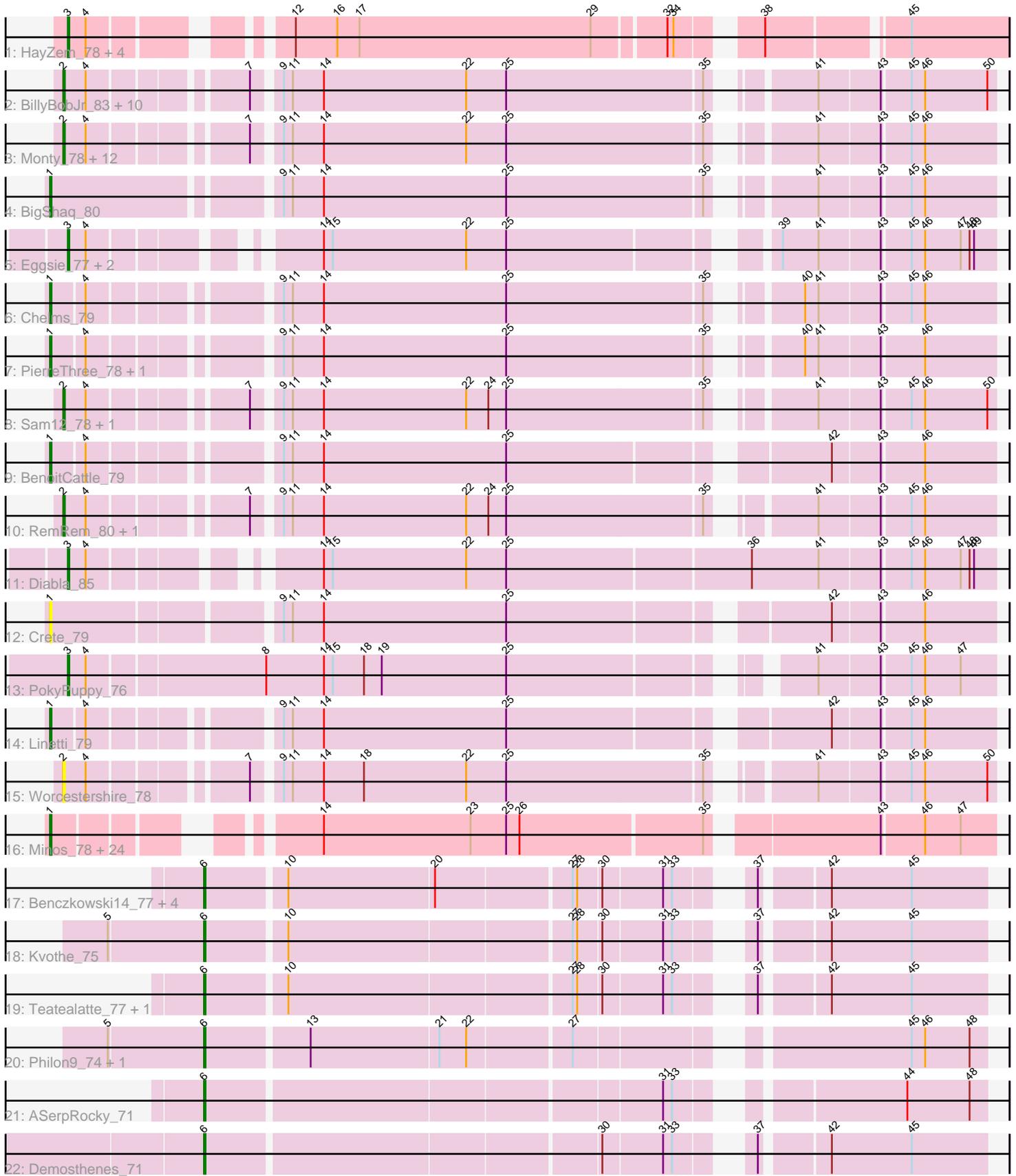


Pham 291074



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 291074 Report

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

Pham number 291074 has 83 members, 7 are drafts.

