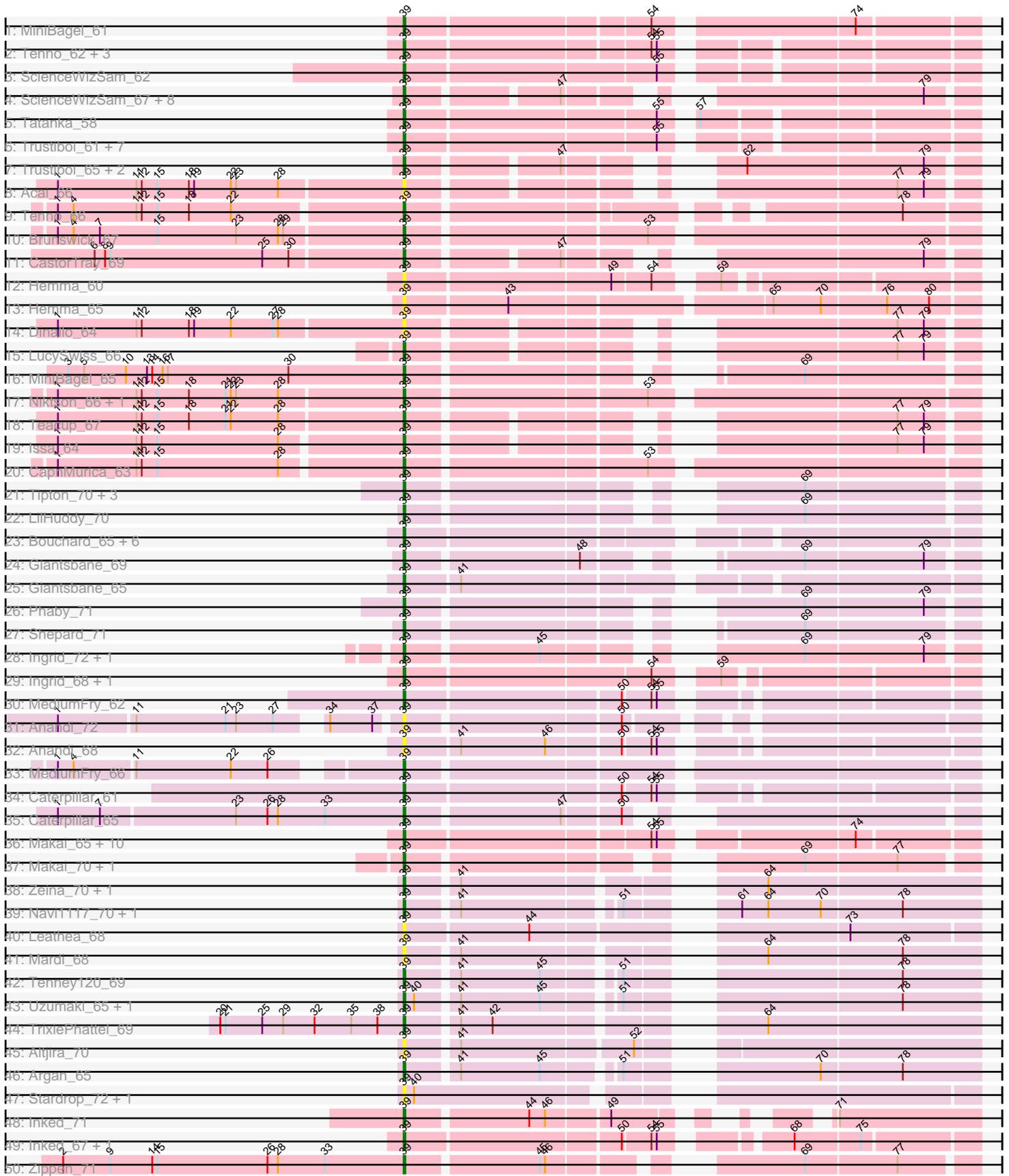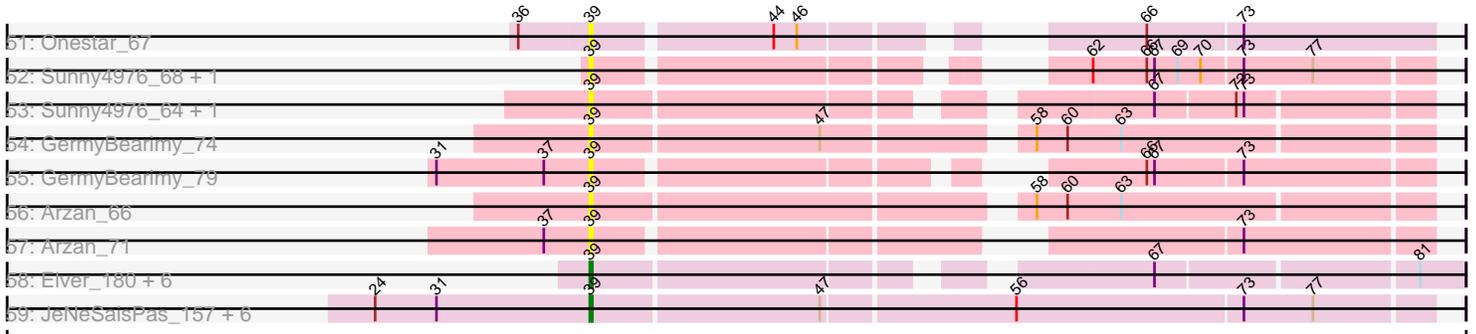# Pham 290978

Pham 290978

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 290978 Report

This analysis was run 03/28/26 on database version 641.

Pham number 290978 has 121 members, 39 are drafts.

