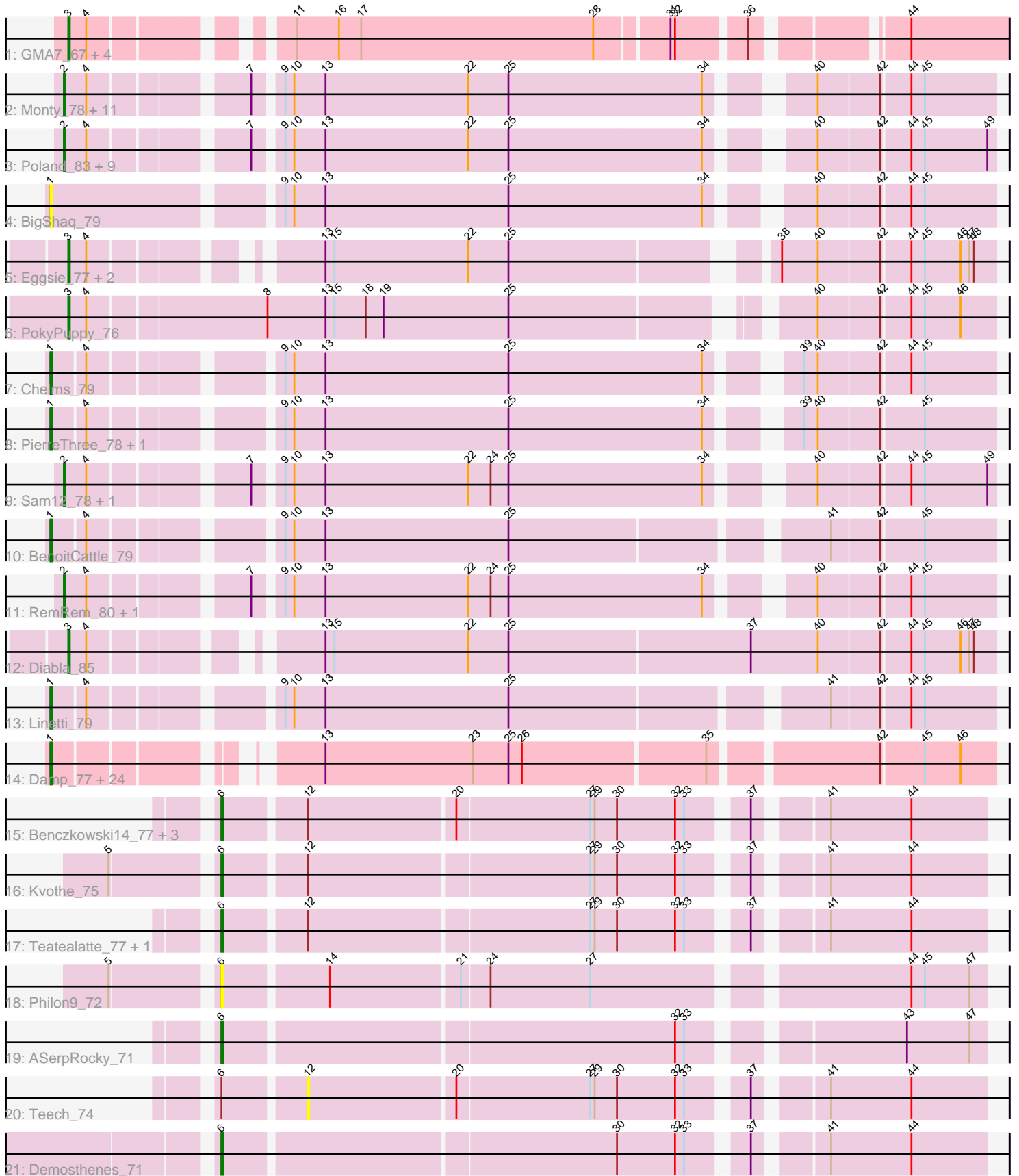


Pham 186860



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 186860 Report

This analysis was run 11/02/24 on database version 579.

Pham number 186860 has 78 members, 11 are drafts.

Phages represented in each track:

- Track 1 : GMA7_67, Austin_77, HayZem_78, Amore2_78, GTE7_66
- Track 2 : Monty_78, CathyBurgh_78, GourdThymes_79, Squibbles_78, Flakey_78, Barbochs_78, Beaver_82, Breezic_79, Gorko_78, Hotorobo_79, John316_82, Lizzo_79
- Track 3 : Poland_83, Sombrero_80, Butterball_81, Boneham_82, Jellybones_80, CinnamonToast_83, FelixAlejandro_83, Adgers_82, BirksAndSocks_83, Msay19_83
- Track 4 : BigShaq_79
- Track 5 : Eggsie_77, RoyalG_79, SteveFrench_78
- Track 6 : PokyPuppy_76
- Track 7 : Chelms_79
- Track 8 : PierreThree_78, Dakiti_80
- Track 9 : Sam12_78, Exiguo_78
- Track 10 : BenoitCattle_79
- Track 11 : RemRem_80, Ekhein_79
- Track 12 : Diabla_85
- Track 13 : Linetti_79
- Track 14 : Damp_77, Teal_76, Hail2Pitt_75, Charianelly_77, Berries_77, Hello_76, Newt_78, Harambe_76, Lidong_77, Guillaume_76, Luker_78, Anamika_76, GalacticEye_77, Jams_77, Bianmat_77, Lahirium_76, Kaseim_76, Woes_76, Neoevie_76, Jormungandr_76, Shelley_77, Minos_78, Sticker17_77, Nimi13_76, MrWormie_77
- Track 15 : Benczkowski14_77, Niagara_76, Hollow_77, Katyusha_75
- Track 16 : Kvothe_75
- Track 17 : Teatealatte_77, Tredge_76
- Track 18 : Philon9_72
- Track 19 : ASerpRocky_71
- Track 20 : Teech_74
- Track 21 : Demosthenes_71

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

The start number called the most often in the published annotations is 1, it was called in 29 of the 67 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anamika_76, BenoitCattle_79, Berries_77, Bianmat_77, BigShaq_79, Charianelly_77, Chelms_79, Dakiti_80, Damp_77, GalacticEye_77, Guillaume_76, Hail2Pitt_75, Harambe_76, Hello_76, Jams_77, Jormungandr_76, Kaseim_76, Lahirium_76, Lidong_77, Linetti_79, Luker_78, Minos_78, MrWormie_77, Neoevie_76, Newt_78, Nimi13_76, PierreThree_78, Shelley_77, Sticker17_77, Teal_76, Woes_76,

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

-

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

- ASerpRocky_71, Adgers_82, Amore2_78, Austin_77, Barbochs_78, Beaver_82, Benczkowski14_77, BirksAndSocks_83, Boneham_82, Breezic_79, Butterball_81, CathyBurgh_78, CinnamonToast_83, Demosthenes_71, Diabla_85, Eggsie_77, Ekhein_79, Exiguo_78, FelixAlejandro_83, Flakey_78, GMA7_67, GTE7_66, Gorko_78, GourdThymes_79, HayZem_78, Hollow_77, Hotorobo_79, Jellybones_80, John316_82, Katyusha_75, Kvothe_75, Lizzo_79, Monty_78, Msay19_83, Niagara_76, Philon9_72, PokyPuppy_76, Poland_83, RemRem_80, RoyalG_79, Sam12_78, Sombrero_80, Squibbles_78, SteveFrench_78, Teatealatte_77, Teech_74, Tredge_76,

Summary by start number:

Start 1:

- Found in 31 of 78 (39.7%) of genes in pham
- Manual Annotations of this start: 29 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Anamika_76 (CS3), BenoitCattle_79 (CS2), Berries_77 (CS3), Bianmat_77 (CS3), BigShaq_79 (CS2), Charianelly_77 (CS3), Chelms_79 (CS2), Dakiti_80 (CS2), Damp_77 (CS3), GalacticEye_77 (CS3), Guillaume_76 (CS3), Hail2Pitt_75 (CS3), Harambe_76 (CS3), Hello_76 (CS3), Jams_77 (CS3), Jormungandr_76 (CS3), Kaseim_76 (CS3), Lahirium_76 (CS3), Lidong_77 (CS3), Linetti_79 (CS2), Luker_78 (CS3), Minos_78 (CS3), MrWormie_77 (CS3), Neoevie_76 (CS3), Newt_78 (CS3), Nimi13_76 (CS3), PierreThree_78 (CS2), Shelley_77 (CS3), Sticker17_77 (CS3), Teal_76 (CS3), Woes_76 (CS3),

Start 2:

- Found in 26 of 78 (33.3%) of genes in pham
- Manual Annotations of this start: 22 of 67
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adgers_82 (CS2), Barbochs_78 (CS2), Beaver_82 (CS2), BirksAndSocks_83 (CS2), Boneham_82 (CS2), Breezic_79 (CS2), Butterball_81 (CS2), CathyBurgh_78 (CS2), CinnamonToast_83 (CS2), Ekhein_79 (CS2), Exiguo_78 (CS2), FelixAlejandro_83 (CS2), Flakey_78 (CS2), Gorko_78 (CS2), GourdThymes_79 (CS2), Hotorobo_79 (CS2), Jellybones_80 (CS2), John316_82 (CS2), Lizzo_79 (CS2), Monty_78 (CS2), Msay19_83 (CS2), Poland_83 (CS2), RemRem_80 (CS2), Sam12_78 (CS2), Sombrero_80 (CS2), Squibbles_78 (CS2),

Start 3:

- Found in 10 of 78 (12.8%) of genes in pham
- Manual Annotations of this start: 7 of 67