Phages represented in each track:

- Track 1 : HayZem_78, GMA7_67, Austin_77, Amore2_78, GTE7_66
- Track 2 : BillyBobJr_83, Butterball_81, Boneham_82, Poland_83, Jellybones_80, CinnamonToast_83, FelixAlejandro_83, Sombrero_80, Adgers_82, BirksAndSocks_83, Msay19_83
- Track 3 : Monty_78, CathyBurgh_79, GourdThymes_79, Squibbles_78, Flakey_78, Barbochs_76, Beaver_82, Breezic_79, Kelzog_80, Gorko_78, Hotorobo_79, John316_82, Lizzo_79
- Track 4 : BigShaq_80
- Track 5 : Eggsie_77, SteveFrench_78, RoyalG_79
- Track 6 : Chelms_79
- Track 7 : PierreThree_78, Dakiti_80
- Track 8 : Sam12_78, Exiguo_78
- Track 9 : BenoitCattle_79
- Track 10 : RemRem_80, Ekhein_79
- Track 11 : Diabla_85
- Track 12 : Crete_79
- Track 13 : PokyPuppy_76
- Track 14 : Linetti_79
- Track 15 : Worcestershire_78
- Track 16 : Minos_78, GalacticEye_77, Neoevie_76, Kaseim_77, Hail2Pitt_75, Berries_77, Hello_76, Damp_77, Newt_78, Harambe_76, Lidong_77, Guillaume_76, Luker_78, Anamika_76, Charianelly_77, Jams_77, Bianmat_77, Lahirium_76, Woes_76, Shelley_77, Jormungandr_76, Teal_76, Sticker17_77, Nimi13_76, MrWormie_77
- Track 17 : Benczkowski14_77, Niagara_76, Teech_77, Hollow_77, Katyusha_75
- Track 18 : Kvothe_75
- Track 19 : Teatealatte_77, Tredge_76
- Track 20 : Philon9_74, Vitaenoi_74
- Track 21 : ASerpRocky_71
- Track 22 : 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 31 of the 76 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Anamika_76, BenoitCattle_79, Berries_77, Bianmat_77, BigShaq_80, Charianelly_77, Chelms_79, Crete_79, Dakiti_80, Damp_77, GalacticEye_77, Guillaume_76, Hail2Pitt_75, Harambe_76, Hello_76, Jams_77, Jormungandr_76, Kaseim_77, 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_76, Beaver_82, Benczkowski14_77, BillyBobJr_83, BirksAndSocks_83, Boneham_82, Breezic_79, Butterball_81, CathyBurgh_79, 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, Kelzog_80, Kvothe_75, Lizzo_79, Monty_78, Msay19_83, Niagara_76, Philon9_74, PokyPuppy_76, Poland_83, RemRem_80, RoyalG_79, Sam12_78, Sombrero_80, Squibbles_78, SteveFrench_78, Teatealatte_77, Teech_77, Tredge_76, Vitaenoi_74, Worcestershire_78,

Summary by start number:

Start 1:

- Found in 32 of 83 (38.6%) of genes in pham
- Manual Annotations of this start: 31 of 76
- 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_80 (CS2), Charianelly_77 (CS3), Chelms_79 (CS2), Crete_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_77 (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 29 of 83 (34.9%) of genes in pham
- Manual Annotations of this start: 25 of 76
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Adgers_82 (CS2), Barbochs_76 (CS2), Beaver_82 (CS2), BillyBobJr_83 (CS2), BirksAndSocks_83 (CS2), Boneham_82 (CS2), Breezic_79 (CS2), Butterball_81 (CS2), CathyBurgh_79 (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), Kelzog_80 (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), Worcestershire_78 (CS2),

Start 3:

- Found in 10 of 83 (12.0%) of genes in pham
- Manual Annotations of this start: 8 of 76
- 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 12 of 83 (14.5%) of genes in pham
- Manual Annotations of this start: 12 of 76
- Called 100.0% 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_74 (CS4), Teatealatte_77 (CS4), Teech_77 (CS4), Tredge_76 (CS4), Vitaenoi_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 6 times for cluster CS2.
- Start number 2 was manually annotated 25 times for cluster CS2.
- Start number 3 was manually annotated 5 times for cluster CS2.