Phages represented in each track:
• Track 1 : MiniBagel_61
• Track 2 : Tenno_62, CapnMurica_59, Dinallo_60, Issa_60
• Track 3 : ScienceWizSam_62
• Track 4 : ScienceWizSam_67, Gordon_63, Tatanka_61, Breylor17_65, Nightmare_67, Nivinsha_69, DevitoJr_65, Synepsis_64, AreFloNak_69
• Track 5 : Tatanka_58
• Track 6 : Trustiboi_61, Darby_60, Breylor17_61, Nivinsha_63, CastorTray_65, DevitoJr_61, Synepsis_60, AreFloNak_64
• Track 7 : Trustiboi_65, Darby_64, Westerlin_65
• Track 8 : Acai_66
• Track 9 : Tenno_66
• Track 10 : Brunswick_67
• Track 11 : CastorTray_69
• Track 12 : Hemma_60
• Track 13 : Hemma_65
• Track 14 : Dinallo_64
• Track 15 : LucySwiss_66
• Track 16 : MiniBagel_65
• Track 17 : Niktson_66, ElephantMan_66
• Track 18 : Teacup_67
• Track 19 : Issa_64
• Track 20 : CapnMurica_63
• Track 21 : Tipton_70, Bouchard_70, Chlochlo_70, Tokki_75
• Track 22 : LilHuddy_70
• Track 23 : Bouchard_65, LilHuddy_66, Chlochlo_65, Phaby_67, Shepard_67, Tokki_70, Tipton_65
• Track 24 : Giantsbane_69
• Track 25 : Giantsbane_65
• Track 26 : Phaby_71
• Track 27 : Shepard_71
• Track 28 : Ingrid_72, Loretta_69
• Track 29 : Ingrid_68, Loretta_65
• Track 30 : MediumFry_62
• Track 31 : Anandi_72
• Track 32 : Anandi_68
• Track 33 : MediumFry_66
• Track 34 : Caterpillar_61

• Track 35 : Caterpillar_65
• Track 36 : Makai_65, Nightmare_63, Gordon_59, Truckee_63, Brunswick_62, LucySwiss_61, Niktson_61, Westerlin_61, ElephantMan_61, Acai_61, Teacup_62
• Track 37 : Makai_70, Truckee_68
• Track 38 : Zeina_70, Phaila_70
• Track 39 : Navi1117_70, KevinMinion_66
• Track 40 : Leathea_68
• Track 41 : Mardi_68
• Track 42 : Tenney120_69
• Track 43 : Uzumaki_65, GantcherGoblin_66
• Track 44 : TrixiePhattel_69
• Track 45 : Altjira_70
• Track 46 : Argan_65
• Track 47 : Stardrop_72, PoeMe_69
• Track 48 : Inked_71
• Track 49 : Inked_67, Zippen_67
• Track 50 : Zippen_71
• Track 51 : Onestar_67
• Track 52 : Sunny4976_68, Jazzy4900_69
• Track 53 : Sunny4976_64, Jazzy4900_65
• Track 54 : GermyBearimy_74
• Track 55 : GermyBearimy_79
• Track 56 : Arzan_66
• Track 57 : Arzan_71
• Track 58 : Elver_180, Kureo_178, Paella_181, Gandionco_179, Qui_181, Marianna39_178, JeNeSaisPas_175
• Track 59 : JeNeSaisPas_157, Paella_164, Elver_164, Gandionco_160, Qui_164, Marianna39_160, Kureo_159

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

The start number called the most often in the published annotations is 39, it was called in 82 of the 82 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Acai_61, Acai_66, Altjira_70, Anandi_68, Anandi_72, AreFloNak_64, AreFloNak_69, Argan_65, Arzan_66, Arzan_71, Bouchard_65, Bouchard_70, Breylor17_61, Breylor17_65, Brunswick_62, Brunswick_67, CapnMurica_59, CapnMurica_63, CastorTray_65, CastorTray_69, Caterpillar_61, Caterpillar_65, Chlochlo_65, Chlochlo_70, Darby_60, Darby_64, DevitoJr_61, DevitoJr_65, Dinallo_60, Dinallo_64, ElephantMan_61, ElephantMan_66, Elver_164, Elver_180, Gandionco_160, Gandionco_179, GantcherGoblin_66, GermyBearimy_74, GermyBearimy_79, Giantsbane_65, Giantsbane_69, Gordon_59, Gordon_63, Hemma_60, Hemma_65, Ingrid_68, Ingrid_72, Inked_67, Inked_71, Issa_60, Issa_64, Jazzy4900_65, Jazzy4900_69, JeNeSaisPas_157, JeNeSaisPas_175, KevinMinion_66, Kureo_159, Kureo_178, Leathea_68, LilHuddy_66, LilHuddy_70, Loretta_65, Loretta_69, LucySwiss_61, LucySwiss_66, Makai_65, Makai_70, Mardi_68, Marianna39_160, Marianna39_178, MediumFry_62, MediumFry_66, MiniBagel_61, MiniBagel_65, Navi1117_70, Nightmare_63, Nightmare_67, Niktson_61, Niktson_66, Nivinsha_63, Nivinsha_69, Onestar_67, Paella_164, Paella_181, Phaby_67, Phaby_71, Phaila_70,

PoeMe_69, Qui_164, Qui_181, ScienceWizSam_62, ScienceWizSam_67, Shepard_67, Shepard_71, Stardrop_72, Sunny4976_64, Sunny4976_68, Synepsis_60, Synepsis_64, Tatanka_58, Tatanka_61, Teacup_62, Teacup_67, Tenney120_69, Tenno_62, Tenno_66, Tipton_65, Tipton_70, Tokki_70, Tokki_75, TrixiePhattel_69, Truckee_63, Truckee_68, Trustiboi_61, Trustiboi_65, Uzumaki_65, Westerlin_61, Westerlin_65, Zeina_70, Zippen_67, Zippen_71,

