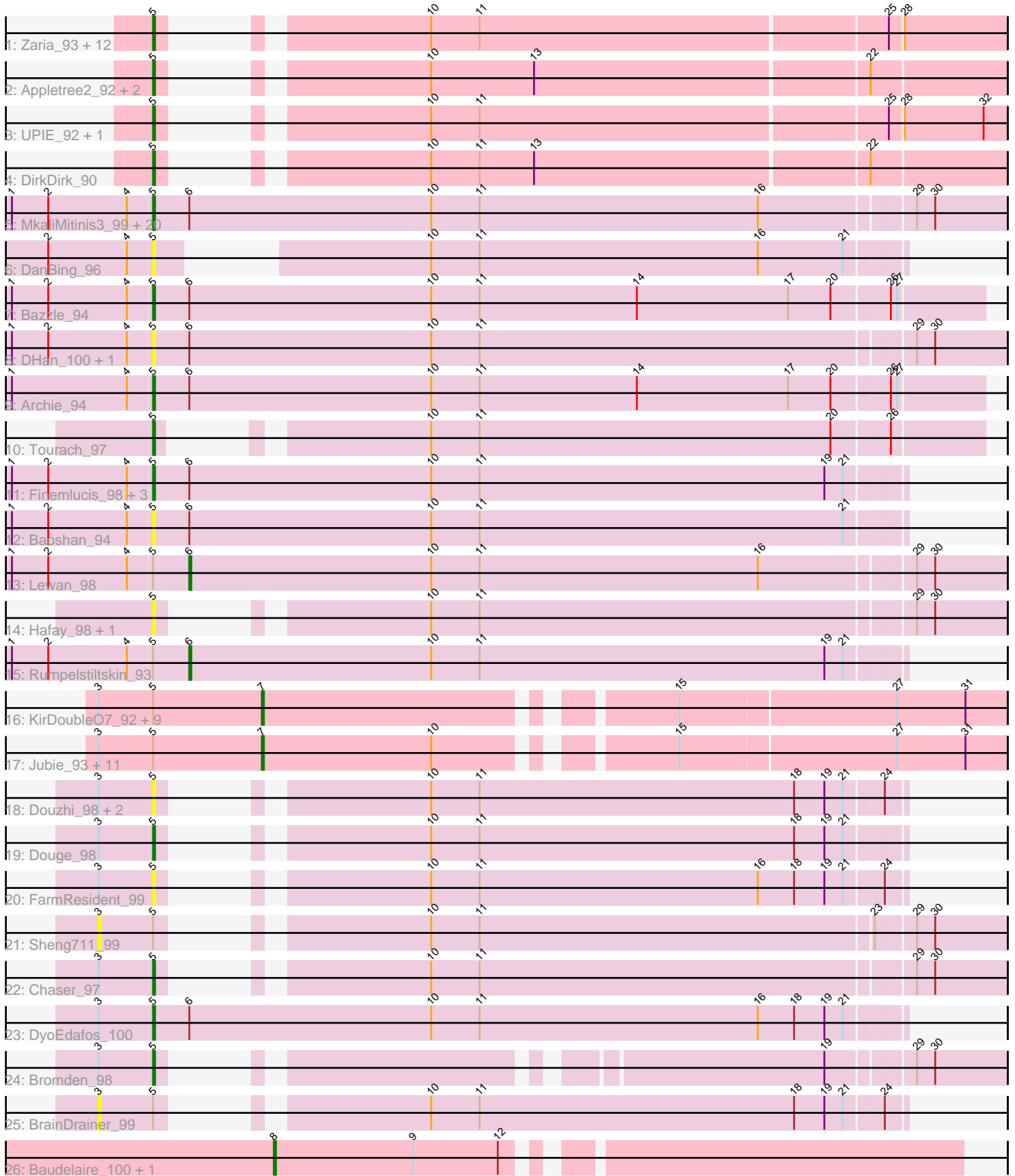


Pham 172802



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 172802 Report

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

Pham number 172802 has 89 members, 20 are drafts.

Phages represented in each track:

- Track 1 : Zaria_93, AvadaKedavra_93, Wyatt2_94, Silverleaf_92, LeBron_92, Rose5_94, Tyson_94, Acquire49_93, Halena_90, MAckerman_91, Enceladus_90, Calm_94, Wamburgxpress_92
- Track 2 : Appletree2_92, JoeDirt_94, OhShagHennessy_89
- Track 3 : UPIE_92, CicholasNage_90
- Track 4 : DirkDirk_90
- Track 5 : MkaliMitinis3_99, Breezona_97, LilDestine_95, Faith1_97, Loadrie_96, DrSeegs_96, BigCheese_97, Miley16_97, GuuelaD_94, Sarshaun_98, Zakai_98, Wigglewiggles_97, Itos_97, Winky_97, Vatrix_95, Crossroads_97, Soap141_97, Wilder_98, Netyap_96, Gabriela_97, BobsGarage_96
- Track 6 : DanBing_96
- Track 7 : Bazzle_94
- Track 8 : DHan_100, ZhongYanYuan_94
- Track 9 : Archie_94
- Track 10 : Tourach_97
- Track 11 : Finemlucis_98, Kahlid_96, Nicholasp3_97, Gardann_97
- Track 12 : Baoshan_94
- Track 13 : Lewan_98
- Track 14 : Hafay_98, Claus_96
- Track 15 : Rumpelstiltskin_93
- Track 16 : KirDoubleO7_92, BourbonZero_95, Kingsolomon_92, MiniLon_98, Ellson_93, MiniMac_98, DuncansLeg_94, Lolly9_93, Nicholas_92, LiyuLake_93
- Track 17 : Jubie_93, Moostard_91, Snenia_93, Finnry_94, Jobypre_95, Clautastrophe_92, Krypton555_96, MsGreen_94, Bellis_92, Samty_93, Lumos_94, Whirlwind_95
- Track 18 : Douzhi_98, Quby_98, PYPDinur_98
- Track 19 : Douge_98
- Track 20 : FarmResident_99
- Track 21 : Sheng711_99
- Track 22 : Chaser_97
- Track 23 : DyoEdafos_100
- Track 24 : Bromden_98
- Track 25 : BrainDrainer_99
- Track 26 : Baudelaire_100, Aegeus_100

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

The start number called the most often in the published annotations is 5, it was called in 49 of the 69 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Acquire49_93, Appletree2_92, Archie_94, AvadaKedavra_93, Baoshan_94, Bazzle_94, BigCheese_97, BobsGarage_96, Breezona_97, Bromden_98, Calm_94, Chaser_97, CicholasNage_90, Claus_96, Crossroads_97, DHan_100, DanBing_96, DirkDirk_90, Douge_98, Douzhi_98, DrSeegs_96, DyoEdafos_100, Enceladus_90, Faith1_97, FarmResident_99, Finemlucis_98, Gabriela_97, Gardann_97, GuuelaD_94, Hafay_98, Halena_90, Itos_97, JoeDirt_94, Kahlid_96, LeBron_92, LilDestine_95, Loadrie_96, MAckerman_91, Miley16_97, MkaliMitinis3_99, Netyap_96, Nicholasp3_97, OhShagHennessy_89, PYPDinur_98, Quby_98, Rose5_94, Sarshaun_98, Silverleaf_92, Soap141_97, Tourach_97, Tyson_94, UPIE_92, Vetrix_95, Wamburggrxpress_92, Wigglewiggle_97, Wilder_98, Winky_97, Wyatt2_94, Zakai_98, Zaria_93, ZhongYanYuan_94,

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

- Bellis_92, BourbonZero_95, BrainDrainer_99, Clautastrophe_92, DuncansLeg_94, Ellson_93, Finnry_94, Jobypre_95, Jubie_93, Kingsolomon_92, KirDoubleO7_92, Krypton555_96, Lewan_98, LiyuLake_93, Lolly9_93, Lumos_94, MiniLon_98, MiniMac_98, Moostard_91, MsGreen_94, Nicholas_92, Rumpelstiltskin_93, Samty_93, Sheng711_99, Snenia_93, Whirlwind_95,

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

- Aegeus_100, Baudelaire_100,

Summary by start number:

Start 3:

- Found in 32 of 89 (36.0%) of genes in pham
- No Manual Annotations of this start.
- Called 6.2% of time when present
- Phage (with cluster) where this start called: BrainDrainer_99 (L4), Sheng711_99 (L4),

Start 5:

- Found in 87 of 89 (97.8%) of genes in pham
- Manual Annotations of this start: 49 of 69
- Called 70.1% of time when present
- Phage (with cluster) where this start called: Acquire49_93 (L1), Appletree2_92 (L1), Archie_94 (L2), AvadaKedavra_93 (L1), Baoshan_94 (L2), Bazzle_94 (L2), BigCheese_97 (L2), BobsGarage_96 (L2), Breezona_97 (L2), Bromden_98 (L4), Calm_94 (L1), Chaser_97 (L4), CicholasNage_90 (L1), Claus_96 (L2), Crossroads_97 (L2), DHan_100 (L2), DanBing_96 (L2), DirkDirk_90 (L1), Douge_98 (L4), Douzhi_98 (L4), DrSeegs_96 (L2), DyoEdafos_100 (L4), Enceladus_90 (L1), Faith1_97 (L2), FarmResident_99 (L4), Finemlucis_98 (L2), Gabriela_97 (L2), Gardann_97 (L2), GuuelaD_94 (L2), Hafay_98 (L2), Halena_90 (L1), Itos_97 (L2), JoeDirt_94 (L1), Kahlid_96 (L2), LeBron_92 (L1), LilDestine_95 (L2), Loadrie_96 (L2), MAckerman_91 (L1), Miley16_97 (L2), MkaliMitinis3_99 (L2), Netyap_96 (L2), Nicholasp3_97 (L2), OhShagHennessy_89 (L1), PYPDinur_98 (L4), Quby_98 (L4),