Info for manual annotations of cluster CS3:

- Start number 1 was manually annotated 25 times for cluster CS3.

Info for manual annotations of cluster CS4:

- Start number 6 was manually annotated 12 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 12 MA's), (31, 60739), (33, 60733), (44, 60610), (48, 60568),

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

Candidate Starts for Adgers_82:

(Start: 2 @61857 has 25 MA's), (4, 61842), (7, 61752), (9, 61737), (11, 61731), (14, 61710), (22, 61614), (25, 61587), (35, 61458), (41, 61407), (43, 61368), (45, 61350), (46, 61341), (50, 61299),

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

Candidate Starts for Amore2_78:

(Start: 3 @60850 has 8 MA's), (4, 60838), (12, 60736), (16, 60709), (17, 60694), (29, 60538), (32, 60493), (34, 60490), (38, 60448), (45, 60364),

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

Candidate Starts for Anamika_76:

(Start: 1 @62127 has 31 MA's), (14, 61992), (23, 61893), (25, 61869), (26, 61860), (35, 61740), (43, 61638), (46, 61611), (47, 61587),

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

Candidate Starts for Austin_77:

(Start: 3 @60848 has 8 MA's), (4, 60836), (12, 60734), (16, 60707), (17, 60692), (29, 60536), (32, 60491), (34, 60488), (38, 60446), (45, 60362),

Gene: Barbochs_76 Start: 61234, Stop: 60671, Start Num: 2

Candidate Starts for Barbochs_76:

(Start: 2 @61234 has 25 MA's), (4, 61219), (7, 61129), (9, 61114), (11, 61108), (14, 61087), (22, 60991), (25, 60964), (35, 60835), (41, 60784), (43, 60745), (45, 60727), (46, 60718),

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

Candidate Starts for Beaver_82:

(Start: 2 @63178 has 25 MA's), (4, 63163), (7, 63073), (9, 63058), (11, 63052), (14, 63031), (22, 62935), (25, 62908), (35, 62779), (41, 62728), (43, 62689), (45, 62671), (46, 62662),

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

Candidate Starts for Benczkowski14_77:

(Start: 6 @62275 has 12 MA's), (10, 62224), (20, 62128), (27, 62041), (28, 62038), (30, 62023), (31, 61984), (33, 61978), (37, 61945), (42, 61906), (45, 61852),

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

Candidate Starts for BenoitCattle_79:

(Start: 1 @61905 has 31 MA's), (4, 61884), (9, 61779), (11, 61773), (14, 61752), (25, 61629), (42, 61437), (43, 61407), (46, 61380),

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

Candidate Starts for Berries_77:

(Start: 1 @62099 has 31 MA's), (14, 61964), (23, 61865), (25, 61841), (26, 61832), (35, 61712), (43, 61610), (46, 61583), (47, 61559),

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

Candidate Starts for Bianmat_77:

(Start: 1 @62139 has 31 MA's), (14, 62004), (23, 61905), (25, 61881), (26, 61872), (35, 61752), (43, 61650), (46, 61623), (47, 61599),

Gene: BigShaq_80 Start: 62086, Stop: 61505, Start Num: 1

Candidate Starts for BigShaq_80:

(Start: 1 @62086 has 31 MA's), (9, 61948), (11, 61942), (14, 61921), (25, 61798), (35, 61669), (41, 61618), (43, 61579), (45, 61561), (46, 61552),

Gene: BillyBobJr_83 Start: 63305, Stop: 62742, Start Num: 2

Candidate Starts for BillyBobJr_83:

(Start: 2 @63305 has 25 MA's), (4, 63290), (7, 63200), (9, 63185), (11, 63179), (14, 63158), (22, 63062), (25, 63035), (35, 62906), (41, 62855), (43, 62816), (45, 62798), (46, 62789), (50, 62747),

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

Candidate Starts for BirksAndSocks_83:

(Start: 2 @63300 has 25 MA's), (4, 63285), (7, 63195), (9, 63180), (11, 63174), (14, 63153), (22, 63057), (25, 63030), (35, 62901), (41, 62850), (43, 62811), (45, 62793), (46, 62784), (50, 62742),