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

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

Summary by start number:

Start 39:
• Found in 121 of 121 (100.0%) of genes in pham
• Manual Annotations of this start: 82 of 82
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Acai_61 (AU1), Acai_66 (AU1), Altjira_70 (AU6), Anandi_68 (AU4), Anandi_72 (AU4), AreFloNak_64 (AU1), AreFloNak_69 (AU1), Argan_65 (AU6), Arzan_66 (FI), Arzan_71 (FI), Bouchard_65 (AU2), Bouchard_70 (AU2), Breylor17_61 (AU1), Breylor17_65 (AU1), Brunswick_62 (AU1), Brunswick_67 (AU1), CapnMurica_59 (AU1), CapnMurica_63 (AU1), CastorTray_65 (AU1), CastorTray_69 (AU1), Caterpillar_61 (AU4), Caterpillar_65 (AU4), Chlochlo_65 (AU2), Chlochlo_70 (AU2), Darby_60 (AU1), Darby_64 (AU1), DevitoJr_61 (AU1), DevitoJr_65 (AU1), Dinallo_60 (AU1), Dinallo_64 (AU1), ElephantMan_61 (AU1), ElephantMan_66 (AU1), Elver_164 (FK), Elver_180 (FK), Gandionco_160 (FK), Gandionco_179 (FK), GantcherGoblin_66 (AU6), GermyBearimy_74 (FI), GermyBearimy_79 (FI), Giantsbane_65 (AU2), Giantsbane_69 (AU2), Gordon_59 (AU1), Gordon_63 (AU1), Hemma_60 (AU1), Hemma_65 (AU1), Ingrid_68 (AU3), Ingrid_72 (AU3), Inked_67 (AU7), Inked_71 (AU7), Issa_60 (AU1), Issa_64 (AU1), Jazzy4900_65 (FI), Jazzy4900_69 (FI), JeNeSaisPas_157 (FK), JeNeSaisPas_175 (FK), KevinMinion_66 (AU6), Kureo_159 (FK), Kureo_178 (FK), Leathea_68 (AU6), LilHuddy_66 (AU2), LilHuddy_70 (AU2), Loretta_65 (AU3), Loretta_69 (AU3), LucySwiss_61 (AU1), LucySwiss_66 (AU1), Makai_65 (AU5), Makai_70 (AU5), Mardi_68 (AU6), Marianna39_160 (FK), Marianna39_178 (FK), MediumFry_62 (AU4), MediumFry_66 (AU4), MiniBagel_61 (AU1), MiniBagel_65 (AU1), Navi1117_70 (AU6), Nightmare_63 (AU1), Nightmare_67 (AU1), Niktson_61 (AU1), Niktson_66 (AU1), Nivinsha_63 (AU1), Nivinsha_69 (AU1), Onestar_67 (AW), Paella_164 (FK), Paella_181 (FK), Phaby_67 (AU2), Phaby_71 (AU2), Phaila_70 (AU6), PoeMe_69 (AU6), Qui_164 (FK), Qui_181 (FK), ScienceWizSam_62 (AU1), ScienceWizSam_67 (AU1), Shepard_67 (AU2), Shepard_71 (AU2), Stardrop_72 (AU6), Sunny4976_64 (FI), Sunny4976_68 (FI), Synepsis_60 (AU1), Synepsis_64 (AU1), Tatanka_58 (AU1), Tatanka_61 (AU1), Teacup_62 (AU1), Teacup_67 (AU1), Tenney120_69 (AU6), Tenno_62 (AU1), Tenno_66 (AU1), Tipton_65 (AU2), Tipton_70 (AU2), Tokki_70 (AU2), Tokki_75 (AU2), TrixiePhattel_69 (AU6), Truckee_63 (AU5), Truckee_68 (AU5), Trustiboi_61 (AU1), Trustiboi_65 (AU1), Uzumaki_65 (AU6), Westerlin_61 (AU1), Westerlin_65 (AU1), Zeina_70 (AU6), Zippen_67 (AU7), Zippen_71 (AU7),

Summary by clusters:

There are 10 clusters represented in this pham: AW, AU1, AU3, AU2, AU5, AU4, AU7, AU6, FI, FK,

Info for manual annotations of cluster AU1:
•Start number 39 was manually annotated 38 times for cluster AU1.

Info for manual annotations of cluster AU2:
•Start number 39 was manually annotated 14 times for cluster AU2.

Info for manual annotations of cluster AU3:
•Start number 39 was manually annotated 4 times for cluster AU3.

Info for manual annotations of cluster AU4:
•Start number 39 was manually annotated 4 times for cluster AU4.

Info for manual annotations of cluster AU5:
•Start number 39 was manually annotated 4 times for cluster AU5.

Info for manual annotations of cluster AU6:
•Start number 39 was manually annotated 8 times for cluster AU6.

Info for manual annotations of cluster AU7:
•Start number 39 was manually annotated 4 times for cluster AU7.

Info for manual annotations of cluster FK:
•Start number 39 was manually annotated 6 times for cluster FK.

