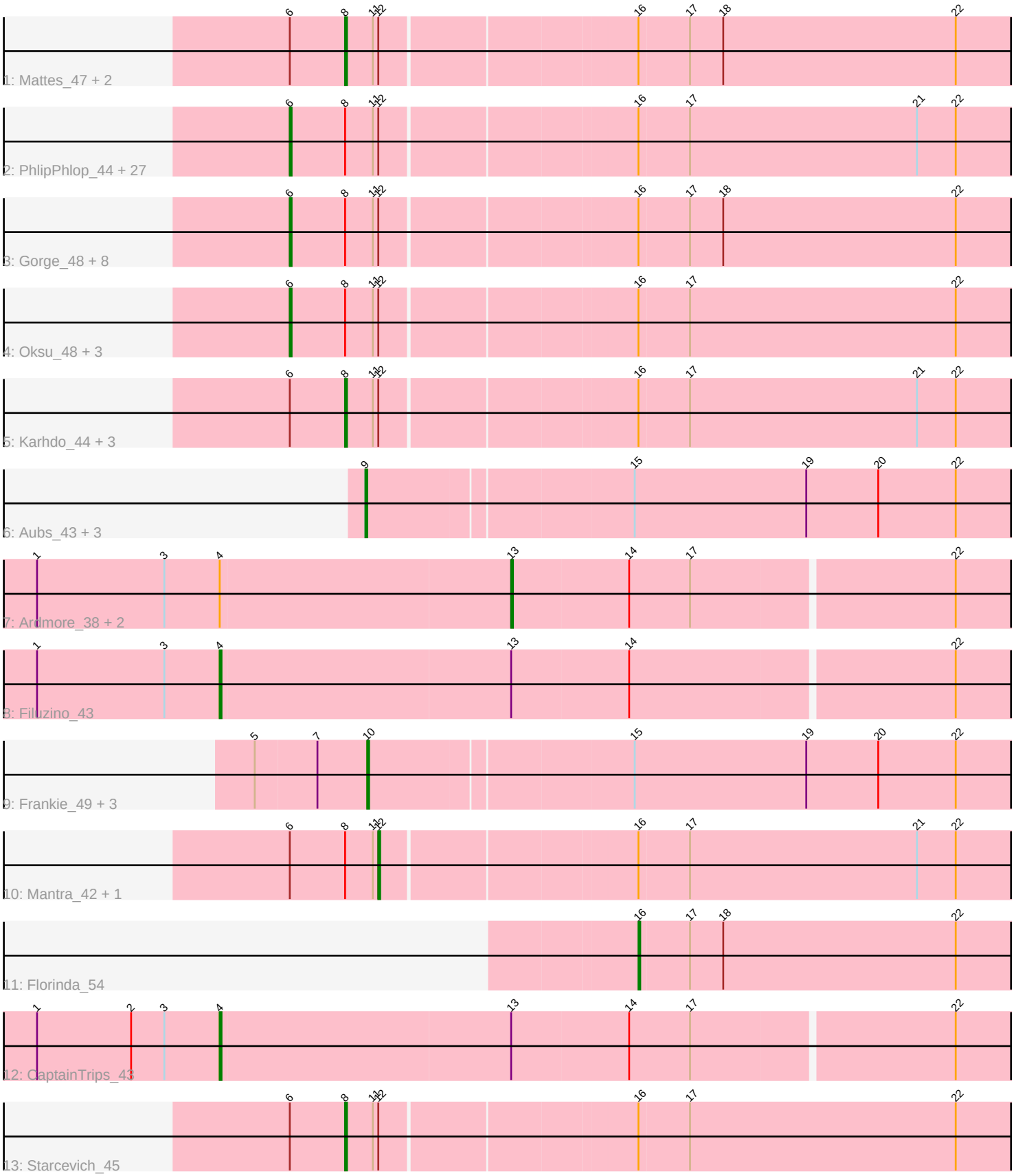
Pham 347609


1: Mattes_47 + 2
2: PhlipPhlop_44 + 27
3: Gorge_48 + 8
4: Oksu_48 + 3
5: Karhdo_44 + 3
6: Aubs_43 + 3
7: Ardmore_38 + 2
8: Filuzino_43
9: Frankie_49 + 3
10: Mantra_42 + 1
11: Florinda_54
12: CaptainTrips_43
13: Starcevich_45

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 347609 Report

This analysis was run 11/14/26 on database version 672.

Pham number 347609 has 65 members, 3 are drafts.

Phages represented in each track:
• Track 1 : Mattes_47, Quico_52, Philus_47
• Track 2 : PhlipPhlop_44, IbOuu_45, BuzzLyseyear_50, Ramsey_46, Vivum_48, Nichirin_48, Alexphander_50, Phanphagia_39, Harley_48, DaddyRickover_44, OwlsT2W_43, Slim_46, Veteran_43, Radiance_44, Royals2015_46, Sandalphon_47, Wee_48, SiSi_45, Gandalph_45, GUmbie_43, Tweety_45, Emmaloid_46, Violac_47, DotProduct_42, Bipolar_41, GigiOuiOui_42, Spikelee_51, Hamulus_46
• Track 3 : Gorge_48, James_47, SwagPigglett_49, Firehouse51_44, BobaPhett_47, Saal_47, Girafales_54, ByChance_34, DRBy19_47
• Track 4 : Oksu_48, DosHalletts_45, DeadP_49, Hades_45
• Track 5 : Karhdo_44, Clank_47, Totinger_45, EmiMonkey_42
• Track 6 : Aubs_43, Jabbawokkie_59, Avani_53, Zapner_57
• Track 7 : Ardmore_38, Fruitloop_44, SuperGrey_46
• Track 8 : Filuzino_43
• Track 9 : Frankie_49, Spartacus_45, WillSterrel_45, IrishSherpFalk_45
• Track 10 : Mantra_42, OldBen_43
• Track 11 : Florinda_54
• Track 12 : CaptainTrips_43
• Track 13 : Starcevich_45