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

Candidate Starts for Boneham_82:

(Start: 2 @63225 has 25 MA's), (4, 63210), (7, 63120), (9, 63105), (11, 63099), (14, 63078), (22, 62982), (25, 62955), (35, 62826), (41, 62775), (43, 62736), (45, 62718), (46, 62709), (50, 62667),

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

Candidate Starts for Breezic_79:

(Start: 2 @61445 has 25 MA's), (4, 61430), (7, 61340), (9, 61325), (11, 61319), (14, 61298), (22, 61202), (25, 61175), (35, 61046), (41, 60995), (43, 60956), (45, 60938), (46, 60929),

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

Candidate Starts for Butterball_81:

(Start: 2 @63230 has 25 MA's), (4, 63215), (7, 63125), (9, 63110), (11, 63104), (14, 63083), (22, 62987), (25, 62960), (35, 62831), (41, 62780), (43, 62741), (45, 62723), (46, 62714), (50, 62672),

Gene: CathyBurgh_79 Start: 61965, Stop: 61402, Start Num: 2

Candidate Starts for CathyBurgh_79:

(Start: 2 @61965 has 25 MA's), (4, 61950), (7, 61860), (9, 61845), (11, 61839), (14, 61818), (22, 61722), (25, 61695), (35, 61566), (41, 61515), (43, 61476), (45, 61458), (46, 61449),

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

Candidate Starts for Charianelly_77:

(Start: 1 @61849 has 31 MA's), (14, 61714), (23, 61615), (25, 61591), (26, 61582), (35, 61462), (43, 61360), (46, 61333), (47, 61309),

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

Candidate Starts for Chelms_79:

(Start: 1 @62004 has 31 MA's), (4, 61983), (9, 61878), (11, 61872), (14, 61851), (25, 61728), (35, 61599), (40, 61557), (41, 61548), (43, 61509), (45, 61491), (46, 61482),

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

Candidate Starts for CinnamonToast_83:

(Start: 2 @63305 has 25 MA's), (4, 63290), (7, 63200), (9, 63185), (11, 63179), (14, 63158), (22, 63062), (25, 63035), (35, 62906), (41, 62855), (43, 62816), (45, 62798), (46, 62789), (50, 62747),

Gene: Crete_79 Start: 62147, Stop: 61563, Start Num: 1

Candidate Starts for Crete_79:

(Start: 1 @62147 has 31 MA's), (9, 62009), (11, 62003), (14, 61982), (25, 61859), (42, 61667), (43, 61637), (46, 61610),

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

Candidate Starts for Dakiti_80:

(Start: 1 @62802 has 31 MA's), (4, 62781), (9, 62676), (11, 62670), (14, 62649), (25, 62526), (35, 62397), (40, 62355), (41, 62346), (43, 62307), (46, 62280),

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

Candidate Starts for Damp_77:

(Start: 1 @61013 has 31 MA's), (14, 60878), (23, 60779), (25, 60755), (26, 60746), (35, 60626), (43, 60524), (46, 60497), (47, 60473),

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

Candidate Starts for Demosthenes_71:

(Start: 6 @61052 has 12 MA's), (30, 60800), (31, 60761), (33, 60755), (37, 60722), (42, 60683), (45, 60629),

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

Candidate Starts for Diabla_85:

(Start: 3 @63272 has 8 MA's), (4, 63260), (14, 63140), (15, 63134), (22, 63044), (25, 63017), (36, 62858), (41, 62813), (43, 62774), (45, 62756), (46, 62747), (47, 62723), (48, 62717), (49, 62714),

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

Candidate Starts for Eggsie_77:

(Start: 3 @60712 has 8 MA's), (4, 60700), (14, 60580), (15, 60574), (22, 60484), (25, 60457), (39, 60304), (41, 60280), (43, 60241), (45, 60223), (46, 60214), (47, 60190), (48, 60184), (49, 60181),

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

Candidate Starts for Ekhein_79:

(Start: 2 @61135 has 25 MA's), (4, 61120), (7, 61030), (9, 61015), (11, 61009), (14, 60988), (22, 60892), (24, 60877), (25, 60865), (35, 60736), (41, 60685), (43, 60646), (45, 60628), (46, 60619),