Gene Information:

Gene: Acai_66 Start: 45783, Stop: 46046, Start Num: 39
Candidate Starts for Acai_66:
(1, 45588), (11, 45633), (12, 45636), (15, 45645), (18, 45663), (19, 45666), (22, 45687), (23, 45690), (28, 45714), (Start: 39 @45783 has 82 MA's), (77, 46005), (79, 46020),

Gene: Acai_61 Start: 44047, Stop: 44346, Start Num: 39
Candidate Starts for Acai_61:
(Start: 39 @44047 has 82 MA's), (54, 44179), (55, 44182), (74, 44281),

Gene: Altjira_70 Start: 44243, Stop: 44527, Start Num: 39
Candidate Starts for Altjira_70:
(Start: 39 @44243 has 82 MA's), (41, 44270), (52, 44363),

Gene: Anandi_72 Start: 46264, Stop: 46551, Start Num: 39
Candidate Starts for Anandi_72:
(1, 46090), (11, 46132), (21, 46183), (23, 46189), (27, 46210), (34, 46228), (37, 46252), (Start: 39 @46264 has 82 MA's), (50, 46378),

Gene: Anandi_68 Start: 44709, Stop: 44999, Start Num: 39
Candidate Starts for Anandi_68:

(Start: 39 @44709 has 82 MA's), (41, 44739), (46, 44787), (50, 44826), (54, 44841), (55, 44844),

Gene: AreFloNak_64 Start: 44018, Stop: 44311, Start Num: 39
Candidate Starts for AreFloNak_64:
(Start: 39 @44018 has 82 MA's), (55, 44156),

Gene: AreFloNak_69 Start: 45830, Stop: 46093, Start Num: 39
Candidate Starts for AreFloNak_69:
(Start: 39 @45830 has 82 MA's), (47, 45908), (79, 46067),

Gene: Argan_65 Start: 42966, Stop: 43247, Start Num: 39
Candidate Starts for Argan_65:
(Start: 39 @42966 has 82 MA's), (41, 42993), (45, 43038), (51, 43074), (70, 43158), (78, 43203),

Gene: Arzan_66 Start: 43794, Stop: 44099, Start Num: 39
Candidate Starts for Arzan_66:
(Start: 39 @43794 has 82 MA's), (58, 43950), (60, 43962), (63, 43983),

Gene: Arzan_71 Start: 45586, Stop: 45873, Start Num: 39
Candidate Starts for Arzan_71:
(37, 45568), (Start: 39 @45586 has 82 MA's), (73, 45802),

Gene: Bouchard_65 Start: 44672, Stop: 44965, Start Num: 39
Candidate Starts for Bouchard_65:
(Start: 39 @44672 has 82 MA's),

Gene: Bouchard_70 Start: 46435, Stop: 46707, Start Num: 39
Candidate Starts for Bouchard_70:
(Start: 39 @46435 has 82 MA's), (69, 46615),

Gene: Breylor17_61 Start: 44593, Stop: 44886, Start Num: 39
Candidate Starts for Breylor17_61:
(Start: 39 @44593 has 82 MA's), (55, 44731),

Gene: Breylor17_65 Start: 46223, Stop: 46486, Start Num: 39
Candidate Starts for Breylor17_65:
(Start: 39 @46223 has 82 MA's), (47, 46301), (79, 46460),

Gene: Brunswick_62 Start: 43890, Stop: 44189, Start Num: 39
Candidate Starts for Brunswick_62:
(Start: 39 @43890 has 82 MA's), (54, 44022), (55, 44025), (74, 44124),

Gene: Brunswick_67 Start: 45626, Stop: 45928, Start Num: 39
Candidate Starts for Brunswick_67:
(1, 45431), (4, 45440), (7, 45455), (15, 45488), (23, 45533), (28, 45557), (29, 45560), (Start: 39 @45626 has 82 MA's), (53, 45755),

Gene: CapnMurica_59 Start: 44782, Stop: 45072, Start Num: 39
Candidate Starts for CapnMurica_59:
(Start: 39 @44782 has 82 MA's), (54, 44914), (55, 44917),

Gene: CapnMurica_63 Start: 46364, Stop: 46666, Start Num: 39
Candidate Starts for CapnMurica_63:

(1, 46172), (11, 46217), (12, 46220), (15, 46229), (28, 46298), (Start: 39 @46364 has 82 MA's), (53, 46493),

Gene: CastorTray_69 Start: 46412, Stop: 46675, Start Num: 39
Candidate Starts for CastorTray_69:
(6, 46238), (8, 46244), (9, 46247), (25, 46334), (30, 46349), (Start: 39 @46412 has 82 MA's), (47, 46490), (79, 46649),

Gene: CastorTray_65 Start: 44782, Stop: 45075, Start Num: 39
Candidate Starts for CastorTray_65:
(Start: 39 @44782 has 82 MA's), (55, 44920),

Gene: Caterpillar_61 Start: 43710, Stop: 44000, Start Num: 39
Candidate Starts for Caterpillar_61:
(Start: 39 @43710 has 82 MA's), (50, 43827), (54, 43842), (55, 43845),

Gene: Caterpillar_65 Start: 45261, Stop: 45530, Start Num: 39
Candidate Starts for Caterpillar_65:
(1, 45066), (7, 45090), (23, 45165), (26, 45183), (28, 45189), (33, 45216), (Start: 39 @45261 has 82 MA's), (47, 45345), (50, 45375),

Gene: Chlochlo_65 Start: 44198, Stop: 44491, Start Num: 39
Candidate Starts for Chlochlo_65:
(Start: 39 @44198 has 82 MA's),

Gene: Chlochlo_70 Start: 45962, Stop: 46234, Start Num: 39
Candidate Starts for Chlochlo_70:
(Start: 39 @45962 has 82 MA's), (69, 46142),

Gene: Darby_60 Start: 43828, Stop: 44121, Start Num: 39
Candidate Starts for Darby_60:
(Start: 39 @43828 has 82 MA's), (55, 43966),

Gene: Darby_64 Start: 45407, Stop: 45670, Start Num: 39
Candidate Starts for Darby_64:
(Start: 39 @45407 has 82 MA's), (47, 45485), (62, 45545), (79, 45644),