Rose5_94 (L1), Sarshaun_98 (L2), Silverleaf_92 (L1), Soap141_97 (L2), Tourach_97 (L2), Tyson_94 (L1), UPIE_92 (L1), Vetric_95 (L2), Wamburgxpress_92 (L1), Wigglewiggles_97 (L2), Wilder_98 (L2), Winky_97 (L2), Wyatt2_94 (L1), Zakai_98 (L2), Zaria_93 (L1), ZhongYanYuan_94 (L2),

Start 6:

- Found in 33 of 89 (37.1%) of genes in pham
- Manual Annotations of this start: 2 of 69
- Called 6.1% of time when present
- Phage (with cluster) where this start called: Lewan_98 (L2), Rumpelstiltskin_93 (L2),

Start 7:

- Found in 22 of 89 (24.7%) of genes in pham
- Manual Annotations of this start: 16 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Bellis_92 (L3), BourbonZero_95 (L3), Clautastrophe_92 (L3), DuncansLeg_94 (L3), Ellson_93 (L3), Finnry_94 (L3), Jobypre_95 (L3), Jubie_93 (L3), Kingsolomon_92 (L3), KirDoubleO7_92 (L3), Krypton555_96 (L3), LiyuLake_93 (L3), Lolly9_93 (L3), Lumos_94 (L3), MiniLon_98 (L3), MiniMac_98 (L3), Moostard_91 (L3), MsGreen_94 (L3), Nicholas_92 (L3), Samty_93 (L3), Snenia_93 (L3), Whirlwind_95 (L3),

Start 8:

- Found in 2 of 89 (2.2%) of genes in pham
- Manual Annotations of this start: 2 of 69
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aegeus_100 (L5), Baudelaire_100 (L5),

Summary by clusters:

There are 5 clusters represented in this pham: L4, L5, L2, L3, L1,

Info for manual annotations of cluster L1:

- Start number 5 was manually annotated 19 times for cluster L1.

Info for manual annotations of cluster L2:

- Start number 5 was manually annotated 26 times for cluster L2.
- Start number 6 was manually annotated 2 times for cluster L2.

Info for manual annotations of cluster L3:

- Start number 7 was manually annotated 16 times for cluster L3.

Info for manual annotations of cluster L4:

- Start number 5 was manually annotated 4 times for cluster L4.

Info for manual annotations of cluster L5:

- Start number 8 was manually annotated 2 times for cluster L5.

Gene Information:

Gene: Acquire49_93 Start: 58116, Stop: 58478, Start Num: 5

Candidate Starts for Acquire49_93:

(Start: 5 @58116 has 49 MA's), (10, 58200), (11, 58224), (25, 58422), (28, 58428),

Gene: Aegeus_100 Start: 60620, Stop: 60937, Start Num: 8

Candidate Starts for Aegeus_100:

(Start: 8 @60620 has 2 MA's), (9, 60689), (12, 60731),

Gene: Appletree2_92 Start: 57876, Stop: 58238, Start Num: 5

Candidate Starts for Appletree2_92:

(Start: 5 @57876 has 49 MA's), (10, 57960), (13, 58011), (22, 58173),

Gene: Archie_94 Start: 59796, Stop: 60203, Start Num: 5

Candidate Starts for Archie_94:

(1, 59727), (4, 59784), (Start: 5 @59796 has 49 MA's), (Start: 6 @59814 has 2 MA's), (10, 59934), (11, 59958), (14, 60036), (17, 60111), (20, 60132), (26, 60159), (27, 60162),

Gene: AvadaKedavra_93 Start: 58228, Stop: 58590, Start Num: 5

Candidate Starts for AvadaKedavra_93:

(Start: 5 @58228 has 49 MA's), (10, 58312), (11, 58336), (25, 58534), (28, 58540),

Gene: Baoshan_94 Start: 60451, Stop: 60819, Start Num: 5

Candidate Starts for Baoshan_94:

(1, 60382), (2, 60400), (4, 60439), (Start: 5 @60451 has 49 MA's), (Start: 6 @60469 has 2 MA's), (10, 60589), (11, 60613), (21, 60793),

Gene: Baudelaire_100 Start: 60620, Stop: 60937, Start Num: 8

Candidate Starts for Baudelaire_100:

(Start: 8 @60620 has 2 MA's), (9, 60689), (12, 60731),

Gene: Bazzle_94 Start: 60352, Stop: 60759, Start Num: 5

Candidate Starts for Bazzle_94:

(1, 60283), (2, 60301), (4, 60340), (Start: 5 @60352 has 49 MA's), (Start: 6 @60370 has 2 MA's), (10, 60490), (11, 60514), (14, 60592), (17, 60667), (20, 60688), (26, 60715), (27, 60718),

Gene: Bellis_92 Start: 59981, Stop: 60322, Start Num: 7

Candidate Starts for Bellis_92:

(3, 59900), (Start: 5 @59927 has 49 MA's), (Start: 7 @59981 has 16 MA's), (10, 60065), (15, 60164), (27, 60269), (31, 60302),