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

Candidate Starts for Exiguo_78:

(Start: 2 @61141 has 25 MA's), (4, 61126), (7, 61036), (9, 61021), (11, 61015), (14, 60994), (22, 60898), (24, 60883), (25, 60871), (35, 60742), (41, 60691), (43, 60652), (45, 60634), (46, 60625), (50, 60583),

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

Candidate Starts for FelixAlejandro_83:

(Start: 2 @63655 has 25 MA's), (4, 63640), (7, 63550), (9, 63535), (11, 63529), (14, 63508), (22, 63412), (25, 63385), (35, 63256), (41, 63205), (43, 63166), (45, 63148), (46, 63139), (50, 63097),

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

Candidate Starts for Flakey_78:

(Start: 2 @61951 has 25 MA's), (4, 61936), (7, 61846), (9, 61831), (11, 61825), (14, 61804), (22, 61708), (25, 61681), (35, 61552), (41, 61501), (43, 61462), (45, 61444), (46, 61435),

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

Candidate Starts for GMA7_67:

(Start: 3 @55064 has 8 MA's), (4, 55052), (12, 54950), (16, 54923), (17, 54908), (29, 54752), (32, 54707), (34, 54704), (38, 54662), (45, 54578),

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

Candidate Starts for GTE7_66:

(Start: 3 @55095 has 8 MA's), (4, 55083), (12, 54981), (16, 54954), (17, 54939), (29, 54783), (32, 54738), (34, 54735), (38, 54693), (45, 54609),

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

Candidate Starts for GalacticEye_77:

(Start: 1 @61810 has 31 MA's), (14, 61675), (23, 61576), (25, 61552), (26, 61543), (35, 61423), (43, 61321), (46, 61294), (47, 61270),

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

Candidate Starts for Gorko_78:

(Start: 2 @61052 has 25 MA's), (4, 61037), (7, 60947), (9, 60932), (11, 60926), (14, 60905), (22, 60809), (25, 60782), (35, 60653), (41, 60602), (43, 60563), (45, 60545), (46, 60536),

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

Candidate Starts for GourdThymes_79:

(Start: 2 @61992 has 25 MA's), (4, 61977), (7, 61887), (9, 61872), (11, 61866), (14, 61845), (22, 61749), (25, 61722), (35, 61593), (41, 61542), (43, 61503), (45, 61485), (46, 61476),

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

Candidate Starts for Guillaume_76:

(Start: 1 @61860 has 31 MA's), (14, 61725), (23, 61626), (25, 61602), (26, 61593), (35, 61473), (43, 61371), (46, 61344), (47, 61320),

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

Candidate Starts for Hail2Pitt_75:

(Start: 1 @62336 has 31 MA's), (14, 62201), (23, 62102), (25, 62078), (26, 62069), (35, 61949), (43, 61847), (46, 61820), (47, 61796),

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

Candidate Starts for Harambe_76:

(Start: 1 @62127 has 31 MA's), (14, 61992), (23, 61893), (25, 61869), (26, 61860), (35, 61740), (43, 61638), (46, 61611), (47, 61587),

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

Candidate Starts for HayZem_78:

(Start: 3 @60848 has 8 MA's), (4, 60836), (12, 60734), (16, 60707), (17, 60692), (29, 60536), (32, 60491), (34, 60488), (38, 60446), (45, 60362),

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

Candidate Starts for Hello_76:

(Start: 1 @62089 has 31 MA's), (14, 61954), (23, 61855), (25, 61831), (26, 61822), (35, 61702), (43, 61600), (46, 61573), (47, 61549),

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

Candidate Starts for Hollow_77:

(Start: 6 @62444 has 12 MA's), (10, 62393), (20, 62297), (27, 62210), (28, 62207), (30, 62192), (31, 62153), (33, 62147), (37, 62114), (42, 62075), (45, 62021),

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

Candidate Starts for Hotorobo_79:

(Start: 2 @62015 has 25 MA's), (4, 62000), (7, 61910), (9, 61895), (11, 61889), (14, 61868), (22, 61772), (25, 61745), (35, 61616), (41, 61565), (43, 61526), (45, 61508), (46, 61499),