Gene: DevitoJr_61 Start: 44214, Stop: 44507, Start Num: 39
Candidate Starts for DevitoJr_61:
(Start: 39 @44214 has 82 MA's), (55, 44352),

Gene: DevitoJr_65 Start: 45793, Stop: 46056, Start Num: 39
Candidate Starts for DevitoJr_65:
(Start: 39 @45793 has 82 MA's), (47, 45871), (79, 46030),

Gene: Dinallo_64 Start: 46677, Stop: 46940, Start Num: 39
Candidate Starts for Dinallo_64:
(1, 46482), (11, 46527), (12, 46530), (18, 46557), (19, 46560), (22, 46581), (27, 46605), (28, 46608), (Start: 39 @46677 has 82 MA's), (77, 46899), (79, 46914),

Gene: Dinallo_60 Start: 45092, Stop: 45382, Start Num: 39
Candidate Starts for Dinallo_60:
(Start: 39 @45092 has 82 MA's), (54, 45224), (55, 45227),

Gene: ElephantMan_66 Start: 46256, Stop: 46558, Start Num: 39
Candidate Starts for ElephantMan_66:
(1, 46061), (11, 46106), (12, 46109), (15, 46118), (18, 46136), (21, 46157), (22, 46160), (23, 46163), (28, 46187), (Start: 39 @46256 has 82 MA's), (53, 46385),

Gene: ElephantMan_61 Start: 44520, Stop: 44819, Start Num: 39
Candidate Starts for ElephantMan_61:
(Start: 39 @44520 has 82 MA's), (54, 44652), (55, 44655), (74, 44754),

Gene: Elver_180 Start: 88404, Stop: 88703, Start Num: 39
Candidate Starts for Elver_180:
(Start: 39 @88404 has 82 MA's), (67, 88590), (81, 88686),

Gene: Elver_164 Start: 81584, Stop: 81901, Start Num: 39
Candidate Starts for Elver_164:
(24, 81500), (31, 81524), (Start: 39 @81584 has 82 MA's), (47, 81671), (56, 81743), (73, 81830), (77, 81857),

Gene: Gandionco_179 Start: 87798, Stop: 88097, Start Num: 39
Candidate Starts for Gandionco_179:
(Start: 39 @87798 has 82 MA's), (67, 87984), (81, 88080),

Gene: Gandionco_160 Start: 80664, Stop: 80981, Start Num: 39
Candidate Starts for Gandionco_160:
(24, 80580), (31, 80604), (Start: 39 @80664 has 82 MA's), (47, 80751), (56, 80823), (73, 80910), (77, 80937),

Gene: GantcherGoblin_66 Start: 43022, Stop: 43303, Start Num: 39
Candidate Starts for GantcherGoblin_66:
(Start: 39 @43022 has 82 MA's), (40, 43028), (41, 43049), (45, 43094), (51, 43130), (78, 43259),

Gene: GermyBearimy_74 Start: 45364, Stop: 45669, Start Num: 39
Candidate Starts for GermyBearimy_74:
(Start: 39 @45364 has 82 MA's), (47, 45451), (58, 45520), (60, 45532), (63, 45553),

Gene: GermyBearimy_79 Start: 47156, Stop: 47434, Start Num: 39
Candidate Starts for GermyBearimy_79:
(31, 47096), (37, 47138), (Start: 39 @47156 has 82 MA's), (66, 47327), (67, 47330), (73, 47363),

Gene: Giantsbane_69 Start: 44963, Stop: 45232, Start Num: 39
Candidate Starts for Giantsbane_69:
(Start: 39 @44963 has 82 MA's), (48, 45056), (69, 45140), (79, 45206),

Gene: Giantsbane_65 Start: 43403, Stop: 43696, Start Num: 39
Candidate Starts for Giantsbane_65:
(Start: 39 @43403 has 82 MA's), (41, 43433),

Gene: Gordon_63 Start: 46285, Stop: 46548, Start Num: 39
Candidate Starts for Gordon_63:
(Start: 39 @46285 has 82 MA's), (47, 46363), (79, 46522),

Gene: Gordon_59 Start: 44700, Stop: 44999, Start Num: 39

Candidate Starts for Gordon_59:
(Start: 39 @44700 has 82 MA's), (54, 44832), (55, 44835), (74, 44934),

Gene: Hemma_60 Start: 41293, Stop: 41586, Start Num: 39
Candidate Starts for Hemma_60:
(Start: 39 @41293 has 82 MA's), (49, 41407), (54, 41428), (59, 41455),

Gene: Hemma_65 Start: 43443, Stop: 43751, Start Num: 39
Candidate Starts for Hemma_65:
(Start: 39 @43443 has 82 MA's), (43, 43500), (65, 43638), (70, 43665), (76, 43701), (80, 43725),

Gene: Ingrid_72 Start: 46231, Stop: 46503, Start Num: 39
Candidate Starts for Ingrid_72:
(Start: 39 @46231 has 82 MA's), (45, 46303), (69, 46411), (79, 46477),

Gene: Ingrid_68 Start: 44584, Stop: 44877, Start Num: 39
Candidate Starts for Ingrid_68:
(Start: 39 @44584 has 82 MA's), (54, 44719), (59, 44746),

Gene: Inked_71 Start: 46836, Stop: 47096, Start Num: 39
Candidate Starts for Inked_71:
(Start: 39 @46836 has 82 MA's), (44, 46902), (46, 46911), (49, 46944), (71, 47016),

Gene: Inked_67 Start: 45260, Stop: 45550, Start Num: 39
Candidate Starts for Inked_67:
(Start: 39 @45260 has 82 MA's), (50, 45377), (54, 45392), (55, 45395), (68, 45452), (75, 45488),