- Called 100.0% of time when present
- Phage (with cluster) where this start called: Amore2_78 (CS1), Austin_77 (CS1), Diabla_85 (CS2), Eggsie_77 (CS2), GMA7_67 (CS1), GTE7_66 (CS1), HayZem_78 (CS1), PokyPuppy_76 (CS2), RoyalG_79 (CS2), SteveFrench_78 (CS2),

Start 6:

- Found in 11 of 78 (14.1%) of genes in pham
- Manual Annotations of this start: 9 of 67
- Called 90.9% of time when present
- Phage (with cluster) where this start called: ASerpRocky_71 (CS4), Benczkowski14_77 (CS4), Demosthenes_71 (CS4), Hollow_77 (CS4), Katyusha_75 (CS4), Kvothe_75 (CS4), Niagara_76 (CS4), Philon9_72 (CS4), Teatealatte_77 (CS4), Tredge_76 (CS4),

Start 12:

- Found in 8 of 78 (10.3%) of genes in pham
- No Manual Annotations of this start.
- Called 12.5% of time when present
- Phage (with cluster) where this start called: Teech_74 (CS4),

Summary by clusters:

There are 4 clusters represented in this pham: CS4, CS1, CS3, CS2,

Info for manual annotations of cluster CS1:

- Start number 3 was manually annotated 3 times for cluster CS1.

Info for manual annotations of cluster CS2:

- Start number 1 was manually annotated 5 times for cluster CS2.
- Start number 2 was manually annotated 22 times for cluster CS2.
- Start number 3 was manually annotated 4 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 1 was manually annotated 24 times for cluster CS3.

Info for manual annotations of cluster CS4:

- Start number 6 was manually annotated 9 times for cluster CS4.

Gene Information:

Gene: ASerpRocky_71 Start: 61030, Stop: 60557, Start Num: 6

Candidate Starts for ASerpRocky_71:

(Start: 6 @61030 has 9 MA's), (32, 60739), (33, 60733), (43, 60610), (47, 60568),

Gene: Adgers_82 Start: 61857, Stop: 61294, Start Num: 2

Candidate Starts for Adgers_82:

(Start: 2 @61857 has 22 MA's), (4, 61842), (7, 61752), (9, 61737), (10, 61731), (13, 61710), (22, 61614), (25, 61587), (34, 61458), (40, 61407), (42, 61368), (44, 61350), (45, 61341), (49, 61299),

Gene: Amore2_78 Start: 60850, Stop: 60299, Start Num: 3

Candidate Starts for Amore2_78:

(Start: 3 @60850 has 7 MA's), (4, 60838), (11, 60736), (16, 60709), (17, 60694), (28, 60538), (31, 60493), (32, 60490), (36, 60448), (44, 60364),

Gene: Anamika_76 Start: 62127, Stop: 61564, Start Num: 1

Candidate Starts for Anamika_76:

(Start: 1 @62127 has 29 MA's), (13, 61992), (23, 61893), (25, 61869), (26, 61860), (35, 61740), (42, 61638), (45, 61611), (46, 61587),

Gene: Austin_77 Start: 60848, Stop: 60297, Start Num: 3

Candidate Starts for Austin_77:

(Start: 3 @60848 has 7 MA's), (4, 60836), (11, 60734), (16, 60707), (17, 60692), (28, 60536), (31, 60491), (32, 60488), (36, 60446), (44, 60362),

Gene: Barbochs_78 Start: 61234, Stop: 60671, Start Num: 2

Candidate Starts for Barbochs_78:

(Start: 2 @61234 has 22 MA's), (4, 61219), (7, 61129), (9, 61114), (10, 61108), (13, 61087), (22, 60991), (25, 60964), (34, 60835), (40, 60784), (42, 60745), (44, 60727), (45, 60718),

Gene: Beaver_82 Start: 63178, Stop: 62615, Start Num: 2

Candidate Starts for Beaver_82:

(Start: 2 @63178 has 22 MA's), (4, 63163), (7, 63073), (9, 63058), (10, 63052), (13, 63031), (22, 62935), (25, 62908), (34, 62779), (40, 62728), (42, 62689), (44, 62671), (45, 62662),

Gene: Benczkowski14_77 Start: 62275, Stop: 61802, Start Num: 6

Candidate Starts for Benczkowski14_77:

(Start: 6 @62275 has 9 MA's), (12, 62224), (20, 62128), (27, 62041), (29, 62038), (30, 62023), (32, 61984), (33, 61978), (37, 61945), (41, 61906), (44, 61852),

Gene: BenoitCattle_79 Start: 61905, Stop: 61333, Start Num: 1

Candidate Starts for BenoitCattle_79:

(Start: 1 @61905 has 29 MA's), (4, 61884), (9, 61779), (10, 61773), (13, 61752), (25, 61629), (41, 61437), (42, 61407), (45, 61380),

Gene: Berries_77 Start: 62099, Stop: 61536, Start Num: 1

Candidate Starts for Berries_77:

(Start: 1 @62099 has 29 MA's), (13, 61964), (23, 61865), (25, 61841), (26, 61832), (35, 61712), (42, 61610), (45, 61583), (46, 61559),

Gene: Bianmat_77 Start: 62139, Stop: 61576, Start Num: 1

Candidate Starts for Bianmat_77:

(Start: 1 @62139 has 29 MA's), (13, 62004), (23, 61905), (25, 61881), (26, 61872), (35, 61752), (42, 61650), (45, 61623), (46, 61599),

Gene: BigShaq_79 Start: 62086, Stop: 61505, Start Num: 1

Candidate Starts for BigShaq_79:

(Start: 1 @62086 has 29 MA's), (9, 61948), (10, 61942), (13, 61921), (25, 61798), (34, 61669), (40, 61618), (42, 61579), (44, 61561), (45, 61552),

Gene: BirksAndSocks_83 Start: 63300, Stop: 62737, Start Num: 2

Candidate Starts for BirksAndSocks_83:

(Start: 2 @63300 has 22 MA's), (4, 63285), (7, 63195), (9, 63180), (10, 63174), (13, 63153), (22, 63057), (25, 63030), (34, 62901), (40, 62850), (42, 62811), (44, 62793), (45, 62784), (49, 62742),

Gene: Boneham_82 Start: 63225, Stop: 62662, Start Num: 2

Candidate Starts for Boneham_82:

(Start: 2 @63225 has 22 MA's), (4, 63210), (7, 63120), (9, 63105), (10, 63099), (13, 63078), (22, 62982), (25, 62955), (34, 62826), (40, 62775), (42, 62736), (44, 62718), (45, 62709), (49, 62667),

Gene: Breezic_79 Start: 61445, Stop: 60882, Start Num: 2

Candidate Starts for Breezic_79:

(Start: 2 @61445 has 22 MA's), (4, 61430), (7, 61340), (9, 61325), (10, 61319), (13, 61298), (22, 61202), (25, 61175), (34, 61046), (40, 60995), (42, 60956), (44, 60938), (45, 60929),

Gene: Butterball_81 Start: 63230, Stop: 62667, Start Num: 2

Candidate Starts for Butterball_81:

(Start: 2 @63230 has 22 MA's), (4, 63215), (7, 63125), (9, 63110), (10, 63104), (13, 63083), (22, 62987), (25, 62960), (34, 62831), (40, 62780), (42, 62741), (44, 62723), (45, 62714), (49, 62672),

Gene: CathyBurgh_78 Start: 61965, Stop: 61402, Start Num: 2

Candidate Starts for CathyBurgh_78:

(Start: 2 @61965 has 22 MA's), (4, 61950), (7, 61860), (9, 61845), (10, 61839), (13, 61818), (22, 61722), (25, 61695), (34, 61566), (40, 61515), (42, 61476), (44, 61458), (45, 61449),

Gene: Charianelly_77 Start: 61849, Stop: 61286, Start Num: 1

Candidate Starts for Charianelly_77:

(Start: 1 @61849 has 29 MA's), (13, 61714), (23, 61615), (25, 61591), (26, 61582), (35, 61462), (42, 61360), (45, 61333), (46, 61309),

Gene: Chelms_79 Start: 62004, Stop: 61435, Start Num: 1

Candidate Starts for Chelms_79:

(Start: 1 @62004 has 29 MA's), (4, 61983), (9, 61878), (10, 61872), (13, 61851), (25, 61728), (34, 61599), (39, 61557), (40, 61548), (42, 61509), (44, 61491), (45, 61482),

Gene: CinnamonToast_83 Start: 63305, Stop: 62742, Start Num: 2

Candidate Starts for CinnamonToast_83:

(Start: 2 @63305 has 22 MA's), (4, 63290), (7, 63200), (9, 63185), (10, 63179), (13, 63158), (22, 63062), (25, 63035), (34, 62906), (40, 62855), (42, 62816), (44, 62798), (45, 62789), (49, 62747),

Gene: Dakiti_80 Start: 62802, Stop: 62233, Start Num: 1

Candidate Starts for Dakiti_80:

(Start: 1 @62802 has 29 MA's), (4, 62781), (9, 62676), (10, 62670), (13, 62649), (25, 62526), (34, 62397), (39, 62355), (40, 62346), (42, 62307), (45, 62280),

Gene: Damp_77 Start: 61013, Stop: 60450, Start Num: 1

Candidate Starts for Damp_77:

(Start: 1 @61013 has 29 MA's), (13, 60878), (23, 60779), (25, 60755), (26, 60746), (35, 60626), (42, 60524), (45, 60497), (46, 60473),

Gene: Demosthenes_71 Start: 61052, Stop: 60579, Start Num: 6

Candidate Starts for Demosthenes_71:

(Start: 6 @61052 has 9 MA's), (30, 60800), (32, 60761), (33, 60755), (37, 60722), (41, 60683), (44, 60629),

