Start 83:

- Found in 3 of 146 (2.1%) of genes in pham
- Manual Annotations of this start: 2 of 117
- Called 66.7% of time when present
- Phage (with cluster) where this start called: MUWow_76 (AY), MUWow_96 (AY),

Start 84:

- Found in 2 of 146 (1.4%) of genes in pham
- Manual Annotations of this start: 2 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: BruhMoment_72 (AP3), MaterMagnus_85 (AY),

Start 86:

- Found in 11 of 146 (7.5%) of genes in pham
- Manual Annotations of this start: 5 of 117
- Called 72.7% of time when present
- Phage (with cluster) where this start called: Aikyam_81 (AY), BillyTP_83 (AY), BlueShadow_80 (AY), GumGum_88 (AY), Hestia_76 (AY), Lawnathon_84 (AY), MaterMagnus_82 (AY), MurphyJoseph_79 (AY),

Start 87:

- Found in 6 of 146 (4.1%) of genes in pham
- Manual Annotations of this start: 1 of 117
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Faith5x5_46 (CZ6), Raqqa_48 (AY), Shukran_48 (AY),

Start 88:

- Found in 3 of 146 (2.1%) of genes in pham
- No Manual Annotations of this start.
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Satrap_73 (AY),

Start 90:

- Found in 3 of 146 (2.1%) of genes in pham
- Manual Annotations of this start: 2 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Persistence_41 (AY), Tiff81_42 (AY), Vopal_48 (AY),

Start 93:

- Found in 16 of 146 (11.0%) of genes in pham
- Manual Annotations of this start: 12 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anekin_50 (AY), BasketStar_55 (AY), BenchScraper_52 (AY), BillyTP_55 (AY), BlueShadow_53 (AY), Crescenzo_53 (AY), Faja_54 (AY), Hillester_57 (AY), JakeTheSnake_59 (AY), MidnightRain_57 (AY), Persistence_49 (AY), Persistence_67 (AY), RadFad_57 (AY), Raqqa_45 (AY), Sarge_34 (FB), Vopal_56 (AY),

Start 95:

- Found in 2 of 146 (1.4%) of genes in pham

- Manual Annotations of this start: 2 of 117
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cane17_77 (C1), Nappy_90 (C1),

Summary by clusters:

There are 19 clusters represented in this pham: F1, FQ1, E, AP2, DR, J, CZ6, O, A1, FB, DN1, AP3, AY, C2, C1, UNK, FL, FN, DC1,

Info for manual annotations of cluster A1:

- Start number 37 was manually annotated 1 time for cluster A1.
- Start number 79 was manually annotated 5 times for cluster A1.

Info for manual annotations of cluster AP2:

- Start number 43 was manually annotated 1 time for cluster AP2.
- Start number 82 was manually annotated 1 time for cluster AP2.

Info for manual annotations of cluster AP3:

- Start number 84 was manually annotated 1 time for cluster AP3.

Info for manual annotations of cluster AY:

- Start number 33 was manually annotated 1 time for cluster AY.
- Start number 39 was manually annotated 1 time for cluster AY.
- Start number 51 was manually annotated 1 time for cluster AY.
- Start number 57 was manually annotated 1 time for cluster AY.
- Start number 60 was manually annotated 3 times for cluster AY.
- Start number 66 was manually annotated 3 times for cluster AY.
- Start number 68 was manually annotated 2 times for cluster AY.
- Start number 71 was manually annotated 1 time for cluster AY.
- Start number 77 was manually annotated 1 time for cluster AY.
- Start number 80 was manually annotated 9 times for cluster AY.
- Start number 83 was manually annotated 2 times for cluster AY.
- Start number 84 was manually annotated 1 time for cluster AY.
- Start number 86 was manually annotated 5 times for cluster AY.
- Start number 90 was manually annotated 2 times for cluster AY.
- Start number 93 was manually annotated 11 times for cluster AY.

Info for manual annotations of cluster C1:

- Start number 37 was manually annotated 1 time for cluster C1.
- Start number 76 was manually annotated 5 times for cluster C1.
- Start number 95 was manually annotated 2 times for cluster C1.

Info for manual annotations of cluster C2:

- Start number 73 was manually annotated 1 time for cluster C2.

Info for manual annotations of cluster CZ6:

- Start number 87 was manually annotated 1 time for cluster CZ6.

Info for manual annotations of cluster DR:

- Start number 54 was manually annotated 1 time for cluster DR.

Info for manual annotations of cluster E:

- Start number 37 was manually annotated 2 times for cluster E.

Info for manual annotations of cluster F1:

- Start number 40 was manually annotated 9 times for cluster F1.
- Start number 50 was manually annotated 14 times for cluster F1.

Info for manual annotations of cluster FB:

- Start number 38 was manually annotated 1 time for cluster FB.
- Start number 93 was manually annotated 1 time for cluster FB.

Info for manual annotations of cluster FL:

- Start number 39 was manually annotated 3 times for cluster FL.

Info for manual annotations of cluster FN:

- Start number 71 was manually annotated 1 time for cluster FN.
- Start number 80 was manually annotated 2 times for cluster FN.

Info for manual annotations of cluster FQ1:

- Start number 46 was manually annotated 1 time for cluster FQ1.

Info for manual annotations of cluster J:

- Start number 50 was manually annotated 6 times for cluster J.
- Start number 75 was manually annotated 2 times for cluster J.

Info for manual annotations of cluster O:

- Start number 40 was manually annotated 8 times for cluster O.
- Start number 66 was manually annotated 2 times for cluster O.

Info for manual annotations of cluster UNK:

- Start number 67 was manually annotated 1 time for cluster UNK.