Gene: Issa_64 Start: 45459, Stop: 45722, Start Num: 39
Candidate Starts for Issa_64:
(1, 45267), (11, 45312), (12, 45315), (15, 45324), (28, 45393), (Start: 39 @45459 has 82 MA's), (77, 45681), (79, 45696),

Gene: Issa_60 Start: 43876, Stop: 44166, Start Num: 39
Candidate Starts for Issa_60:
(Start: 39 @43876 has 82 MA's), (54, 44008), (55, 44011),

Gene: Jazzy4900_65 Start: 44572, Stop: 44859, Start Num: 39
Candidate Starts for Jazzy4900_65:
(Start: 39 @44572 has 82 MA's), (67, 44758), (72, 44788), (73, 44791),

Gene: Jazzy4900_69 Start: 46463, Stop: 46738, Start Num: 39
Candidate Starts for Jazzy4900_69:
(Start: 39 @46463 has 82 MA's), (62, 46610), (66, 46631), (67, 46634), (69, 46643), (70, 46652), (73, 46667), (77, 46694),

Gene: JeNeSaisPas_157 Start: 81260, Stop: 81577, Start Num: 39
Candidate Starts for JeNeSaisPas_157:
(24, 81176), (31, 81200), (Start: 39 @81260 has 82 MA's), (47, 81347), (56, 81419), (73, 81506), (77, 81533),

Gene: JeNeSaisPas_175 Start: 88525, Stop: 88824, Start Num: 39
Candidate Starts for JeNeSaisPas_175:
(Start: 39 @88525 has 82 MA's), (67, 88711), (81, 88807),

Gene: KevinMinion_66 Start: 43917, Stop: 44198, Start Num: 39
Candidate Starts for KevinMinion_66:
(Start: 39 @43917 has 82 MA's), (41, 43944), (51, 44025), (61, 44064), (64, 44079), (70, 44109), (78, 44154),

Gene: Kureo_178 Start: 87235, Stop: 87534, Start Num: 39
Candidate Starts for Kureo_178:
(Start: 39 @87235 has 82 MA's), (67, 87421), (81, 87517),

Gene: Kureo_159 Start: 80759, Stop: 81076, Start Num: 39
Candidate Starts for Kureo_159:
(24, 80675), (31, 80699), (Start: 39 @80759 has 82 MA's), (47, 80846), (56, 80918), (73, 81005), (77, 81032),

Gene: Leathea_68 Start: 42920, Stop: 43210, Start Num: 39
Candidate Starts for Leathea_68:
(Start: 39 @42920 has 82 MA's), (44, 42989), (73, 43139),

Gene: LilHuddy_70 Start: 46088, Stop: 46360, Start Num: 39
Candidate Starts for LilHuddy_70:
(Start: 39 @46088 has 82 MA's), (69, 46268),

Gene: LilHuddy_66 Start: 44510, Stop: 44803, Start Num: 39
Candidate Starts for LilHuddy_66:
(Start: 39 @44510 has 82 MA's),

Gene: Loretta_69 Start: 46231, Stop: 46503, Start Num: 39
Candidate Starts for Loretta_69:
(Start: 39 @46231 has 82 MA's), (45, 46303), (69, 46411), (79, 46477),

Gene: Loretta_65 Start: 44584, Stop: 44877, Start Num: 39
Candidate Starts for Loretta_65:
(Start: 39 @44584 has 82 MA's), (54, 44719), (59, 44746),

Gene: LucySwiss_66 Start: 45401, Stop: 45664, Start Num: 39
Candidate Starts for LucySwiss_66:
(Start: 39 @45401 has 82 MA's), (77, 45623), (79, 45638),

Gene: LucySwiss_61 Start: 43671, Stop: 43970, Start Num: 39
Candidate Starts for LucySwiss_61:
(Start: 39 @43671 has 82 MA's), (54, 43803), (55, 43806), (74, 43905),

Gene: Makai_65 Start: 44655, Stop: 44951, Start Num: 39
Candidate Starts for Makai_65:
(Start: 39 @44655 has 82 MA's), (54, 44787), (55, 44790), (74, 44886),

Gene: Makai_70 Start: 46375, Stop: 46647, Start Num: 39
Candidate Starts for Makai_70:
(Start: 39 @46375 has 82 MA's), (69, 46555), (77, 46606),

Gene: Mardi_68 Start: 43484, Stop: 43768, Start Num: 39
Candidate Starts for Mardi_68:

(Start: 39 @43484 has 82 MA's), (41, 43511), (64, 43649), (78, 43724),

Gene: Marianna39_160 Start: 81269, Stop: 81586, Start Num: 39
Candidate Starts for Marianna39_160:
(24, 81185), (31, 81209), (Start: 39 @81269 has 82 MA's), (47, 81356), (56, 81428), (73, 81515), (77, 81542),

Gene: Marianna39_178 Start: 88401, Stop: 88700, Start Num: 39
Candidate Starts for Marianna39_178:
(Start: 39 @88401 has 82 MA's), (67, 88587), (81, 88683),

Gene: MediumFry_62 Start: 44006, Stop: 44296, Start Num: 39
Candidate Starts for MediumFry_62:
(Start: 39 @44006 has 82 MA's), (50, 44123), (54, 44138), (55, 44141),

Gene: MediumFry_66 Start: 45539, Stop: 45841, Start Num: 39
Candidate Starts for MediumFry_66:
(1, 45362), (4, 45371), (11, 45404), (22, 45458), (26, 45479), (Start: 39 @45539 has 82 MA's),

Gene: MiniBagel_61 Start: 44764, Stop: 45063, Start Num: 39
Candidate Starts for MiniBagel_61:
(Start: 39 @44764 has 82 MA's), (54, 44896), (74, 44998),