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

Candidate Starts for Jams_77:

(Start: 1 @61299 has 31 MA's), (14, 61164), (23, 61065), (25, 61041), (26, 61032), (35, 60912), (43, 60810), (46, 60783), (47, 60759),

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

Candidate Starts for Jellybones_80:

(Start: 2 @62939 has 25 MA's), (4, 62924), (7, 62834), (9, 62819), (11, 62813), (14, 62792), (22, 62696), (25, 62669), (35, 62540), (41, 62489), (43, 62450), (45, 62432), (46, 62423), (50, 62381),

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

Candidate Starts for John316_82:

(Start: 2 @63103 has 25 MA's), (4, 63088), (7, 62998), (9, 62983), (11, 62977), (14, 62956), (22, 62860), (25, 62833), (35, 62704), (41, 62653), (43, 62614), (45, 62596), (46, 62587),

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

Candidate Starts for Jormungandr_76:

(Start: 1 @61842 has 31 MA's), (14, 61707), (23, 61608), (25, 61584), (26, 61575), (35, 61455), (43, 61353), (46, 61326), (47, 61302),

Gene: Kaseim_77 Start: 61284, Stop: 60721, Start Num: 1

Candidate Starts for Kaseim_77:

(Start: 1 @61284 has 31 MA's), (14, 61149), (23, 61050), (25, 61026), (26, 61017), (35, 60897), (43, 60795), (46, 60768), (47, 60744),

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

Candidate Starts for Katyusha_75:

(Start: 6 @62275 has 12 MA's), (10, 62224), (20, 62128), (27, 62041), (28, 62038), (30, 62023), (31, 61984), (33, 61978), (37, 61945), (42, 61906), (45, 61852),

Gene: Kelzog_80 Start: 61892, Stop: 61329, Start Num: 2

Candidate Starts for Kelzog_80:

(Start: 2 @61892 has 25 MA's), (4, 61877), (7, 61787), (9, 61772), (11, 61766), (14, 61745), (22, 61649), (25, 61622), (35, 61493), (41, 61442), (43, 61403), (45, 61385), (46, 61376),

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

Candidate Starts for Kvothe_75:

(5, 62180), (Start: 6 @62117 has 12 MA's), (10, 62066), (27, 61883), (28, 61880), (30, 61865), (31, 61826), (33, 61820), (37, 61787), (42, 61748), (45, 61694),

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

Candidate Starts for Lahirium_76:

(Start: 1 @62364 has 31 MA's), (14, 62229), (23, 62130), (25, 62106), (26, 62097), (35, 61977), (43, 61875), (46, 61848), (47, 61824),

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

Candidate Starts for Lidong_77:

(Start: 1 @62099 has 31 MA's), (14, 61964), (23, 61865), (25, 61841), (26, 61832), (35, 61712), (43, 61610), (46, 61583), (47, 61559),

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

Candidate Starts for Linetti_79:

(Start: 1 @63029 has 31 MA's), (4, 63008), (9, 62903), (11, 62897), (14, 62876), (25, 62753), (42, 62561), (43, 62531), (45, 62513), (46, 62504),

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

Candidate Starts for Lizzo_79:

(Start: 2 @61965 has 25 MA's), (4, 61950), (7, 61860), (9, 61845), (11, 61839), (14, 61818), (22, 61722), (25, 61695), (35, 61566), (41, 61515), (43, 61476), (45, 61458), (46, 61449),

Gene: Luker_78 Start: 62317, Stop: 61754, Start Num: 1
Candidate Starts for Luker_78:
(Start: 1 @62317 has 31 MA's), (14, 62182), (23, 62083), (25, 62059), (26, 62050), (35, 61930), (43, 61828), (46, 61801), (47, 61777),

Gene: Minos_78 Start: 61841, Stop: 61278, Start Num: 1
Candidate Starts for Minos_78:
(Start: 1 @61841 has 31 MA's), (14, 61706), (23, 61607), (25, 61583), (26, 61574), (35, 61454), (43, 61352), (46, 61325), (47, 61301),