Gene Information:

Gene: AdaS_88 Start: 48513, Stop: 48998, Start Num: 80

Candidate Starts for AdaS_88:

(1, 47952), (2, 47994), (4, 48012), (6, 48132), (17, 48261), (29, 48342), (45, 48423), (58, 48465), (Start: 80 @48513 has 11 MA's), (91, 48531), (120, 48660), (150, 48834), (152, 48843), (164, 48915),

Gene: Ading_223 Start: 126625, Stop: 127119, Start Num: 76

Candidate Starts for Ading_223:

(22, 126424), (23, 126436), (24, 126445), (Start: 76 @126625 has 5 MA's), (140, 126883), (141, 126886), (155, 126979), (159, 126994), (170, 127060), (171, 127063),

Gene: Aikyam_54 Start: 31109, Stop: 31600, Start Num: 60

Candidate Starts for Aikyam_54:

(Start: 60 @31109 has 3 MA's), (Start: 87 @31145 has 1 MA's), (120, 31256), (133, 31307), (138, 31343), (142, 31385), (157, 31469),

Gene: Aikyam_81 Start: 44887, Stop: 45402, Start Num: 86

Candidate Starts for Aikyam_81:

(7, 44503), (13, 44581), (Start: 86 @44887 has 5 MA's), (114, 44995), (127, 45037), (134, 45067), (135, 45070), (139, 45115), (153, 45202), (163, 45259), (170, 45298), (174, 45319),

Gene: AirForce1_21 Start: 17126, Stop: 16560, Start Num: 39

Candidate Starts for AirForce1_21:

(Start: 39 @17126 has 4 MA's), (42, 17117), (55, 17075), (69, 17045), (133, 16829), (138, 16793), (159, 16682),

Gene: Alexphander_15 Start: 9340, Stop: 9879, Start Num: 50

Candidate Starts for Alexphander_15:

(Start: 40 @9319 has 17 MA's), (Start: 50 @9340 has 20 MA's), (101, 9457), (103, 9469), (133, 9601), (150, 9715), (152, 9724),

Gene: Alsfro_7 Start: 2250, Stop: 2729, Start Num: 79

Candidate Starts for Alsfro_7:

(Start: 79 @2250 has 5 MA's), (124, 2409), (128, 2421), (136, 2463),

Gene: Anekin_50 Start: 31927, Stop: 32388, Start Num: 93

Candidate Starts for Anekin_50:

(Start: 93 @31927 has 12 MA's), (124, 32059), (136, 32113), (159, 32266), (164, 32299),

Gene: Ariel_46 Start: 36674, Stop: 37219, Start Num: 50

Candidate Starts for Ariel_46:

(15, 36455), (19, 36512), (31, 36590), (45, 36656), (49, 36671), (Start: 50 @36674 has 20 MA's), (Start: 75 @36731 has 2 MA's), (102, 36788), (133, 36938), (152, 37067), (172, 37175), (174, 37187), (175, 37190),

Gene: Ashwin_55 Start: 26608, Stop: 27207, Start Num: 40

Candidate Starts for Ashwin_55:

(Start: 40 @26608 has 17 MA's), (47, 26623), (110, 26833), (125, 26896), (133, 26926), (139, 26980), (140, 26986), (141, 26989), (152, 27052), (156, 27076),

Gene: BasketStar_92 Start: 50831, Stop: 51406, Start Num: 45

Candidate Starts for BasketStar_92:

(3, 50411), (28, 50747), (29, 50750), (45, 50831), (58, 50873), (Start: 80 @50921 has 11 MA's), (91, 50939), (120, 51068), (150, 51242), (152, 51251),

Gene: BasketStar_55 Start: 32988, Stop: 33449, Start Num: 93

Candidate Starts for BasketStar_55:

(Start: 93 @32988 has 12 MA's), (124, 33120), (136, 33174), (159, 33327), (164, 33360),

Gene: Bauer_91 Start: 48793, Stop: 49275, Start Num: 80

Candidate Starts for Bauer_91:

(59, 48748), (Start: 68 @48769 has 2 MA's), (Start: 80 @48793 has 11 MA's), (127, 48958), (133, 48985), (136, 49000), (138, 49021), (139, 49036), (145, 49075), (170, 49216), (172, 49225),

Gene: BenchScraper_52 Start: 31813, Stop: 32274, Start Num: 93

Candidate Starts for BenchScraper_52:

(Start: 93 @31813 has 12 MA's), (124, 31945), (136, 31999), (159, 32152), (164, 32185),

Gene: BenchScraper_93 Start: 49693, Stop: 50208, Start Num: 51

Candidate Starts for BenchScraper_93:

(Start: 51 @49693 has 1 MA's), (Start: 83 @49759 has 2 MA's), (133, 49933), (148, 50029),

Gene: Bhageatrice_56 Start: 34427, Stop: 34927, Start Num: 66
Candidate Starts for Bhageatrice_56:
(5, 33977), (Start: 66 @34427 has 5 MA's), (98, 34475), (135, 34640), (159, 34802),

Gene: BillyTP_83 Start: 47477, Stop: 47989, Start Num: 86
Candidate Starts for BillyTP_83:
(7, 47093), (13, 47171), (36, 47357), (Start: 86 @47477 has 5 MA's), (114, 47585), (127, 47627), (134, 47657), (135, 47660), (139, 47705), (153, 47792), (163, 47849), (170, 47888), (174, 47909),

Gene: BillyTP_55 Start: 33684, Stop: 34145, Start Num: 93
Candidate Starts for BillyTP_55:
(Start: 93 @33684 has 12 MA's), (124, 33816), (136, 33870), (159, 34023), (164, 34056),

Gene: BillyTP_41 Start: 27467, Stop: 27946, Start Num: 80
Candidate Starts for BillyTP_41:
(58, 27422), (Start: 68 @27443 has 2 MA's), (Start: 80 @27467 has 11 MA's), (133, 27659), (141, 27719), (162, 27851),

Gene: BlackSpider_81 Start: 48788, Stop: 49288, Start Num: 80
Candidate Starts for BlackSpider_81:
(1, 48227), (6, 48407), (29, 48617), (45, 48698), (58, 48740), (Start: 80 @48788 has 11 MA's), (91, 48806), (120, 48935), (152, 49118),

Gene: BlueShadow_80 Start: 46732, Stop: 47244, Start Num: 86
Candidate Starts for BlueShadow_80:
(7, 46348), (13, 46426), (Start: 86 @46732 has 5 MA's), (114, 46840), (127, 46882), (134, 46912), (135, 46915), (139, 46960), (153, 47047), (163, 47104), (170, 47143), (174, 47164),

Gene: BlueShadow_38 Start: 26032, Stop: 26511, Start Num: 80
Candidate Starts for BlueShadow_38:
(Start: 80 @26032 has 11 MA's), (133, 26224), (141, 26284),

Gene: BlueShadow_53 Start: 32474, Stop: 32935, Start Num: 93
Candidate Starts for BlueShadow_53:
(Start: 93 @32474 has 12 MA's), (124, 32606), (136, 32660), (138, 32681), (159, 32813), (164, 32846),