Gene: BigCheese_97 Start: 60561, Stop: 60977, Start Num: 5

Candidate Starts for BigCheese_97:

(1, 60492), (2, 60510), (4, 60549), (Start: 5 @60561 has 49 MA's), (Start: 6 @60579 has 2 MA's), (10, 60699), (11, 60723), (16, 60861), (29, 60933), (30, 60942),

Gene: BobsGarage_96 Start: 60561, Stop: 60977, Start Num: 5

Candidate Starts for BobsGarage_96:

(1, 60492), (2, 60510), (4, 60549), (Start: 5 @60561 has 49 MA's), (Start: 6 @60579 has 2 MA's), (10, 60699), (11, 60723), (16, 60861), (29, 60933), (30, 60942),

Gene: BourbonZero_95 Start: 60007, Stop: 60348, Start Num: 7

Candidate Starts for BourbonZero_95:

(3, 59926), (Start: 5 @59953 has 49 MA's), (Start: 7 @60007 has 16 MA's), (15, 60190), (27, 60295), (31, 60328),

Gene: BrainDrainer_99 Start: 60245, Stop: 60586, Start Num: 3

Candidate Starts for BrainDrainer_99:

(3, 60245), (Start: 5 @60272 has 49 MA's), (10, 60356), (11, 60380), (18, 60536), (19, 60551), (21, 60560), (24, 60578),

Gene: Breezona_97 Start: 60567, Stop: 60983, Start Num: 5

Candidate Starts for Breezona_97:

(1, 60498), (2, 60516), (4, 60555), (Start: 5 @60567 has 49 MA's), (Start: 6 @60585 has 2 MA's), (10, 60705), (11, 60729), (16, 60867), (29, 60939), (30, 60948),

Gene: Bromden_98 Start: 61150, Stop: 61488, Start Num: 5

Candidate Starts for Bromden_98:

(3, 61123), (Start: 5 @61150 has 49 MA's), (19, 61405), (29, 61444), (30, 61453),

Gene: Calm_94 Start: 58127, Stop: 58489, Start Num: 5

Candidate Starts for Calm_94:

(Start: 5 @58127 has 49 MA's), (10, 58211), (11, 58235), (25, 58433), (28, 58439),

Gene: Chaser_97 Start: 59573, Stop: 59935, Start Num: 5

Candidate Starts for Chaser_97:

(3, 59546), (Start: 5 @59573 has 49 MA's), (10, 59657), (11, 59681), (29, 59891), (30, 59900),

Gene: CicholasNage_90 Start: 57780, Stop: 58142, Start Num: 5

Candidate Starts for CicholasNage_90:

(Start: 5 @57780 has 49 MA's), (10, 57864), (11, 57888), (25, 58086), (28, 58092), (32, 58131),

Gene: Claus_96 Start: 60276, Stop: 60638, Start Num: 5

Candidate Starts for Claus_96:

(Start: 5 @60276 has 49 MA's), (10, 60360), (11, 60384), (29, 60594), (30, 60603),

Gene: Clautastrophe_92 Start: 59976, Stop: 60317, Start Num: 7

Candidate Starts for Clautastrophe_92:

(3, 59895), (Start: 5 @59922 has 49 MA's), (Start: 7 @59976 has 16 MA's), (10, 60060), (15, 60159), (27, 60264), (31, 60297),

Gene: Crossroads_97 Start: 60279, Stop: 60695, Start Num: 5

Candidate Starts for Crossroads_97:

(1, 60210), (2, 60228), (4, 60267), (Start: 5 @60279 has 49 MA's), (Start: 6 @60297 has 2 MA's), (10, 60417), (11, 60441), (16, 60579), (29, 60651), (30, 60660),

Gene: DHan_100 Start: 60498, Stop: 60914, Start Num: 5

Candidate Starts for DHan_100:

(1, 60429), (2, 60447), (4, 60486), (Start: 5 @60498 has 49 MA's), (Start: 6 @60516 has 2 MA's), (10, 60636), (11, 60660), (29, 60870), (30, 60879),

Gene: DanBing_96 Start: 60191, Stop: 60511, Start Num: 5

Candidate Starts for DanBing_96:

(2, 60140), (4, 60179), (Start: 5 @60191 has 49 MA's), (10, 60281), (11, 60305), (16, 60443), (21, 60485),

Gene: DirkDirk_90 Start: 57456, Stop: 57818, Start Num: 5

Candidate Starts for DirkDirk_90:

(Start: 5 @57456 has 49 MA's), (10, 57540), (11, 57564), (13, 57591), (22, 57753),

Gene: Douge_98 Start: 59692, Stop: 60006, Start Num: 5

Candidate Starts for Douge_98:

(3, 59665), (Start: 5 @59692 has 49 MA's), (10, 59776), (11, 59800), (18, 59956), (19, 59971), (21, 59980),

Gene: Douzhi_98 Start: 59961, Stop: 60275, Start Num: 5

Candidate Starts for Douzhi_98:

(3, 59934), (Start: 5 @59961 has 49 MA's), (10, 60045), (11, 60069), (18, 60225), (19, 60240), (21, 60249), (24, 60267),

Gene: DrSeegs_96 Start: 60567, Stop: 60983, Start Num: 5

Candidate Starts for DrSeegs_96:

(1, 60498), (2, 60516), (4, 60555), (Start: 5 @60567 has 49 MA's), (Start: 6 @60585 has 2 MA's), (10, 60705), (11, 60729), (16, 60867), (29, 60939), (30, 60948),

Gene: DuncansLeg_94 Start: 59995, Stop: 60336, Start Num: 7

Candidate Starts for DuncansLeg_94:

(3, 59914), (Start: 5 @59941 has 49 MA's), (Start: 7 @59995 has 16 MA's), (15, 60178), (27, 60283), (31, 60316),

Gene: DyoEdafos_100 Start: 60281, Stop: 60649, Start Num: 5

Candidate Starts for DyoEdafos_100:

(3, 60254), (Start: 5 @60281 has 49 MA's), (Start: 6 @60299 has 2 MA's), (10, 60419), (11, 60443), (16, 60581), (18, 60599), (19, 60614), (21, 60623),

Gene: Ellson_93 Start: 60310, Stop: 60651, Start Num: 7

Candidate Starts for Ellson_93:

(3, 60229), (Start: 5 @60256 has 49 MA's), (Start: 7 @60310 has 16 MA's), (15, 60493), (27, 60598), (31, 60631),

Gene: Enceladus_90 Start: 58157, Stop: 58519, Start Num: 5

Candidate Starts for Enceladus_90:

(Start: 5 @58157 has 49 MA's), (10, 58241), (11, 58265), (25, 58463), (28, 58469),

Gene: Faith1_97 Start: 60204, Stop: 60620, Start Num: 5

Candidate Starts for Faith1_97:

(1, 60135), (2, 60153), (4, 60192), (Start: 5 @60204 has 49 MA's), (Start: 6 @60222 has 2 MA's), (10, 60342), (11, 60366), (16, 60504), (29, 60576), (30, 60585),

Gene: FarmResident_99 Start: 59848, Stop: 60162, Start Num: 5

Candidate Starts for FarmResident_99:

(3, 59821), (Start: 5 @59848 has 49 MA's), (10, 59932), (11, 59956), (16, 60094), (18, 60112), (19, 60127), (21, 60136), (24, 60154),

Gene: Finemlucis_98 Start: 61312, Stop: 61680, Start Num: 5

Candidate Starts for Finemlucis_98:

(1, 61243), (2, 61261), (4, 61300), (Start: 5 @61312 has 49 MA's), (Start: 6 @61330 has 2 MA's), (10, 61450), (11, 61474), (19, 61645), (21, 61654),

Gene: Finnry_94 Start: 60329, Stop: 60670, Start Num: 7

Candidate Starts for Finnry_94:

(3, 60248), (Start: 5 @60275 has 49 MA's), (Start: 7 @60329 has 16 MA's), (10, 60413), (15, 60512), (27, 60617), (31, 60650),

Gene: Gabriela_97 Start: 59550, Stop: 59966, Start Num: 5

Candidate Starts for Gabriela_97:

(1, 59481), (2, 59499), (4, 59538), (Start: 5 @59550 has 49 MA's), (Start: 6 @59568 has 2 MA's), (10, 59688), (11, 59712), (16, 59850), (29, 59922), (30, 59931),

Gene: Gardann_97 Start: 60045, Stop: 60413, Start Num: 5

Candidate Starts for Gardann_97:

(1, 59976), (2, 59994), (4, 60033), (Start: 5 @60045 has 49 MA's), (Start: 6 @60063 has 2 MA's), (10, 60183), (11, 60207), (19, 60378), (21, 60387),

Gene: GuuelaD_94 Start: 60163, Stop: 60579, Start Num: 5

Candidate Starts for GuuelaD_94:

(1, 60094), (2, 60112), (4, 60151), (Start: 5 @60163 has 49 MA's), (Start: 6 @60181 has 2 MA's), (10, 60301), (11, 60325), (16, 60463), (29, 60535), (30, 60544),

Gene: Hafay_98 Start: 60271, Stop: 60633, Start Num: 5

Candidate Starts for Hafay_98:

(Start: 5 @60271 has 49 MA's), (10, 60355), (11, 60379), (29, 60589), (30, 60598),

Gene: Halena_90 Start: 57043, Stop: 57405, Start Num: 5

Candidate Starts for Halena_90:

(Start: 5 @57043 has 49 MA's), (10, 57127), (11, 57151), (25, 57349), (28, 57355),

Gene: Itos_97 Start: 59110, Stop: 59526, Start Num: 5

Candidate Starts for Itos_97:

(1, 59041), (2, 59059), (4, 59098), (Start: 5 @59110 has 49 MA's), (Start: 6 @59128 has 2 MA's), (10, 59248), (11, 59272), (16, 59410), (29, 59482), (30, 59491),