Gene: MiniBagel_65 Start: 46355, Stop: 46624, Start Num: 39
Candidate Starts for MiniBagel_65:
(3, 46163), (5, 46172), (10, 46196), (13, 46208), (14, 46211), (16, 46217), (17, 46220), (30, 46289), (Start: 39 @46355 has 82 MA's), (69, 46532),

Gene: Navi1117_70 Start: 43926, Stop: 44207, Start Num: 39
Candidate Starts for Navi1117_70:
(Start: 39 @43926 has 82 MA's), (41, 43953), (51, 44034), (61, 44073), (64, 44088), (70, 44118), (78, 44163),

Gene: Nightmare_63 Start: 45062, Stop: 45361, Start Num: 39
Candidate Starts for Nightmare_63:
(Start: 39 @45062 has 82 MA's), (54, 45194), (55, 45197), (74, 45296),

Gene: Nightmare_67 Start: 46698, Stop: 46961, Start Num: 39
Candidate Starts for Nightmare_67:
(Start: 39 @46698 has 82 MA's), (47, 46776), (79, 46935),

Gene: Niktson_61 Start: 44520, Stop: 44819, Start Num: 39
Candidate Starts for Niktson_61:
(Start: 39 @44520 has 82 MA's), (54, 44652), (55, 44655), (74, 44754),

Gene: Niktson_66 Start: 46256, Stop: 46558, Start Num: 39
Candidate Starts for Niktson_66:
(1, 46061), (11, 46106), (12, 46109), (15, 46118), (18, 46136), (21, 46157), (22, 46160), (23, 46163), (28, 46187), (Start: 39 @46256 has 82 MA's), (53, 46385),

Gene: Nivinsha_63 Start: 44018, Stop: 44311, Start Num: 39
Candidate Starts for Nivinsha_63:
(Start: 39 @44018 has 82 MA's), (55, 44156),

Gene: Nivinsha_69 Start: 45830, Stop: 46093, Start Num: 39
Candidate Starts for Nivinsha_69:
(Start: 39 @45830 has 82 MA's), (47, 45908), (79, 46067),

Gene: Onestar_67 Start: 44130, Stop: 44408, Start Num: 39
Candidate Starts for Onestar_67:
(36, 44103), (Start: 39 @44130 has 82 MA's), (44, 44196), (46, 44205), (66, 44298), (73, 44334),

Gene: Paella_181 Start: 89280, Stop: 89579, Start Num: 39
Candidate Starts for Paella_181:
(Start: 39 @89280 has 82 MA's), (67, 89466), (81, 89562),

Gene: Paella_164 Start: 82455, Stop: 82772, Start Num: 39
Candidate Starts for Paella_164:
(24, 82371), (31, 82395), (Start: 39 @82455 has 82 MA's), (47, 82542), (56, 82614), (73, 82701), (77, 82728),

Gene: Phaby_67 Start: 45074, Stop: 45367, Start Num: 39
Candidate Starts for Phaby_67:
(Start: 39 @45074 has 82 MA's),

Gene: Phaby_71 Start: 46619, Stop: 46891, Start Num: 39
Candidate Starts for Phaby_71:
(Start: 39 @46619 has 82 MA's), (69, 46799), (79, 46865),

Gene: Phaila_70 Start: 43149, Stop: 43433, Start Num: 39
Candidate Starts for Phaila_70:
(Start: 39 @43149 has 82 MA's), (41, 43176), (64, 43314),

Gene: PoeMe_69 Start: 43634, Stop: 43918, Start Num: 39
Candidate Starts for PoeMe_69:
(Start: 39 @43634 has 82 MA's), (40, 43640),

Gene: Qui_181 Start: 89277, Stop: 89576, Start Num: 39
Candidate Starts for Qui_181:
(Start: 39 @89277 has 82 MA's), (67, 89463), (81, 89559),

Gene: Qui_164 Start: 82455, Stop: 82772, Start Num: 39
Candidate Starts for Qui_164:
(24, 82371), (31, 82395), (Start: 39 @82455 has 82 MA's), (47, 82542), (56, 82614), (73, 82701), (77, 82728),

Gene: ScienceWizSam_62 Start: 44180, Stop: 44473, Start Num: 39
Candidate Starts for ScienceWizSam_62:
(Start: 39 @44180 has 82 MA's), (55, 44318),

Gene: ScienceWizSam_67 Start: 45992, Stop: 46255, Start Num: 39
Candidate Starts for ScienceWizSam_67:
(Start: 39 @45992 has 82 MA's), (47, 46070), (79, 46229),

Gene: Shepard_71 Start: 45944, Stop: 46213, Start Num: 39
Candidate Starts for Shepard_71:

(Start: 39 @45944 has 82 MA's), (69, 46121),

Gene: Shepard_67 Start: 44369, Stop: 44662, Start Num: 39
Candidate Starts for Shepard_67:
(Start: 39 @44369 has 82 MA's),

Gene: Stardrop_72 Start: 43736, Stop: 44020, Start Num: 39
Candidate Starts for Stardrop_72:
(Start: 39 @43736 has 82 MA's), (40, 43742),

Gene: Sunny4976_68 Start: 46463, Stop: 46738, Start Num: 39
Candidate Starts for Sunny4976_68:
(Start: 39 @46463 has 82 MA's), (62, 46610), (66, 46631), (67, 46634), (69, 46643), (70, 46652), (73, 46667), (77, 46694),

Gene: Sunny4976_64 Start: 44572, Stop: 44859, Start Num: 39
Candidate Starts for Sunny4976_64:
(Start: 39 @44572 has 82 MA's), (67, 44758), (72, 44788), (73, 44791),