Gene: Bobby_46 Start: 39072, Stop: 39560, Start Num: 75
Candidate Starts for Bobby_46:
(Start: 75 @39072 has 2 MA's), (109, 39189), (127, 39252), (133, 39279), (159, 39441), (172, 39516), (175, 39531),

Gene: Bobi_15 Start: 9361, Stop: 9900, Start Num: 50
Candidate Starts for Bobi_15:
(Start: 50 @9361 has 20 MA's), (101, 9478), (103, 9490), (133, 9622), (150, 9736), (152, 9745),

Gene: Bora_94 Start: 59313, Stop: 58804, Start Num: 66
Candidate Starts for Bora_94:
(25, 59475), (Start: 66 @59313 has 5 MA's), (88, 59277), (117, 59169), (119, 59166), (127, 59139), (157, 58947), (174, 58854), (178, 58836),

Gene: BruhMoment_72 Start: 48708, Stop: 48223, Start Num: 84
Candidate Starts for BruhMoment_72:

(Start: 84 @48708 has 2 MA's), (92, 48693), (103, 48657), (104, 48642), (106, 48633), (129, 48540), (134, 48513),

Gene: Bubbles123_14 Start: 9517, Stop: 10056, Start Num: 50

Candidate Starts for Bubbles123_14:

(Start: 40 @9490 has 17 MA's), (48, 9508), (Start: 50 @9517 has 20 MA's), (101, 9634), (103, 9646), (133, 9778), (152, 9901),

Gene: BuzzLyseyear_15 Start: 9319, Stop: 9879, Start Num: 40

Candidate Starts for BuzzLyseyear_15:

(Start: 40 @9319 has 17 MA's), (Start: 50 @9340 has 20 MA's), (101, 9457), (103, 9469), (133, 9601), (150, 9715), (152, 9724),

Gene: Cane17_77 Start: 32003, Stop: 32473, Start Num: 95

Candidate Starts for Cane17_77:

(30, 31814), (Start: 37 @31868 has 4 MA's), (56, 31925), (Start: 67 @31952 has 1 MA's), (70, 31955), (85, 31988), (Start: 95 @32003 has 2 MA's), (115, 32117), (127, 32147), (129, 32150), (133, 32174), (147, 32276), (152, 32306), (159, 32345), (163, 32372), (165, 32384), (179, 32459), (181, 32462),

Gene: Cassini_30 Start: 23657, Stop: 24136, Start Num: 80

Candidate Starts for Cassini_30:

(Start: 68 @23633 has 2 MA's), (Start: 80 @23657 has 11 MA's), (120, 23795), (133, 23849), (162, 24041), (163, 24044),

Gene: Cassini_39 Start: 27297, Stop: 26728, Start Num: 39

Candidate Starts for Cassini_39:

(Start: 39 @27297 has 4 MA's), (62, 27231), (103, 27159), (111, 27099), (113, 27090), (127, 27048), (170, 26787),

Gene: Cassini_50 Start: 31783, Stop: 32283, Start Num: 66

Candidate Starts for Cassini_50:

(Start: 66 @31783 has 5 MA's), (98, 31831), (129, 31966), (135, 31996), (159, 32158),

Gene: Cheesepuff_14 Start: 9481, Stop: 10047, Start Num: 40

Candidate Starts for Cheesepuff_14:

(Start: 40 @9481 has 17 MA's), (48, 9499), (Start: 50 @9508 has 20 MA's), (101, 9625), (103, 9637), (133, 9769), (152, 9892),

Gene: Coco12_15 Start: 9318, Stop: 9878, Start Num: 40

Candidate Starts for Coco12_15:

(Start: 40 @9318 has 17 MA's), (Start: 50 @9339 has 20 MA's), (101, 9456), (103, 9468), (133, 9600), (150, 9714), (152, 9723),

Gene: Corndog_56 Start: 27158, Stop: 27757, Start Num: 40

Candidate Starts for Corndog_56:

(Start: 40 @27158 has 17 MA's), (47, 27173), (110, 27383), (125, 27446), (133, 27476), (139, 27530), (140, 27536), (141, 27539), (152, 27602), (156, 27626),

Gene: Courthouse_46 Start: 37078, Stop: 37623, Start Num: 50

Candidate Starts for Courthouse_46:

(15, 36859), (19, 36916), (31, 36994), (45, 37060), (49, 37075), (Start: 50 @37078 has 20 MA's), (Start: 75 @37135 has 2 MA's), (102, 37192), (133, 37342), (152, 37471), (172, 37579), (174, 37591), (175, 37594),

Gene: Crescenzo_53 Start: 32978, Stop: 33439, Start Num: 93

Candidate Starts for Crescenzo_53:

(Start: 93 @32978 has 12 MA's), (124, 33110), (136, 33164), (159, 33317), (164, 33350),

Gene: DaWorst_15 Start: 9345, Stop: 9884, Start Num: 50

Candidate Starts for DaWorst_15:

(Start: 40 @9324 has 17 MA's), (Start: 50 @9345 has 20 MA's), (101, 9462), (103, 9474), (133, 9606), (150, 9720), (152, 9729),

Gene: Divya_26 Start: 21127, Stop: 20543, Start Num: 39

Candidate Starts for Divya_26:

(31, 21172), (Start: 39 @21127 has 4 MA's), (133, 20836), (141, 20776), (142, 20758), (152, 20704), (160, 20662), (163, 20638), (179, 20551),

Gene: DoctorDiddles_43 Start: 34776, Stop: 34189, Start Num: 37

Candidate Starts for DoctorDiddles_43:

(Start: 37 @34776 has 4 MA's), (44, 34761), (59, 34716), (65, 34698), (78, 34674), (124, 34515), (129, 34500), (146, 34377), (151, 34353), (156, 34320), (158, 34314), (170, 34245), (171, 34242),

Gene: Doug_14 Start: 9472, Stop: 10032, Start Num: 40

Candidate Starts for Doug_14:

(Start: 40 @9472 has 17 MA's), (Start: 50 @9493 has 20 MA's), (101, 9610), (103, 9622), (133, 9754), (152, 9877),

Gene: Drazdys_220 Start: 125724, Stop: 126218, Start Num: 76

Candidate Starts for Drazdys_220:

(22, 125523), (23, 125535), (24, 125544), (Start: 76 @125724 has 5 MA's), (140, 125982), (141, 125985), (155, 126078), (159, 126093), (170, 126159), (171, 126162),