Gene: Jobypre_95 Start: 59976, Stop: 60317, Start Num: 7

Candidate Starts for Jobypre_95:

(3, 59895), (Start: 5 @59922 has 49 MA's), (Start: 7 @59976 has 16 MA's), (10, 60060), (15, 60159), (27, 60264), (31, 60297),

Gene: JoeDirt_94 Start: 58718, Stop: 59080, Start Num: 5

Candidate Starts for JoeDirt_94:

(Start: 5 @58718 has 49 MA's), (10, 58802), (13, 58853), (22, 59015),

Gene: Jubie_93 Start: 60111, Stop: 60452, Start Num: 7

Candidate Starts for Jubie_93:

(3, 60030), (Start: 5 @60057 has 49 MA's), (Start: 7 @60111 has 16 MA's), (10, 60195), (15, 60294), (27, 60399), (31, 60432),

Gene: Kahlid_96 Start: 59963, Stop: 60331, Start Num: 5

Candidate Starts for Kahlid_96:

(1, 59894), (2, 59912), (4, 59951), (Start: 5 @59963 has 49 MA's), (Start: 6 @59981 has 2 MA's), (10, 60101), (11, 60125), (19, 60296), (21, 60305),

Gene: Kingsolomon_92 Start: 60085, Stop: 60426, Start Num: 7

Candidate Starts for Kingsolomon_92:

(3, 60004), (Start: 5 @60031 has 49 MA's), (Start: 7 @60085 has 16 MA's), (15, 60268), (27, 60373), (31, 60406),

Gene: KirDoubleO7_92 Start: 59997, Stop: 60338, Start Num: 7

Candidate Starts for KirDoubleO7_92:

(3, 59916), (Start: 5 @59943 has 49 MA's), (Start: 7 @59997 has 16 MA's), (15, 60180), (27, 60285), (31, 60318),

Gene: Krypton555_96 Start: 60488, Stop: 60829, Start Num: 7

Candidate Starts for Krypton555_96:

(3, 60407), (Start: 5 @60434 has 49 MA's), (Start: 7 @60488 has 16 MA's), (10, 60572), (15, 60671), (27, 60776), (31, 60809),

Gene: LeBron_92 Start: 57350, Stop: 57712, Start Num: 5

Candidate Starts for LeBron_92:

(Start: 5 @57350 has 49 MA's), (10, 57434), (11, 57458), (25, 57656), (28, 57662),

Gene: Lewan_98 Start: 60221, Stop: 60619, Start Num: 6

Candidate Starts for Lewan_98:

(1, 60134), (2, 60152), (4, 60191), (Start: 5 @60203 has 49 MA's), (Start: 6 @60221 has 2 MA's), (10, 60341), (11, 60365), (16, 60503), (29, 60575), (30, 60584),

Gene: LilDestine_95 Start: 59874, Stop: 60290, Start Num: 5

Candidate Starts for LilDestine_95:

(1, 59805), (2, 59823), (4, 59862), (Start: 5 @59874 has 49 MA's), (Start: 6 @59892 has 2 MA's), (10, 60012), (11, 60036), (16, 60174), (29, 60246), (30, 60255),

Gene: LiyuLake_93 Start: 60070, Stop: 60411, Start Num: 7

Candidate Starts for LiyuLake_93:

(3, 59989), (Start: 5 @60016 has 49 MA's), (Start: 7 @60070 has 16 MA's), (15, 60253), (27, 60358), (31, 60391),

Gene: Loadrie_96 Start: 60365, Stop: 60781, Start Num: 5

Candidate Starts for Loadrie_96:

(1, 60296), (2, 60314), (4, 60353), (Start: 5 @60365 has 49 MA's), (Start: 6 @60383 has 2 MA's), (10, 60503), (11, 60527), (16, 60665), (29, 60737), (30, 60746),

Gene: Lolly9_93 Start: 60161, Stop: 60502, Start Num: 7

Candidate Starts for Lolly9_93:

(3, 60080), (Start: 5 @60107 has 49 MA's), (Start: 7 @60161 has 16 MA's), (15, 60344), (27, 60449), (31, 60482),

Gene: Lumos_94 Start: 59973, Stop: 60314, Start Num: 7

Candidate Starts for Lumos_94:

(3, 59892), (Start: 5 @59919 has 49 MA's), (Start: 7 @59973 has 16 MA's), (10, 60057), (15, 60156), (27, 60261), (31, 60294),

Gene: MAckerman_91 Start: 57036, Stop: 57398, Start Num: 5

Candidate Starts for MAckerman_91:

(Start: 5 @57036 has 49 MA's), (10, 57120), (11, 57144), (25, 57342), (28, 57348),

Gene: Miley16_97 Start: 60567, Stop: 60983, Start Num: 5

Candidate Starts for Miley16_97:

(1, 60498), (2, 60516), (4, 60555), (Start: 5 @60567 has 49 MA's), (Start: 6 @60585 has 2 MA's), (10, 60705), (11, 60729), (16, 60867), (29, 60939), (30, 60948),