Gene: Synepsis_64 Start: 45760, Stop: 46023, Start Num: 39
Candidate Starts for Synepsis_64:
(Start: 39 @45760 has 82 MA's), (47, 45838), (79, 45997),

Gene: Synepsis_60 Start: 44184, Stop: 44477, Start Num: 39
Candidate Starts for Synepsis_60:
(Start: 39 @44184 has 82 MA's), (55, 44322),

Gene: Tatanka_58 Start: 44317, Stop: 44610, Start Num: 39
Candidate Starts for Tatanka_58:
(Start: 39 @44317 has 82 MA's), (55, 44455), (57, 44467),

Gene: Tatanka_61 Start: 45896, Stop: 46159, Start Num: 39
Candidate Starts for Tatanka_61:
(Start: 39 @45896 has 82 MA's), (47, 45974), (79, 46133),

Gene: Teacup_62 Start: 44599, Stop: 44898, Start Num: 39
Candidate Starts for Teacup_62:
(Start: 39 @44599 has 82 MA's), (54, 44731), (55, 44734), (74, 44833),

Gene: Teacup_67 Start: 46335, Stop: 46598, Start Num: 39
Candidate Starts for Teacup_67:
(1, 46140), (11, 46185), (12, 46188), (15, 46197), (18, 46215), (21, 46236), (22, 46239), (28, 46266), (Start: 39 @46335 has 82 MA's), (77, 46557), (79, 46572),

Gene: Tenney120_69 Start: 43682, Stop: 43963, Start Num: 39
Candidate Starts for Tenney120_69:
(Start: 39 @43682 has 82 MA's), (41, 43709), (45, 43754), (51, 43790), (78, 43919),

Gene: Tenno_62 Start: 44837, Stop: 45127, Start Num: 39
Candidate Starts for Tenno_62:
(Start: 39 @44837 has 82 MA's), (54, 44969), (55, 44972),

Gene: Tenno_66 Start: 46419, Stop: 46703, Start Num: 39

Candidate Starts for Tenno_66:
(1, 46227), (4, 46236), (11, 46272), (12, 46275), (15, 46284), (18, 46302), (22, 46326), (Start: 39 @46419 has 82 MA's), (78, 46662),

Gene: Tipton_70 Start: 46456, Stop: 46728, Start Num: 39
Candidate Starts for Tipton_70:
(Start: 39 @46456 has 82 MA's), (69, 46636),

Gene: Tipton_65 Start: 44692, Stop: 44985, Start Num: 39
Candidate Starts for Tipton_65:
(Start: 39 @44692 has 82 MA's),

Gene: Tokki_70 Start: 44723, Stop: 45016, Start Num: 39
Candidate Starts for Tokki_70:
(Start: 39 @44723 has 82 MA's),

Gene: Tokki_75 Start: 46487, Stop: 46759, Start Num: 39
Candidate Starts for Tokki_75:
(Start: 39 @46487 has 82 MA's), (69, 46667),

Gene: TrixiePhattel_69 Start: 43311, Stop: 43595, Start Num: 39
Candidate Starts for TrixiePhattel_69:
(20, 43206), (21, 43209), (25, 43230), (29, 43242), (32, 43260), (35, 43281), (38, 43296), (Start: 39 @43311 has 82 MA's), (41, 43338), (42, 43356), (64, 43476),

Gene: Truckee_63 Start: 44439, Stop: 44735, Start Num: 39
Candidate Starts for Truckee_63:
(Start: 39 @44439 has 82 MA's), (54, 44571), (55, 44574), (74, 44670),

Gene: Truckee_68 Start: 46153, Stop: 46425, Start Num: 39
Candidate Starts for Truckee_68:
(Start: 39 @46153 has 82 MA's), (69, 46333), (77, 46384),

Gene: Trustiboi_61 Start: 44439, Stop: 44732, Start Num: 39
Candidate Starts for Trustiboi_61:
(Start: 39 @44439 has 82 MA's), (55, 44577),

Gene: Trustiboi_65 Start: 46015, Stop: 46278, Start Num: 39
Candidate Starts for Trustiboi_65:
(Start: 39 @46015 has 82 MA's), (47, 46093), (62, 46153), (79, 46252),

Gene: Uzumaki_65 Start: 43123, Stop: 43404, Start Num: 39
Candidate Starts for Uzumaki_65:
(Start: 39 @43123 has 82 MA's), (40, 43129), (41, 43150), (45, 43195), (51, 43231), (78, 43360),

Gene: Westerlin_65 Start: 47104, Stop: 47367, Start Num: 39
Candidate Starts for Westerlin_65:
(Start: 39 @47104 has 82 MA's), (47, 47182), (62, 47242), (79, 47341),

Gene: Westerlin_61 Start: 45519, Stop: 45818, Start Num: 39
Candidate Starts for Westerlin_61:
(Start: 39 @45519 has 82 MA's), (54, 45651), (55, 45654), (74, 45753),

Gene: Zeina_70 Start: 43817, Stop: 44101, Start Num: 39
Candidate Starts for Zeina_70:
(Start: 39 @43817 has 82 MA's), (41, 43844), (64, 43982),

Gene: Zippen_67 Start: 45128, Stop: 45418, Start Num: 39
Candidate Starts for Zippen_67:
(Start: 39 @45128 has 82 MA's), (50, 45245), (54, 45260), (55, 45263), (68, 45320), (75, 45356),

Gene: Zippen_71 Start: 46707, Stop: 46982, Start Num: 39
Candidate Starts for Zippen_71:
(2, 46512), (9, 46539), (14, 46563), (15, 46566), (26, 46629), (28, 46635), (33, 46662), (Start: 39 @46707 has 82 MA's), (45, 46779), (46, 46782), (69, 46890), (77, 46941),