Gene: EvePickles_63 Start: 35612, Stop: 36130, Start Num: 71

Candidate Starts for EvePickles_63:

(Start: 71 @35612 has 2 MA's), (Start: 86 @35642 has 5 MA's), (97, 35657), (115, 35768), (125, 35795), (138, 35861), (167, 36038), (171, 36062), (182, 36116),

Gene: Faith5x5_46 Start: 31732, Stop: 32244, Start Num: 87

Candidate Starts for Faith5x5_46:

(16, 31432), (26, 31534), (35, 31603), (Start: 87 @31732 has 1 MA's), (89, 31738), (103, 31777), (106, 31801), (129, 31897), (142, 31999), (152, 32044), (173, 32170),

Gene: Faja_54 Start: 33652, Stop: 34113, Start Num: 93

Candidate Starts for Faja_54:

(Start: 93 @33652 has 12 MA's), (124, 33784), (136, 33838), (159, 33991), (164, 34024),

Gene: Firecracker_54 Start: 26311, Stop: 26910, Start Num: 40

Candidate Starts for Firecracker_54:

(Start: 40 @26311 has 17 MA's), (47, 26326), (53, 26353), (61, 26371), (110, 26536), (125, 26599), (133, 26629), (139, 26683), (140, 26689), (141, 26692), (152, 26755), (156, 26779),

Gene: Firehouse51_14 Start: 9532, Stop: 10071, Start Num: 50

Candidate Starts for Firehouse51_14:

(Start: 50 @9532 has 20 MA's), (101, 9649), (103, 9661), (133, 9793), (150, 9907), (152, 9916),

Gene: Flabslab_17 Start: 5449, Stop: 6036, Start Num: 37

Candidate Starts for Flabslab_17:

(Start: 37 @5449 has 4 MA's), (44, 5464), (59, 5509), (65, 5527), (78, 5551), (124, 5710), (129, 5725), (146, 5848), (151, 5872), (156, 5905), (158, 5911), (170, 5980), (171, 5983),

Gene: GumGum_88 Start: 47517, Stop: 48029, Start Num: 86

Candidate Starts for GumGum_88:

(36, 47397), (Start: 86 @47517 has 5 MA's), (114, 47625), (127, 47667), (134, 47697), (135, 47700), (139, 47745), (153, 47832), (163, 47889), (170, 47928), (174, 47949),

Gene: Hestia_76 Start: 44223, Stop: 44738, Start Num: 86

Candidate Starts for Hestia_76:

(7, 43839), (13, 43917), (36, 44103), (Start: 86 @44223 has 5 MA's), (114, 44331), (127, 44373), (134, 44403), (135, 44406), (139, 44451), (153, 44538), (163, 44595), (170, 44634), (174, 44655),

Gene: Hestia_48 Start: 30332, Stop: 30823, Start Num: 60

Candidate Starts for Hestia_48:

(Start: 60 @30332 has 3 MA's), (120, 30479), (133, 30530), (142, 30608), (144, 30617), (153, 30668), (157, 30692), (158, 30695),

Gene: Hidrated_47 Start: 40264, Stop: 40752, Start Num: 75

Candidate Starts for Hidrated_47:

(Start: 75 @40264 has 2 MA's), (109, 40381), (127, 40444), (133, 40471), (159, 40633), (172, 40708), (175, 40723),

Gene: Hillester_39 Start: 26218, Stop: 26697, Start Num: 80

Candidate Starts for Hillester_39:

(Start: 68 @26194 has 2 MA's), (Start: 80 @26218 has 11 MA's), (120, 26356), (133, 26410), (162, 26602), (163, 26605),

Gene: Hillester_57 Start: 33410, Stop: 33871, Start Num: 93

Candidate Starts for Hillester_57:

(Start: 93 @33410 has 12 MA's), (124, 33542), (136, 33596), (159, 33749), (164, 33782),

Gene: Holt_44 Start: 34891, Stop: 34304, Start Num: 37

Candidate Starts for Holt_44:

(Start: 37 @34891 has 4 MA's), (44, 34876), (59, 34831), (65, 34813), (78, 34789), (124, 34630), (129, 34615), (146, 34492), (151, 34468), (156, 34435), (158, 34429), (170, 34360), (171, 34357),

Gene: Isolde_80 Start: 46237, Stop: 46845, Start Num: 33

Candidate Starts for Isolde_80:

(Start: 33 @46237 has 1 MA's), (Start: 39 @46264 has 4 MA's), (103, 46420), (116, 46501), (133, 46558), (138, 46594), (152, 46687), (163, 46753),

Gene: JakeTheSnake_59 Start: 34511, Stop: 34972, Start Num: 93

Candidate Starts for JakeTheSnake_59:

(11, 34181), (12, 34187), (14, 34193), (Start: 93 @34511 has 12 MA's), (108, 34574), (136, 34697), (152, 34811), (159, 34850), (164, 34883),

Gene: JakeTheSnake_97 Start: 53567, Stop: 54058, Start Num: 77

Candidate Starts for JakeTheSnake_97:

(41, 53477), (Start: 57 @53522 has 1 MA's), (64, 53543), (Start: 77 @53567 has 1 MA's), (150, 53885), (152, 53894),

Gene: JalFarm20_15 Start: 9339, Stop: 9878, Start Num: 50

Candidate Starts for JalFarm20_15:

(Start: 40 @9318 has 17 MA's), (Start: 50 @9339 has 20 MA's), (101, 9456), (103, 9468), (133, 9600), (150, 9714), (152, 9723),

Gene: JellyBread_89 Start: 51228, Stop: 51713, Start Num: 80

Candidate Starts for JellyBread_89:

(1, 50667), (6, 50847), (17, 50976), (29, 51057), (45, 51138), (58, 51180), (Start: 80 @51228 has 11 MA's), (91, 51246), (120, 51375), (150, 51549), (152, 51558), (164, 51630),

Gene: Jemmno_221 Start: 124633, Stop: 125127, Start Num: 76

Candidate Starts for Jemmno_221:

(22, 124432), (23, 124444), (24, 124453), (Start: 76 @124633 has 5 MA's), (140, 124891), (141, 124894), (155, 124987), (159, 125002), (170, 125068), (171, 125071),

Gene: Jinkies_23 Start: 19784, Stop: 19203, Start Num: 39

Candidate Starts for Jinkies_23:

(Start: 39 @19784 has 4 MA's), (72, 19700), (103, 19628), (121, 19538), (152, 19364), (159, 19325), (172, 19250),

Gene: Job42_15 Start: 9341, Stop: 9901, Start Num: 40

Candidate Starts for Job42_15:

(Start: 40 @9341 has 17 MA's), (Start: 50 @9362 has 20 MA's), (101, 9479), (103, 9491), (133, 9623), (150, 9737), (152, 9746),

Gene: Kabloowy_93 Start: 51714, Stop: 52205, Start Num: 77

Candidate Starts for Kabloowy_93:

(41, 51624), (Start: 57 @51669 has 1 MA's), (64, 51690), (Start: 77 @51714 has 1 MA's), (150, 52032), (152, 52041),

Gene: KingPhillip3_95 Start: 59234, Stop: 58725, Start Num: 66

Candidate Starts for KingPhillip3_95:

(25, 59396), (Start: 66 @59234 has 5 MA's), (88, 59198), (117, 59090), (119, 59087), (127, 59060), (157, 58868), (174, 58775), (178, 58757),

Gene: Lasker_92 Start: 52381, Stop: 52872, Start Num: 77

Candidate Starts for Lasker_92:

(Start: 57 @52336 has 1 MA's), (64, 52357), (Start: 77 @52381 has 1 MA's), (150, 52699), (152, 52708),

Gene: Latretium_14 Start: 9454, Stop: 10020, Start Num: 40

Candidate Starts for Latretium_14:

(Start: 40 @9454 has 17 MA's), (48, 9472), (Start: 50 @9481 has 20 MA's), (101, 9598), (103, 9610), (133, 9742), (152, 9865),

Gene: Lawnathon_84 Start: 46589, Stop: 47101, Start Num: 86

Candidate Starts for Lawnathon_84:

(7, 46205), (13, 46283), (36, 46469), (Start: 86 @46589 has 5 MA's), (114, 46697), (127, 46739), (134, 46769), (135, 46772), (139, 46817), (153, 46904), (163, 46961), (170, 47000), (174, 47021),

Gene: LeBruni_54 Start: 32055, Stop: 32546, Start Num: 60

Candidate Starts for LeBruni_54:

(Start: 60 @32055 has 3 MA's), (Start: 87 @32091 has 1 MA's), (120, 32202), (133, 32253), (142, 32331), (157, 32415),

Gene: Lucky2013_46 Start: 37214, Stop: 37759, Start Num: 50

Candidate Starts for Lucky2013_46:

(15, 36995), (19, 37052), (31, 37130), (45, 37196), (49, 37211), (Start: 50 @37214 has 20 MA's), (Start: 75 @37271 has 2 MA's), (102, 37328), (133, 37478), (152, 37607), (172, 37715), (174, 37727), (175, 37730),

Gene: MUWow_38 Start: 26240, Stop: 26719, Start Num: 80

Candidate Starts for MUWow_38:

(44, 26150), (Start: 68 @26216 has 2 MA's), (Start: 80 @26240 has 11 MA's), (133, 26432), (139, 26483), (141, 26492),

Gene: MUWow_96 Start: 53176, Stop: 53625, Start Num: 83

Candidate Starts for MUWow_96:

(Start: 51 @53110 has 1 MA's), (Start: 83 @53176 has 2 MA's), (133, 53350), (148, 53446),

Gene: MUWow_76 Start: 40648, Stop: 41133, Start Num: 83

Candidate Starts for MUWow_76:

(Start: 83 @40648 has 2 MA's), (124, 40795), (134, 40837), (139, 40885), (152, 40963),

Gene: MaterMagnus_82 Start: 47059, Stop: 47574, Start Num: 86

Candidate Starts for MaterMagnus_82:

(7, 46675), (13, 46753), (Start: 86 @47059 has 5 MA's), (114, 47167), (127, 47209), (134, 47239), (135, 47242), (139, 47287), (153, 47374), (163, 47431), (170, 47470), (174, 47491),

Gene: MaterMagnus_85 Start: 48532, Stop: 49020, Start Num: 84

Candidate Starts for MaterMagnus_85:

(41, 48427), (Start: 84 @48532 has 2 MA's), (92, 48547), (129, 48706), (132, 48721), (135, 48736), (143, 48811), (164, 48925), (169, 48952),

Gene: MaterMagnus_91 Start: 51277, Stop: 51762, Start Num: 80

Candidate Starts for MaterMagnus_91:

(29, 51106), (45, 51187), (58, 51229), (Start: 80 @51277 has 11 MA's), (91, 51295), (120, 51424), (150, 51598), (152, 51607),

Gene: MaterMagnus_56 Start: 33281, Stop: 33772, Start Num: 60

Candidate Starts for MaterMagnus_56:

(Start: 60 @33281 has 3 MA's), (Start: 87 @33317 has 1 MA's), (120, 33428), (133, 33479), (138, 33515), (142, 33557), (157, 33641),

Gene: MiaZeal_46 Start: 36889, Stop: 37434, Start Num: 50

Candidate Starts for MiaZeal_46:

(15, 36670), (19, 36727), (31, 36805), (45, 36871), (49, 36886), (Start: 50 @36889 has 20 MA's), (Start: 75 @36946 has 2 MA's), (102, 37003), (133, 37153), (152, 37282), (172, 37390), (174, 37402), (175, 37405),

Gene: MidnightRain_47 Start: 30287, Stop: 29718, Start Num: 39

Candidate Starts for MidnightRain_47:

(Start: 39 @30287 has 4 MA's), (62, 30221), (103, 30149), (111, 30089), (113, 30080), (127, 30038), (170, 29777),

Gene: MidnightRain_57 Start: 33591, Stop: 34052, Start Num: 93
Candidate Starts for MidnightRain_57:
(Start: 93 @33591 has 12 MA's), (124, 33723), (136, 33777), (159, 33930), (164, 33963),

Gene: Minnie_14 Start: 9482, Stop: 10042, Start Num: 40
Candidate Starts for Minnie_14:
(Start: 40 @9482 has 17 MA's), (Start: 50 @9503 has 20 MA's), (101, 9620), (103, 9632), (133, 9764),
(150, 9878), (152, 9887),

Gene: Moonbeam_14 Start: 9494, Stop: 10033, Start Num: 50
Candidate Starts for Moonbeam_14:
(Start: 50 @9494 has 20 MA's), (101, 9611), (103, 9623), (133, 9755), (150, 9869), (152, 9878),