Gene: MiniLon_98 Start: 60162, Stop: 60503, Start Num: 7

Candidate Starts for MiniLon_98:

(3, 60081), (Start: 5 @60108 has 49 MA's), (Start: 7 @60162 has 16 MA's), (15, 60345), (27, 60450), (31, 60483),

Gene: MiniMac_98 Start: 60157, Stop: 60498, Start Num: 7

Candidate Starts for MiniMac_98:

(3, 60076), (Start: 5 @60103 has 49 MA's), (Start: 7 @60157 has 16 MA's), (15, 60340), (27, 60445), (31, 60478),

Gene: MkaliMitinis3_99 Start: 60329, Stop: 60745, Start Num: 5

Candidate Starts for MkaliMitinis3_99:

(1, 60260), (2, 60278), (4, 60317), (Start: 5 @60329 has 49 MA's), (Start: 6 @60347 has 2 MA's), (10, 60467), (11, 60491), (16, 60629), (29, 60701), (30, 60710),

Gene: Moostard_91 Start: 60080, Stop: 60421, Start Num: 7

Candidate Starts for Moostard_91:

(3, 59999), (Start: 5 @60026 has 49 MA's), (Start: 7 @60080 has 16 MA's), (10, 60164), (15, 60263), (27, 60368), (31, 60401),

Gene: MsGreen_94 Start: 59975, Stop: 60316, Start Num: 7

Candidate Starts for MsGreen_94:

(3, 59894), (Start: 5 @59921 has 49 MA's), (Start: 7 @59975 has 16 MA's), (10, 60059), (15, 60158), (27, 60263), (31, 60296),

Gene: Netyap_96 Start: 60205, Stop: 60621, Start Num: 5

Candidate Starts for Netyap_96:

(1, 60136), (2, 60154), (4, 60193), (Start: 5 @60205 has 49 MA's), (Start: 6 @60223 has 2 MA's), (10, 60343), (11, 60367), (16, 60505), (29, 60577), (30, 60586),

Gene: Nicholas_92 Start: 60085, Stop: 60426, Start Num: 7

Candidate Starts for Nicholas_92:

(3, 60004), (Start: 5 @60031 has 49 MA's), (Start: 7 @60085 has 16 MA's), (15, 60268), (27, 60373), (31, 60406),

Gene: Nicholasp3_97 Start: 60045, Stop: 60413, Start Num: 5

Candidate Starts for Nicholasp3_97:

(1, 59976), (2, 59994), (4, 60033), (Start: 5 @60045 has 49 MA's), (Start: 6 @60063 has 2 MA's), (10, 60183), (11, 60207), (19, 60378), (21, 60387),

Gene: OhShagHennessy_89 Start: 57293, Stop: 57655, Start Num: 5

Candidate Starts for OhShagHennessy_89:

(Start: 5 @57293 has 49 MA's), (10, 57377), (13, 57428), (22, 57590),

Gene: PYPDinur_98 Start: 60524, Stop: 60838, Start Num: 5

Candidate Starts for PYPDinur_98:

(3, 60497), (Start: 5 @60524 has 49 MA's), (10, 60608), (11, 60632), (18, 60788), (19, 60803), (21, 60812), (24, 60830),

Gene: Quby_98 Start: 59936, Stop: 60250, Start Num: 5

Candidate Starts for Quby_98:

(3, 59909), (Start: 5 @59936 has 49 MA's), (10, 60020), (11, 60044), (18, 60200), (19, 60215), (21, 60224), (24, 60242),

Gene: Rose5_94 Start: 58560, Stop: 58922, Start Num: 5

Candidate Starts for Rose5_94:

(Start: 5 @58560 has 49 MA's), (10, 58644), (11, 58668), (25, 58866), (28, 58872),

Gene: Rumpelstiltskin_93 Start: 59856, Stop: 60206, Start Num: 6

Candidate Starts for Rumpelstiltskin_93:

(1, 59769), (2, 59787), (4, 59826), (Start: 5 @59838 has 49 MA's), (Start: 6 @59856 has 2 MA's), (10, 59976), (11, 60000), (19, 60171), (21, 60180),

Gene: Samty_93 Start: 60073, Stop: 60414, Start Num: 7

Candidate Starts for Samty_93:

(3, 59992), (Start: 5 @60019 has 49 MA's), (Start: 7 @60073 has 16 MA's), (10, 60157), (15, 60256), (27, 60361), (31, 60394),

Gene: Sarshaun_98 Start: 60956, Stop: 61372, Start Num: 5

Candidate Starts for Sarshaun_98:

(1, 60887), (2, 60905), (4, 60944), (Start: 5 @60956 has 49 MA's), (Start: 6 @60974 has 2 MA's), (10, 61094), (11, 61118), (16, 61256), (29, 61328), (30, 61337),

Gene: Sheng711_99 Start: 59973, Stop: 60362, Start Num: 3

Candidate Starts for Sheng711_99:

(3, 59973), (Start: 5 @60000 has 49 MA's), (10, 60084), (11, 60108), (23, 60300), (29, 60318), (30, 60327),