Gene: Monty_78 Start: 61178, Stop: 60615, Start Num: 2
Candidate Starts for Monty_78:
(Start: 2 @61178 has 25 MA's), (4, 61163), (7, 61073), (9, 61058), (11, 61052), (14, 61031), (22, 60935), (25, 60908), (35, 60779), (41, 60728), (43, 60689), (45, 60671), (46, 60662),

Gene: MrWormie_77 Start: 61002, Stop: 60439, Start Num: 1
Candidate Starts for MrWormie_77:
(Start: 1 @61002 has 31 MA's), (14, 60867), (23, 60768), (25, 60744), (26, 60735), (35, 60615), (43, 60513), (46, 60486), (47, 60462),

Gene: Msay19_83 Start: 63541, Stop: 62978, Start Num: 2
Candidate Starts for Msay19_83:
(Start: 2 @63541 has 25 MA's), (4, 63526), (7, 63436), (9, 63421), (11, 63415), (14, 63394), (22, 63298), (25, 63271), (35, 63142), (41, 63091), (43, 63052), (45, 63034), (46, 63025), (50, 62983),

Gene: Neoevie_76 Start: 62103, Stop: 61540, Start Num: 1
Candidate Starts for Neoevie_76:
(Start: 1 @62103 has 31 MA's), (14, 61968), (23, 61869), (25, 61845), (26, 61836), (35, 61716), (43, 61614), (46, 61587), (47, 61563),

Gene: Newt_78 Start: 62331, Stop: 61768, Start Num: 1
Candidate Starts for Newt_78:
(Start: 1 @62331 has 31 MA's), (14, 62196), (23, 62097), (25, 62073), (26, 62064), (35, 61944), (43, 61842), (46, 61815), (47, 61791),

Gene: Niagara_76 Start: 62208, Stop: 61735, Start Num: 6
Candidate Starts for Niagara_76:
(Start: 6 @62208 has 12 MA's), (10, 62157), (20, 62061), (27, 61974), (28, 61971), (30, 61956), (31, 61917), (33, 61911), (37, 61878), (42, 61839), (45, 61785),

Gene: Nimi13_76 Start: 61850, Stop: 61287, Start Num: 1
Candidate Starts for Nimi13_76:
(Start: 1 @61850 has 31 MA's), (14, 61715), (23, 61616), (25, 61592), (26, 61583), (35, 61463), (43, 61361), (46, 61334), (47, 61310),

Gene: Philon9_74 Start: 62676, Stop: 62200, Start Num: 6
Candidate Starts for Philon9_74:
(5, 62739), (Start: 6 @62676 has 12 MA's), (13, 62610), (21, 62526), (22, 62508), (27, 62442), (45, 62250), (46, 62241), (48, 62211),

Gene: PierreThree_78 Start: 62433, Stop: 61864, Start Num: 1
Candidate Starts for PierreThree_78:

(Start: 1 @62433 has 31 MA's), (4, 62412), (9, 62307), (11, 62301), (14, 62280), (25, 62157), (35, 62028), (40, 61986), (41, 61977), (43, 61938), (46, 61911),

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

Candidate Starts for PokyPuppy_76:

(Start: 3 @61703 has 8 MA's), (4, 61691), (8, 61577), (14, 61538), (15, 61532), (18, 61511), (19, 61499), (25, 61415), (41, 61244), (43, 61205), (45, 61187), (46, 61178), (47, 61154),

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

Candidate Starts for Poland_83:

(Start: 2 @63520 has 25 MA's), (4, 63505), (7, 63415), (9, 63400), (11, 63394), (14, 63373), (22, 63277), (25, 63250), (35, 63121), (41, 63070), (43, 63031), (45, 63013), (46, 63004), (50, 62962),

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

Candidate Starts for RemRem_80:

(Start: 2 @61118 has 25 MA's), (4, 61103), (7, 61013), (9, 60998), (11, 60992), (14, 60971), (22, 60875), (24, 60860), (25, 60848), (35, 60719), (41, 60668), (43, 60629), (45, 60611), (46, 60602),

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

Candidate Starts for RoyalG_79:

(Start: 3 @61707 has 8 MA's), (4, 61695), (14, 61554), (15, 61548), (22, 61458), (25, 61431), (39, 61278), (41, 61254), (43, 61215), (45, 61197), (46, 61188), (47, 61164), (48, 61158), (49, 61155),

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

Candidate Starts for Sam12_78:

(Start: 2 @61141 has 25 MA's), (4, 61126), (7, 61036), (9, 61021), (11, 61015), (14, 60994), (22, 60898), (24, 60883), (25, 60871), (35, 60742), (41, 60691), (43, 60652), (45, 60634), (46, 60625), (50, 60583),

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

Candidate Starts for Shelley_77:

(Start: 1 @61326 has 31 MA's), (14, 61191), (23, 61092), (25, 61068), (26, 61059), (35, 60939), (43, 60837), (46, 60810), (47, 60786),

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

Candidate Starts for Sombrero_80:

(Start: 2 @61731 has 25 MA's), (4, 61716), (7, 61626), (9, 61611), (11, 61605), (14, 61584), (22, 61488), (25, 61461), (35, 61332), (41, 61281), (43, 61242), (45, 61224), (46, 61215), (50, 61173),

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

Candidate Starts for Squibbles_78:

(Start: 2 @61995 has 25 MA's), (4, 61980), (7, 61890), (9, 61875), (11, 61869), (14, 61848), (22, 61752), (25, 61725), (35, 61596), (41, 61545), (43, 61506), (45, 61488), (46, 61479),

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

Candidate Starts for SteveFrench_78:

(Start: 3 @61947 has 8 MA's), (4, 61935), (14, 61794), (15, 61788), (22, 61698), (25, 61671), (39, 61518), (41, 61494), (43, 61455), (45, 61437), (46, 61428), (47, 61404), (48, 61398), (49, 61395),

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

Candidate Starts for Sticker17_77:

(Start: 1 @61814 has 31 MA's), (14, 61679), (23, 61580), (25, 61556), (26, 61547), (35, 61427), (43, 61325), (46, 61298), (47, 61274),

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

Candidate Starts for Teal_76:

(Start: 1 @62308 has 31 MA's), (14, 62173), (23, 62074), (25, 62050), (26, 62041), (35, 61921), (43, 61819), (46, 61792), (47, 61768),

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

Candidate Starts for Teatealatte_77:

(Start: 6 @62105 has 12 MA's), (10, 62054), (27, 61871), (28, 61868), (30, 61853), (31, 61814), (33, 61808), (37, 61775), (42, 61736), (45, 61682),

Gene: Teech_77 Start: 61924, Stop: 61451, Start Num: 6

Candidate Starts for Teech_77:

(Start: 6 @61924 has 12 MA's), (10, 61873), (20, 61777), (27, 61690), (28, 61687), (30, 61672), (31, 61633), (33, 61627), (37, 61594), (42, 61555), (45, 61501),

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

Candidate Starts for Tredge_76:

(Start: 6 @62105 has 12 MA's), (10, 62054), (27, 61871), (28, 61868), (30, 61853), (31, 61814), (33, 61808), (37, 61775), (42, 61736), (45, 61682),

Gene: Vitaenoi_74 Start: 62660, Stop: 62184, Start Num: 6

Candidate Starts for Vitaenoi_74:

(5, 62723), (Start: 6 @62660 has 12 MA's), (13, 62594), (21, 62510), (22, 62492), (27, 62426), (45, 62234), (46, 62225), (48, 62195),

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

Candidate Starts for Woes_76:

(Start: 1 @62359 has 31 MA's), (14, 62224), (23, 62125), (25, 62101), (26, 62092), (35, 61972), (43, 61870), (46, 61843), (47, 61819),

Gene: Worcestershire_78 Start: 61125, Stop: 60562, Start Num: 2

Candidate Starts for Worcestershire_78:

(Start: 2 @61125 has 25 MA's), (4, 61110), (7, 61020), (9, 61005), (11, 60999), (14, 60978), (18, 60951), (22, 60882), (25, 60855), (35, 60726), (41, 60675), (43, 60636), (45, 60618), (46, 60609), (50, 60567),