Gene: Mori_53 Start: 26286, Stop: 26885, Start Num: 40
Candidate Starts for Mori_53:
(Start: 40 @26286 has 17 MA's), (47, 26301), (110, 26511), (125, 26574), (133, 26604), (139, 26658),
(140, 26664), (141, 26667), (152, 26730), (156, 26754),

Gene: Murai_54 Start: 26476, Stop: 27075, Start Num: 40
Candidate Starts for Murai_54:
(Start: 40 @26476 has 17 MA's), (47, 26491), (110, 26701), (125, 26764), (133, 26794), (139, 26848),
(140, 26854), (141, 26857), (152, 26920), (156, 26944),

Gene: MurphyJoseph_40 Start: 27665, Stop: 27162, Start Num: 62
Candidate Starts for MurphyJoseph_40:
(Start: 39 @27731 has 4 MA's), (62, 27665), (103, 27593), (138, 27419),

Gene: MurphyJoseph_52 Start: 31584, Stop: 32126, Start Num: 60
Candidate Starts for MurphyJoseph_52:
(Start: 60 @31584 has 3 MA's), (99, 31662), (130, 31803),

Gene: MurphyJoseph_79 Start: 45441, Stop: 45953, Start Num: 86
Candidate Starts for MurphyJoseph_79:
(7, 45057), (13, 45135), (36, 45321), (Start: 86 @45441 has 5 MA's), (114, 45549), (127, 45591), (134, 45621),
(135, 45624), (139, 45669), (153, 45756), (163, 45813), (170, 45852), (174, 45873),

Gene: Myrna_250 Start: 152417, Stop: 152881, Start Num: 73
Candidate Starts for Myrna_250:
(Start: 73 @152417 has 1 MA's), (74, 152420), (92, 152456), (94, 152459), (99, 152471), (104, 152507),
(107, 152525), (127, 152612), (135, 152645), (139, 152690), (141, 152696), (149, 152747),
(157, 152792), (168, 152849),

Gene: Nappy_90 Start: 35968, Stop: 36438, Start Num: 95
Candidate Starts for Nappy_90:
(30, 35779), (Start: 37 @35833 has 4 MA's), (56, 35890), (Start: 67 @35917 has 1 MA's), (70, 35920),
(85, 35953), (Start: 95 @35968 has 2 MA's), (115, 36082), (127, 36112), (129, 36115), (133, 36139),
(147, 36241), (152, 36271), (159, 36310), (163, 36337), (165, 36349), (179, 36424), (181, 36427),

Gene: Nappy_223 Start: 126433, Stop: 126927, Start Num: 76
Candidate Starts for Nappy_223:
(22, 126232), (23, 126244), (24, 126253), (Start: 76 @126433 has 5 MA's), (140, 126691), (141, 126694),
(155, 126787), (159, 126802), (170, 126868), (171, 126871),

Gene: NewKitty_46 Start: 29058, Stop: 28480, Start Num: 39
Candidate Starts for NewKitty_46:
(8, 29316), (18, 29187), (20, 29169), (21, 29166), (27, 29124), (31, 29103), (Start: 39 @29058 has 4 MA's), (121, 28827),

Gene: NewKitty_69 Start: 35732, Stop: 36250, Start Num: 71
Candidate Starts for NewKitty_69:
(Start: 71 @35732 has 2 MA's), (Start: 86 @35762 has 5 MA's), (115, 35888), (133, 35945), (138, 35981), (171, 36182), (182, 36236),

Gene: Nyilah_54 Start: 31262, Stop: 31804, Start Num: 60
Candidate Starts for Nyilah_54:
(Start: 60 @31262 has 3 MA's), (78, 31304), (99, 31340), (127, 31475), (130, 31481),

Gene: Ollypop_83 Start: 52100, Stop: 51516, Start Num: 43
Candidate Starts for Ollypop_83:
(34, 52130), (Start: 43 @52100 has 1 MA's), (44, 52097), (52, 52067), (59, 52052), (63, 52037), (103, 51947), (134, 51806), (146, 51710), (152, 51677), (156, 51647), (159, 51638), (179, 51524),

Gene: Ollypop_77 Start: 49851, Stop: 49363, Start Num: 82
Candidate Starts for Ollypop_77:
(Start: 82 @49851 has 1 MA's), (103, 49797), (123, 49698), (126, 49686), (129, 49680), (134, 49653), (163, 49467),

Gene: OwlsT2W_15 Start: 9352, Stop: 9891, Start Num: 50
Candidate Starts for OwlsT2W_15:
(Start: 40 @9331 has 17 MA's), (Start: 50 @9352 has 20 MA's), (101, 9469), (103, 9481), (133, 9613), (150, 9727), (152, 9736),

Gene: Persistence_41 Start: 28068, Stop: 28532, Start Num: 90
Candidate Starts for Persistence_41:
(Start: 90 @28068 has 2 MA's), (112, 28164), (133, 28236), (138, 28272), (141, 28296), (150, 28359), (154, 28386),

Gene: Persistence_49 Start: 31206, Stop: 31667, Start Num: 93
Candidate Starts for Persistence_49:
(11, 30876), (12, 30882), (14, 30888), (Start: 93 @31206 has 12 MA's), (136, 31392), (159, 31545), (164, 31578),

Gene: Persistence_67 Start: 37115, Stop: 37588, Start Num: 93
Candidate Starts for Persistence_67:
(Start: 93 @37115 has 12 MA's), (111, 37217), (117, 37241), (124, 37256), (150, 37415), (159, 37463), (171, 37532), (179, 37577),

Gene: Persistence_34 Start: 24603, Stop: 25106, Start Num: 68
Candidate Starts for Persistence_34:
(44, 24537), (Start: 68 @24603 has 2 MA's), (Start: 80 @24627 has 11 MA's), (118, 24762), (120, 24765), (133, 24819), (141, 24879), (170, 25053),

Gene: Peterson_6 Start: 3021, Stop: 3500, Start Num: 79
Candidate Starts for Peterson_6:
(Start: 79 @3021 has 5 MA's), (124, 3180), (128, 3192), (136, 3234),

Gene: Phasih_14 Start: 9525, Stop: 10064, Start Num: 50
Candidate Starts for Phasih_14:
(Start: 40 @9504 has 17 MA's), (Start: 50 @9525 has 20 MA's), (101, 9642), (103, 9654), (133, 9786),
(150, 9900), (152, 9909),