Gene: Diabla_85 Start: 63272, Stop: 62700, Start Num: 3

Candidate Starts for Diabla_85:

(Start: 3 @63272 has 7 MA's), (4, 63260), (13, 63140), (15, 63134), (22, 63044), (25, 63017), (37, 62858), (40, 62813), (42, 62774), (44, 62756), (45, 62747), (46, 62723), (47, 62717), (48, 62714),

Gene: Eggsie_77 Start: 60712, Stop: 60167, Start Num: 3

Candidate Starts for Eggsie_77:

(Start: 3 @60712 has 7 MA's), (4, 60700), (13, 60580), (15, 60574), (22, 60484), (25, 60457), (38, 60304), (40, 60280), (42, 60241), (44, 60223), (45, 60214), (46, 60190), (47, 60184), (48, 60181),

Gene: Ekhein_79 Start: 61135, Stop: 60572, Start Num: 2

Candidate Starts for Ekhein_79:

(Start: 2 @61135 has 22 MA's), (4, 61120), (7, 61030), (9, 61015), (10, 61009), (13, 60988), (22, 60892), (24, 60877), (25, 60865), (34, 60736), (40, 60685), (42, 60646), (44, 60628), (45, 60619),

Gene: Exiguo_78 Start: 61141, Stop: 60578, Start Num: 2

Candidate Starts for Exiguo_78:

(Start: 2 @61141 has 22 MA's), (4, 61126), (7, 61036), (9, 61021), (10, 61015), (13, 60994), (22, 60898), (24, 60883), (25, 60871), (34, 60742), (40, 60691), (42, 60652), (44, 60634), (45, 60625), (49, 60583),

Gene: FelixAlejandro_83 Start: 63655, Stop: 63092, Start Num: 2

Candidate Starts for FelixAlejandro_83:

(Start: 2 @63655 has 22 MA's), (4, 63640), (7, 63550), (9, 63535), (10, 63529), (13, 63508), (22, 63412), (25, 63385), (34, 63256), (40, 63205), (42, 63166), (44, 63148), (45, 63139), (49, 63097),

Gene: Flakey_78 Start: 61951, Stop: 61388, Start Num: 2

Candidate Starts for Flakey_78:

(Start: 2 @61951 has 22 MA's), (4, 61936), (7, 61846), (9, 61831), (10, 61825), (13, 61804), (22, 61708), (25, 61681), (34, 61552), (40, 61501), (42, 61462), (44, 61444), (45, 61435),

Gene: GMA7_67 Start: 55064, Stop: 54513, Start Num: 3

Candidate Starts for GMA7_67:

(Start: 3 @55064 has 7 MA's), (4, 55052), (11, 54950), (16, 54923), (17, 54908), (28, 54752), (31, 54707), (32, 54704), (36, 54662), (44, 54578),

Gene: GTE7_66 Start: 55095, Stop: 54544, Start Num: 3

Candidate Starts for GTE7_66:

(Start: 3 @55095 has 7 MA's), (4, 55083), (11, 54981), (16, 54954), (17, 54939), (28, 54783), (31, 54738), (32, 54735), (36, 54693), (44, 54609),

Gene: GalacticEye_77 Start: 61810, Stop: 61247, Start Num: 1

Candidate Starts for GalacticEye_77:

(Start: 1 @61810 has 29 MA's), (13, 61675), (23, 61576), (25, 61552), (26, 61543), (35, 61423), (42, 61321), (45, 61294), (46, 61270),

Gene: Gorko_78 Start: 61052, Stop: 60489, Start Num: 2

Candidate Starts for Gorko_78:

(Start: 2 @61052 has 22 MA's), (4, 61037), (7, 60947), (9, 60932), (10, 60926), (13, 60905), (22, 60809), (25, 60782), (34, 60653), (40, 60602), (42, 60563), (44, 60545), (45, 60536),

Gene: GourdThymes_79 Start: 61992, Stop: 61429, Start Num: 2

Candidate Starts for GourdThymes_79:

(Start: 2 @61992 has 22 MA's), (4, 61977), (7, 61887), (9, 61872), (10, 61866), (13, 61845), (22, 61749), (25, 61722), (34, 61593), (40, 61542), (42, 61503), (44, 61485), (45, 61476),

Gene: Guillaume_76 Start: 61860, Stop: 61297, Start Num: 1

Candidate Starts for Guillaume_76:

(Start: 1 @61860 has 29 MA's), (13, 61725), (23, 61626), (25, 61602), (26, 61593), (35, 61473), (42, 61371), (45, 61344), (46, 61320),

Gene: Hail2Pitt_75 Start: 62336, Stop: 61773, Start Num: 1

Candidate Starts for Hail2Pitt_75:

(Start: 1 @62336 has 29 MA's), (13, 62201), (23, 62102), (25, 62078), (26, 62069), (35, 61949), (42, 61847), (45, 61820), (46, 61796),