Gene: Silverleaf_92 Start: 58056, Stop: 58418, Start Num: 5

Candidate Starts for Silverleaf_92:

(Start: 5 @58056 has 49 MA's), (10, 58140), (11, 58164), (25, 58362), (28, 58368),

Gene: Snenia_93 Start: 59977, Stop: 60318, Start Num: 7

Candidate Starts for Snenia_93:

(3, 59896), (Start: 5 @59923 has 49 MA's), (Start: 7 @59977 has 16 MA's), (10, 60061), (15, 60160), (27, 60265), (31, 60298),

Gene: Soap141_97 Start: 60956, Stop: 61372, Start Num: 5

Candidate Starts for Soap141_97:

(1, 60887), (2, 60905), (4, 60944), (Start: 5 @60956 has 49 MA's), (Start: 6 @60974 has 2 MA's), (10, 61094), (11, 61118), (16, 61256), (29, 61328), (30, 61337),

Gene: Tourach_97 Start: 60937, Stop: 61290, Start Num: 5

Candidate Starts for Tourach_97:

(Start: 5 @60937 has 49 MA's), (10, 61021), (11, 61045), (20, 61219), (26, 61246),

Gene: Tyson_94 Start: 58453, Stop: 58815, Start Num: 5

Candidate Starts for Tyson_94:

(Start: 5 @58453 has 49 MA's), (10, 58537), (11, 58561), (25, 58759), (28, 58765),

Gene: UPIE_92 Start: 58049, Stop: 58411, Start Num: 5

Candidate Starts for UPIE_92:

(Start: 5 @58049 has 49 MA's), (10, 58133), (11, 58157), (25, 58355), (28, 58361), (32, 58400),

Gene: Vetrix_95 Start: 59819, Stop: 60235, Start Num: 5

Candidate Starts for Vetrix_95:

(1, 59750), (2, 59768), (4, 59807), (Start: 5 @59819 has 49 MA's), (Start: 6 @59837 has 2 MA's), (10, 59957), (11, 59981), (16, 60119), (29, 60191), (30, 60200),

Gene: Wamburgexpress_92 Start: 58177, Stop: 58539, Start Num: 5

Candidate Starts for Wamburgexpress_92:

(Start: 5 @58177 has 49 MA's), (10, 58261), (11, 58285), (25, 58483), (28, 58489),

Gene: Whirlwind_95 Start: 60316, Stop: 60657, Start Num: 7

Candidate Starts for Whirlwind_95:

(3, 60235), (Start: 5 @60262 has 49 MA's), (Start: 7 @60316 has 16 MA's), (10, 60400), (15, 60499), (27, 60604), (31, 60637),

Gene: Wigglewigggle_97 Start: 60127, Stop: 60543, Start Num: 5

Candidate Starts for Wigglewigggle_97:

(1, 60058), (2, 60076), (4, 60115), (Start: 5 @60127 has 49 MA's), (Start: 6 @60145 has 2 MA's), (10, 60265), (11, 60289), (16, 60427), (29, 60499), (30, 60508),

Gene: Wilder_98 Start: 59963, Stop: 60379, Start Num: 5

Candidate Starts for Wilder_98:

(1, 59894), (2, 59912), (4, 59951), (Start: 5 @59963 has 49 MA's), (Start: 6 @59981 has 2 MA's), (10, 60101), (11, 60125), (16, 60263), (29, 60335), (30, 60344),

Gene: Winky_97 Start: 60567, Stop: 60983, Start Num: 5

Candidate Starts for Winky_97:

(1, 60498), (2, 60516), (4, 60555), (Start: 5 @60567 has 49 MA's), (Start: 6 @60585 has 2 MA's), (10, 60705), (11, 60729), (16, 60867), (29, 60939), (30, 60948),

Gene: Wyatt2_94 Start: 58484, Stop: 58846, Start Num: 5

Candidate Starts for Wyatt2_94:

(Start: 5 @58484 has 49 MA's), (10, 58568), (11, 58592), (25, 58790), (28, 58796),

Gene: Zakai_98 Start: 60606, Stop: 61022, Start Num: 5

Candidate Starts for Zakai_98:

(1, 60537), (2, 60555), (4, 60594), (Start: 5 @60606 has 49 MA's), (Start: 6 @60624 has 2 MA's), (10, 60744), (11, 60768), (16, 60906), (29, 60978), (30, 60987),

Gene: Zaria_93 Start: 57592, Stop: 57954, Start Num: 5

Candidate Starts for Zaria_93:

(Start: 5 @57592 has 49 MA's), (10, 57676), (11, 57700), (25, 57898), (28, 57904),

Gene: ZhongYanYuan_94 Start: 60018, Stop: 60434, Start Num: 5

Candidate Starts for ZhongYanYuan_94:

(1, 59949), (2, 59967), (4, 60006), (Start: 5 @60018 has 49 MA's), (Start: 6 @60036 has 2 MA's), (10, 60156), (11, 60180), (29, 60390), (30, 60399),