Gene: Phatniss_14 Start: 9487, Stop: 10026, Start Num: 50
Candidate Starts for Phatniss_14:
(Start: 50 @9487 has 20 MA's), (101, 9604), (103, 9616), (133, 9748), (150, 9862), (152, 9871),

Gene: Phrank15_38 Start: 25579, Stop: 26058, Start Num: 80
Candidate Starts for Phrank15_38:
(44, 25489), (Start: 68 @25555 has 2 MA's), (Start: 80 @25579 has 11 MA's), (133, 25771), (139,
25822), (141, 25831),

Gene: Phrank15_56 Start: 32976, Stop: 33476, Start Num: 66
Candidate Starts for Phrank15_56:
(5, 32526), (9, 32664), (Start: 66 @32976 has 5 MA's), (98, 33024), (135, 33189), (159, 33351),

Gene: Pitbull_27 Start: 21048, Stop: 21602, Start Num: 46
Candidate Starts for Pitbull_27:
(Start: 46 @21048 has 1 MA's), (131, 21300), (133, 21312), (139, 21363), (159, 21480), (167, 21525),

Gene: Polka14_14 Start: 9487, Stop: 10026, Start Num: 50
Candidate Starts for Polka14_14:
(Start: 40 @9466 has 17 MA's), (Start: 50 @9487 has 20 MA's), (101, 9604), (103, 9616), (133, 9748),
(150, 9862), (152, 9871),

Gene: Porcelain_45 Start: 36889, Stop: 37434, Start Num: 50
Candidate Starts for Porcelain_45:
(15, 36670), (19, 36727), (31, 36805), (45, 36871), (49, 36886), (Start: 50 @36889 has 20 MA's),
(Start: 75 @36946 has 2 MA's), (102, 37003), (133, 37153), (152, 37282), (172, 37390), (174, 37402),
(175, 37405),

Gene: RadFad_57 Start: 33410, Stop: 33871, Start Num: 93
Candidate Starts for RadFad_57:
(Start: 93 @33410 has 12 MA's), (124, 33542), (136, 33596), (159, 33749), (164, 33782),

Gene: RadFad_39 Start: 26218, Stop: 26697, Start Num: 80
Candidate Starts for RadFad_39:
(Start: 68 @26194 has 2 MA's), (Start: 80 @26218 has 11 MA's), (120, 26356), (133, 26410), (162,
26602), (163, 26605),

Gene: Raqqa_97 Start: 52473, Stop: 52976, Start Num: 80
Candidate Starts for Raqqa_97:
(Start: 80 @52473 has 11 MA's), (108, 52554), (127, 52638), (133, 52665), (136, 52680), (138, 52701),
(139, 52716), (145, 52755), (170, 52896), (172, 52905), (180, 52944),

Gene: Raqqa_48 Start: 30332, Stop: 30787, Start Num: 87
Candidate Starts for Raqqa_48:
(Start: 60 @30296 has 3 MA's), (Start: 87 @30332 has 1 MA's), (120, 30443), (133, 30494), (138,
30530), (142, 30572), (157, 30656),

Gene: Raqqa_45 Start: 29275, Stop: 29736, Start Num: 93

Candidate Starts for Raqqa_45:

(Start: 93 @29275 has 12 MA's), (124, 29407), (136, 29461), (159, 29614), (164, 29647),

Gene: Rialto_15 Start: 9346, Stop: 9885, Start Num: 50

Candidate Starts for Rialto_15:

(Start: 50 @9346 has 20 MA's), (101, 9463), (103, 9475), (133, 9607), (150, 9721), (152, 9730),

Gene: Richie_96 Start: 52435, Stop: 52971, Start Num: 57

Candidate Starts for Richie_96:

(10, 52150), (Start: 57 @52435 has 1 MA's), (64, 52456), (Start: 77 @52480 has 1 MA's), (127, 52651), (129, 52654), (150, 52798), (172, 52921),

Gene: Sandalphon_14 Start: 9504, Stop: 10043, Start Num: 50

Candidate Starts for Sandalphon_14:

(Start: 50 @9504 has 20 MA's), (101, 9621), (103, 9633), (133, 9765), (150, 9879), (152, 9888),

Gene: Sarge_50 Start: 29604, Stop: 30206, Start Num: 38

Candidate Starts for Sarge_50:

(Start: 38 @29604 has 1 MA's), (69, 29688), (81, 29715), (97, 29742), (103, 29772), (124, 29868), (133, 29907),

Gene: Sarge_34 Start: 24292, Stop: 24756, Start Num: 93

Candidate Starts for Sarge_34:

(Start: 93 @24292 has 12 MA's), (127, 24436), (177, 24733),

Gene: Satrap_73 Start: 38750, Stop: 39217, Start Num: 88

Candidate Starts for Satrap_73:

(Start: 51 @38669 has 1 MA's), (88, 38750), (124, 38894), (133, 38933), (134, 38936), (138, 38969), (152, 39062), (159, 39101),

Gene: SharkTale_7 Start: 4424, Stop: 4984, Start Num: 82

Candidate Starts for SharkTale_7:

(Start: 82 @4424 has 1 MA's), (99, 4457), (105, 4496), (144, 4718), (161, 4820), (166, 4841), (176, 4892),

Gene: ShawBrad_105 Start: 53519, Stop: 54079, Start Num: 39

Candidate Starts for ShawBrad_105:

(32, 53495), (Start: 39 @53519 has 4 MA's), (100, 53639), (102, 53651), (127, 53759), (137, 53816), (152, 53915), (159, 53954), (163, 53981),

Gene: ShiaLabeouf_219 Start: 124687, Stop: 125181, Start Num: 76

Candidate Starts for ShiaLabeouf_219:

(22, 124486), (23, 124498), (24, 124507), (Start: 76 @124687 has 5 MA's), (140, 124945), (141, 124948), (155, 125041), (159, 125056), (170, 125122), (171, 125125),

Gene: Shukran_48 Start: 30453, Stop: 30917, Start Num: 87

Candidate Starts for Shukran_48:

(Start: 87 @30453 has 1 MA's), (122, 30579), (133, 30627),

Gene: Sisko_10 Start: 10106, Stop: 9555, Start Num: 54

Candidate Starts for Sisko_10:

(Start: 54 @10106 has 1 MA's), (96, 10022), (103, 9992), (111, 9926), (135, 9839), (138, 9806), (141, 9782), (150, 9722), (170, 9608),