Gene: Harambe_76 Start: 62127, Stop: 61564, Start Num: 1

Candidate Starts for Harambe_76:

(Start: 1 @62127 has 29 MA's), (13, 61992), (23, 61893), (25, 61869), (26, 61860), (35, 61740), (42, 61638), (45, 61611), (46, 61587),

Gene: HayZem_78 Start: 60848, Stop: 60297, Start Num: 3

Candidate Starts for HayZem_78:

(Start: 3 @60848 has 7 MA's), (4, 60836), (11, 60734), (16, 60707), (17, 60692), (28, 60536), (31, 60491), (32, 60488), (36, 60446), (44, 60362),

Gene: Hello_76 Start: 62089, Stop: 61526, Start Num: 1

Candidate Starts for Hello_76:

(Start: 1 @62089 has 29 MA's), (13, 61954), (23, 61855), (25, 61831), (26, 61822), (35, 61702), (42, 61600), (45, 61573), (46, 61549),

Gene: Hollow_77 Start: 62444, Stop: 61971, Start Num: 6

Candidate Starts for Hollow_77:

(Start: 6 @62444 has 9 MA's), (12, 62393), (20, 62297), (27, 62210), (29, 62207), (30, 62192), (32, 62153), (33, 62147), (37, 62114), (41, 62075), (44, 62021),

Gene: Hotorobo_79 Start: 62015, Stop: 61452, Start Num: 2

Candidate Starts for Hotorobo_79:

(Start: 2 @62015 has 22 MA's), (4, 62000), (7, 61910), (9, 61895), (10, 61889), (13, 61868), (22, 61772), (25, 61745), (34, 61616), (40, 61565), (42, 61526), (44, 61508), (45, 61499),

Gene: Jams_77 Start: 61299, Stop: 60736, Start Num: 1

Candidate Starts for Jams_77:

(Start: 1 @61299 has 29 MA's), (13, 61164), (23, 61065), (25, 61041), (26, 61032), (35, 60912), (42, 60810), (45, 60783), (46, 60759),

Gene: Jellybones_80 Start: 62939, Stop: 62376, Start Num: 2

Candidate Starts for Jellybones_80:

(Start: 2 @62939 has 22 MA's), (4, 62924), (7, 62834), (9, 62819), (10, 62813), (13, 62792), (22, 62696), (25, 62669), (34, 62540), (40, 62489), (42, 62450), (44, 62432), (45, 62423), (49, 62381),

Gene: John316_82 Start: 63103, Stop: 62540, Start Num: 2

Candidate Starts for John316_82:

(Start: 2 @63103 has 22 MA's), (4, 63088), (7, 62998), (9, 62983), (10, 62977), (13, 62956), (22, 62860), (25, 62833), (34, 62704), (40, 62653), (42, 62614), (44, 62596), (45, 62587),

Gene: Jormungandr_76 Start: 61842, Stop: 61279, Start Num: 1

Candidate Starts for Jormungandr_76:

(Start: 1 @61842 has 29 MA's), (13, 61707), (23, 61608), (25, 61584), (26, 61575), (35, 61455), (42, 61353), (45, 61326), (46, 61302),

Gene: Kaseim_76 Start: 61284, Stop: 60721, Start Num: 1

Candidate Starts for Kaseim_76:

(Start: 1 @61284 has 29 MA's), (13, 61149), (23, 61050), (25, 61026), (26, 61017), (35, 60897), (42, 60795), (45, 60768), (46, 60744),

Gene: Katyusha_75 Start: 62275, Stop: 61802, Start Num: 6

Candidate Starts for Katyusha_75:

(Start: 6 @62275 has 9 MA's), (12, 62224), (20, 62128), (27, 62041), (29, 62038), (30, 62023), (32, 61984), (33, 61978), (37, 61945), (41, 61906), (44, 61852),

Gene: Kvothe_75 Start: 62117, Stop: 61644, Start Num: 6

Candidate Starts for Kvothe_75:

(5, 62180), (Start: 6 @62117 has 9 MA's), (12, 62066), (27, 61883), (29, 61880), (30, 61865), (32, 61826), (33, 61820), (37, 61787), (41, 61748), (44, 61694),

Gene: Lahirium_76 Start: 62364, Stop: 61801, Start Num: 1

Candidate Starts for Lahirium_76:

(Start: 1 @62364 has 29 MA's), (13, 62229), (23, 62130), (25, 62106), (26, 62097), (35, 61977), (42, 61875), (45, 61848), (46, 61824),

Gene: Lidong_77 Start: 62099, Stop: 61536, Start Num: 1

Candidate Starts for Lidong_77:

(Start: 1 @62099 has 29 MA's), (13, 61964), (23, 61865), (25, 61841), (26, 61832), (35, 61712), (42, 61610), (45, 61583), (46, 61559),

Gene: Linetti_79 Start: 63029, Stop: 62457, Start Num: 1

Candidate Starts for Linetti_79:

(Start: 1 @63029 has 29 MA's), (4, 63008), (9, 62903), (10, 62897), (13, 62876), (25, 62753), (41, 62561), (42, 62531), (44, 62513), (45, 62504),

Gene: Lizzo_79 Start: 61965, Stop: 61402, Start Num: 2

Candidate Starts for Lizzo_79:

(Start: 2 @61965 has 22 MA's), (4, 61950), (7, 61860), (9, 61845), (10, 61839), (13, 61818), (22, 61722), (25, 61695), (34, 61566), (40, 61515), (42, 61476), (44, 61458), (45, 61449),

Gene: Luker_78 Start: 62317, Stop: 61754, Start Num: 1

Candidate Starts for Luker_78:

(Start: 1 @62317 has 29 MA's), (13, 62182), (23, 62083), (25, 62059), (26, 62050), (35, 61930), (42, 61828), (45, 61801), (46, 61777),

Gene: Minos_78 Start: 61841, Stop: 61278, Start Num: 1

Candidate Starts for Minos_78:

(Start: 1 @61841 has 29 MA's), (13, 61706), (23, 61607), (25, 61583), (26, 61574), (35, 61454), (42, 61352), (45, 61325), (46, 61301),

Gene: Monty_78 Start: 61178, Stop: 60615, Start Num: 2

Candidate Starts for Monty_78:

(Start: 2 @61178 has 22 MA's), (4, 61163), (7, 61073), (9, 61058), (10, 61052), (13, 61031), (22, 60935), (25, 60908), (34, 60779), (40, 60728), (42, 60689), (44, 60671), (45, 60662),

Gene: MrWormie_77 Start: 61002, Stop: 60439, Start Num: 1

Candidate Starts for MrWormie_77:

(Start: 1 @61002 has 29 MA's), (13, 60867), (23, 60768), (25, 60744), (26, 60735), (35, 60615), (42, 60513), (45, 60486), (46, 60462),

Gene: Msay19_83 Start: 63541, Stop: 62978, Start Num: 2

Candidate Starts for Msay19_83:

(Start: 2 @63541 has 22 MA's), (4, 63526), (7, 63436), (9, 63421), (10, 63415), (13, 63394), (22, 63298), (25, 63271), (34, 63142), (40, 63091), (42, 63052), (44, 63034), (45, 63025), (49, 62983),

Gene: Neoevie_76 Start: 62103, Stop: 61540, Start Num: 1

Candidate Starts for Neoevie_76:

(Start: 1 @62103 has 29 MA's), (13, 61968), (23, 61869), (25, 61845), (26, 61836), (35, 61716), (42, 61614), (45, 61587), (46, 61563),

Gene: Newt_78 Start: 62331, Stop: 61768, Start Num: 1

Candidate Starts for Newt_78:

(Start: 1 @62331 has 29 MA's), (13, 62196), (23, 62097), (25, 62073), (26, 62064), (35, 61944), (42, 61842), (45, 61815), (46, 61791),

Gene: Niagara_76 Start: 62208, Stop: 61735, Start Num: 6

Candidate Starts for Niagara_76:

(Start: 6 @62208 has 9 MA's), (12, 62157), (20, 62061), (27, 61974), (29, 61971), (30, 61956), (32, 61917), (33, 61911), (37, 61878), (41, 61839), (44, 61785),

Gene: Nimi13_76 Start: 61850, Stop: 61287, Start Num: 1

Candidate Starts for Nimi13_76:

(Start: 1 @61850 has 29 MA's), (13, 61715), (23, 61616), (25, 61592), (26, 61583), (35, 61463), (42, 61361), (45, 61334), (46, 61310),

Gene: Philon9_72 Start: 62676, Stop: 62200, Start Num: 6

Candidate Starts for Philon9_72:

(5, 62739), (Start: 6 @62676 has 9 MA's), (14, 62610), (21, 62526), (24, 62508), (27, 62442), (44, 62250), (45, 62241), (47, 62211),

Gene: PierreThree_78 Start: 62433, Stop: 61864, Start Num: 1

Candidate Starts for PierreThree_78:

(Start: 1 @62433 has 29 MA's), (4, 62412), (9, 62307), (10, 62301), (13, 62280), (25, 62157), (34, 62028), (39, 61986), (40, 61977), (42, 61938), (45, 61911),

Gene: PokyPuppy_76 Start: 61703, Stop: 61131, Start Num: 3

Candidate Starts for PokyPuppy_76:

(Start: 3 @61703 has 7 MA's), (4, 61691), (8, 61577), (13, 61538), (15, 61532), (18, 61511), (19, 61499), (25, 61415), (40, 61244), (42, 61205), (44, 61187), (45, 61178), (46, 61154),

Gene: Poland_83 Start: 63520, Stop: 62957, Start Num: 2

Candidate Starts for Poland_83:

(Start: 2 @63520 has 22 MA's), (4, 63505), (7, 63415), (9, 63400), (10, 63394), (13, 63373), (22, 63277), (25, 63250), (34, 63121), (40, 63070), (42, 63031), (44, 63013), (45, 63004), (49, 62962),

Gene: RemRem_80 Start: 61118, Stop: 60555, Start Num: 2

Candidate Starts for RemRem_80:

(Start: 2 @61118 has 22 MA's), (4, 61103), (7, 61013), (9, 60998), (10, 60992), (13, 60971), (22, 60875), (24, 60860), (25, 60848), (34, 60719), (40, 60668), (42, 60629), (44, 60611), (45, 60602),

Gene: RoyalG_79 Start: 61707, Stop: 61141, Start Num: 3

Candidate Starts for RoyalG_79:

(Start: 3 @61707 has 7 MA's), (4, 61695), (13, 61554), (15, 61548), (22, 61458), (25, 61431), (38, 61278), (40, 61254), (42, 61215), (44, 61197), (45, 61188), (46, 61164), (47, 61158), (48, 61155),

Gene: Sam12_78 Start: 61141, Stop: 60578, Start Num: 2

Candidate Starts for Sam12_78:

(Start: 2 @61141 has 22 MA's), (4, 61126), (7, 61036), (9, 61021), (10, 61015), (13, 60994), (22, 60898), (24, 60883), (25, 60871), (34, 60742), (40, 60691), (42, 60652), (44, 60634), (45, 60625), (49, 60583),

Gene: Shelley_77 Start: 61326, Stop: 60763, Start Num: 1

Candidate Starts for Shelley_77:

(Start: 1 @61326 has 29 MA's), (13, 61191), (23, 61092), (25, 61068), (26, 61059), (35, 60939), (42, 60837), (45, 60810), (46, 60786),

Gene: Sombrero_80 Start: 61731, Stop: 61168, Start Num: 2

Candidate Starts for Sombrero_80:

(Start: 2 @61731 has 22 MA's), (4, 61716), (7, 61626), (9, 61611), (10, 61605), (13, 61584), (22, 61488), (25, 61461), (34, 61332), (40, 61281), (42, 61242), (44, 61224), (45, 61215), (49, 61173),

Gene: Squibbles_78 Start: 61995, Stop: 61432, Start Num: 2

Candidate Starts for Squibbles_78:

(Start: 2 @61995 has 22 MA's), (4, 61980), (7, 61890), (9, 61875), (10, 61869), (13, 61848), (22, 61752), (25, 61725), (34, 61596), (40, 61545), (42, 61506), (44, 61488), (45, 61479),

Gene: SteveFrench_78 Start: 61947, Stop: 61381, Start Num: 3

Candidate Starts for SteveFrench_78:

(Start: 3 @61947 has 7 MA's), (4, 61935), (13, 61794), (15, 61788), (22, 61698), (25, 61671), (38, 61518), (40, 61494), (42, 61455), (44, 61437), (45, 61428), (46, 61404), (47, 61398), (48, 61395),

Gene: Sticker17_77 Start: 61814, Stop: 61251, Start Num: 1

Candidate Starts for Sticker17_77:

(Start: 1 @61814 has 29 MA's), (13, 61679), (23, 61580), (25, 61556), (26, 61547), (35, 61427), (42, 61325), (45, 61298), (46, 61274),

Gene: Teal_76 Start: 62308, Stop: 61745, Start Num: 1

Candidate Starts for Teal_76:

(Start: 1 @62308 has 29 MA's), (13, 62173), (23, 62074), (25, 62050), (26, 62041), (35, 61921), (42, 61819), (45, 61792), (46, 61768),

Gene: Teatealatte_77 Start: 62105, Stop: 61632, Start Num: 6

Candidate Starts for Teatealatte_77:

(Start: 6 @62105 has 9 MA's), (12, 62054), (27, 61871), (29, 61868), (30, 61853), (32, 61814), (33, 61808), (37, 61775), (41, 61736), (44, 61682),

Gene: Teech_74 Start: 61873, Stop: 61451, Start Num: 12

Candidate Starts for Teech_74:

(Start: 6 @61924 has 9 MA's), (12, 61873), (20, 61777), (27, 61690), (29, 61687), (30, 61672), (32, 61633), (33, 61627), (37, 61594), (41, 61555), (44, 61501),

Gene: Tredge_76 Start: 62105, Stop: 61632, Start Num: 6

Candidate Starts for Tredge_76:

(Start: 6 @62105 has 9 MA's), (12, 62054), (27, 61871), (29, 61868), (30, 61853), (32, 61814), (33, 61808), (37, 61775), (41, 61736), (44, 61682),

Gene: Woes_76 Start: 62359, Stop: 61796, Start Num: 1

Candidate Starts for Woes_76:

(Start: 1 @62359 has 29 MA's), (13, 62224), (23, 62125), (25, 62101), (26, 62092), (35, 61972), (42, 61870), (45, 61843), (46, 61819),