Gene: Smooch_56 Start: 27829, Stop: 28428, Start Num: 40

Candidate Starts for Smooch_56:

(Start: 40 @27829 has 17 MA's), (47, 27844), (110, 28054), (125, 28117), (133, 28147), (139, 28201), (140, 28207), (141, 28210), (152, 28273), (156, 28297),

Gene: SonDevVon_39 Start: 26563, Stop: 27042, Start Num: 80

Candidate Starts for SonDevVon_39:

(44, 26473), (Start: 68 @26539 has 2 MA's), (Start: 80 @26563 has 11 MA's), (133, 26755), (139, 26806), (141, 26815),

Gene: SpicyFrank_59 Start: 33886, Stop: 34386, Start Num: 66

Candidate Starts for SpicyFrank_59:

(Start: 66 @33886 has 5 MA's), (98, 33934), (129, 34069), (135, 34099), (159, 34261),

Gene: Squint_45 Start: 37065, Stop: 37553, Start Num: 75

Candidate Starts for Squint_45:

(15, 36789), (19, 36846), (31, 36924), (45, 36990), (49, 37005), (Start: 50 @37008 has 20 MA's), (Start: 75 @37065 has 2 MA's), (102, 37122), (133, 37272), (152, 37401), (172, 37509), (174, 37521), (175, 37524),

Gene: Stellammi_131 Start: 61866, Stop: 62381, Start Num: 67

Candidate Starts for Stellammi_131:

(Start: 67 @61866 has 1 MA's), (115, 62028), (124, 62046), (133, 62085), (134, 62088), (150, 62205), (171, 62316),

Gene: Sunshine924_65 Start: 41214, Stop: 40627, Start Num: 37

Candidate Starts for Sunshine924_65:

(Start: 37 @41214 has 4 MA's), (44, 41199), (59, 41154), (65, 41136), (78, 41112), (124, 40953), (129, 40938), (146, 40815), (151, 40791), (156, 40758), (158, 40752), (170, 40683), (171, 40680),

Gene: SuperGrey_14 Start: 9478, Stop: 10038, Start Num: 40

Candidate Starts for SuperGrey_14:

(Start: 40 @9478 has 17 MA's), (Start: 50 @9499 has 20 MA's), (101, 9616), (103, 9628), (133, 9760), (150, 9874), (152, 9883),

Gene: Superphikiman_46 Start: 37080, Stop: 37625, Start Num: 50

Candidate Starts for Superphikiman_46:

(15, 36861), (19, 36918), (31, 36996), (45, 37062), (49, 37077), (Start: 50 @37080 has 20 MA's), (Start: 75 @37137 has 2 MA's), (102, 37194), (133, 37344), (152, 37473), (172, 37581), (174, 37593), (175, 37596),

Gene: Tiff81_42 Start: 27360, Stop: 27824, Start Num: 90

Candidate Starts for Tiff81_42:

(Start: 90 @27360 has 2 MA's), (133, 27528), (138, 27564), (141, 27588), (150, 27651), (154, 27678),

Gene: Tripl3t_5 Start: 2428, Stop: 2907, Start Num: 79

Candidate Starts for Tripl3t_5:

(Start: 79 @2428 has 5 MA's), (124, 2587), (128, 2599), (136, 2641),

Gene: Trouble_4 Start: 2065, Stop: 2544, Start Num: 79

Candidate Starts for Trouble_4:

(Start: 79 @2065 has 5 MA's), (124, 2224), (128, 2236), (136, 2278),

Gene: Violac_14 Start: 9472, Stop: 10032, Start Num: 40

Candidate Starts for Violac_14:

(Start: 40 @9472 has 17 MA's), (Start: 50 @9493 has 20 MA's), (101, 9610), (103, 9622), (133, 9754), (150, 9868), (152, 9877),

Gene: Vopal_48 Start: 32400, Stop: 32864, Start Num: 90

Candidate Starts for Vopal_48:

(Start: 90 @32400 has 2 MA's), (133, 32568), (138, 32604), (141, 32628), (150, 32691), (154, 32718),

Gene: Vopal_42 Start: 29036, Stop: 29515, Start Num: 80

Candidate Starts for Vopal_42:

(58, 28991), (Start: 68 @29012 has 2 MA's), (Start: 80 @29036 has 11 MA's), (133, 29228), (141, 29288), (162, 29420),

Gene: Vopal_56 Start: 35307, Stop: 35768, Start Num: 93

Candidate Starts for Vopal_56:

(Start: 93 @35307 has 12 MA's), (124, 35439), (136, 35493), (159, 35646), (164, 35679),

Gene: Vorrps_53 Start: 26287, Stop: 26886, Start Num: 40

Candidate Starts for Vorrps_53:

(Start: 40 @26287 has 17 MA's), (47, 26302), (110, 26512), (125, 26575), (133, 26605), (139, 26659), (140, 26665), (141, 26668), (152, 26731), (156, 26755),

Gene: Watermelon_6 Start: 2607, Stop: 3086, Start Num: 79

Candidate Starts for Watermelon_6:

(Start: 79 @2607 has 5 MA's), (124, 2766), (128, 2778), (136, 2820),

Gene: Wee_14 Start: 9531, Stop: 10070, Start Num: 50

Candidate Starts for Wee_14:

(Start: 50 @9531 has 20 MA's), (101, 9648), (103, 9660), (133, 9792), (150, 9906), (152, 9915),

Gene: Windest_39 Start: 25032, Stop: 25535, Start Num: 68

Candidate Starts for Windest_39:

(44, 24966), (Start: 68 @25032 has 2 MA's), (Start: 80 @25056 has 11 MA's), (133, 25248), (139, 25299), (141, 25308),

Gene: YungJamal_57 Start: 27006, Stop: 27605, Start Num: 40

Candidate Starts for YungJamal_57:

(Start: 40 @27006 has 17 MA's), (47, 27021), (110, 27231), (125, 27294), (133, 27324), (139, 27378), (140, 27384), (141, 27387), (152, 27450), (156, 27474),

Gene: Zucker_62 Start: 35518, Stop: 36036, Start Num: 71

Candidate Starts for Zucker_62:

(Start: 71 @35518 has 2 MA's), (Start: 86 @35548 has 5 MA's), (115, 35674), (125, 35701), (133, 35731), (138, 35767), (140, 35788), (171, 35968), (182, 36022),