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

The start number called the most often in the published annotations is 6, it was called in 41 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Alexphander_50, Bipolar_41, BobaPhett_47, BuzzLyseyear_50, ByChance_34, DRBy19_47, DaddyRickover_44, DeadP_49, DosHalletts_45, DotProduct_42, Emmaloid_46, Firehouse51_44, GUmbie_43, Gandalph_45, GigiOuiOui_42, Girafales_54, Gorge_48, Hades_45, Hamulus_46, Harley_48, IbOuu_45, James_47, Nichirin_48, Oksu_48, OwlsT2W_43, Phanphagia_39, PhlipPhlop_44, Radiance_44, Ramsey_46, Royals2015_46, Saal_47, Sandalphon_47, SiSi_45, Slim_46, Spikelee_51, SwagPigglett_49, Tweety_45, Veteran_43, Violac_47, Vivum_48, Wee_48,

Genes that have the "Most Annotated" start but do not call it:
• Clank_47, EmiMonkey_42, Karhdo_44, Mantra_42, Mattes_47, OldBen_43, Philus_47, Quico_52, Starcevich_45, Totinger_45,

Genes that do not have the "Most Annotated" start:
• Ardmore_38, Aubs_43, Avani_53, CaptainTrips_43, Filuzino_43, Florinda_54, Frankie_49, Fruitloop_44, IrishSherpFalk_45, Jabbawokkie_59, Spartacus_45, SuperGrey_46, WillSterrel_45, Zapner_57,

Summary by start number:

Start 4:
• Found in 5 of 65 (7.7%) of genes in pham
• Manual Annotations of this start: 2 of 62
• Called 40.0% of time when present
• Phage (with cluster) where this start called: CaptainTrips_43 (F1), Filuzino_43 (F1),

Start 6:
• Found in 51 of 65 (78.5%) of genes in pham
• Manual Annotations of this start: 41 of 62
• Called 80.4% of time when present
• Phage (with cluster) where this start called: Alexphander_50 (F1), Bipolar_41 (F1), BobaPhett_47 (F1), BuzzLyseyear_50 (F1), ByChance_34 (F1), DRBy19_47 (F1), DaddyRickover_44 (F1), DeadP_49 (F1), DosHalletts_45 (F1), DotProduct_42 (F1), Emmaloid_46 (F1), Firehouse51_44 (F1), GUmbie_43 (F1), Gandalph_45 (F1), GigiOuiOui_42 (F1), Girafales_54 (F1), Gorge_48 (F1), Hades_45 (F1), Hamulus_46 (F1), Harley_48 (F1), IbOuu_45 (F1), James_47 (F1), Nichirin_48 (F1), Oksu_48 (F1), OwlsT2W_43 (F1), Phanphagia_39 (F1), PhlipPhlop_44 (F1), Radiance_44 (F1), Ramsey_46 (F1), Royals2015_46 (F1), Saal_47 (F1), Sandalphon_47 (F1), SiSi_45 (F1), Slim_46 (F1), Spikelee_51 (F1), SwagPigglett_49 (F1), Tweety_45 (F1), Veteran_43 (F1), Violac_47 (F1), Vivum_48 (F1), Wee_48 (F1),

Start 8:
• Found in 51 of 65 (78.5%) of genes in pham
• Manual Annotations of this start: 6 of 62
• Called 15.7% of time when present
• Phage (with cluster) where this start called: Clank_47 (F), EmiMonkey_42 (F1), Karhdo_44 (F1), Mattes_47 (F1), Philus_47 (F1), Quico_52 (F1), Starcevich_45 (F1), Totinger_45 (F1),

Start 9:
• Found in 4 of 65 (6.2%) of genes in pham
• Manual Annotations of this start: 4 of 62
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Aubs_43 (F1), Avani_53 (F2), Jabbawokkie_59 (F2), Zapner_57 (F2),

Start 10:
• Found in 4 of 65 (6.2%) of genes in pham
• Manual Annotations of this start: 4 of 62
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Frankie_49 (F1), IrishSherpFalk_45 (F1), Spartacus_45 (F1), WillSterrel_45 (F1),

Start 12:
• Found in 51 of 65 (78.5%) of genes in pham
• Manual Annotations of this start: 2 of 62
• Called 3.9% of time when present
• Phage (with cluster) where this start called: Mantra_42 (F1), OldBen_43 (F1),

Start 13:
• Found in 5 of 65 (7.7%) of genes in pham
• Manual Annotations of this start: 2 of 62
• Called 60.0% of time when present
• Phage (with cluster) where this start called: Ardmore_38 (F1), Fruitloop_44 (F1), SuperGrey_46 (F1),

Start 16:
• Found in 52 of 65 (80.0%) of genes in pham
• Manual Annotations of this start: 1 of 62
• Called 1.9% of time when present
• Phage (with cluster) where this start called: Florinda_54 (F1),

Summary by clusters:

There are 3 clusters represented in this pham: F1, F2, F,

Info for manual annotations of cluster F1:
•Start number 4 was manually annotated 2 times for cluster F1.
•Start number 6 was manually annotated 41 times for cluster F1.
•Start number 8 was manually annotated 6 times for cluster F1.
•Start number 9 was manually annotated 1 time for cluster F1.
•Start number 10 was manually annotated 4 times for cluster F1.
•Start number 12 was manually annotated 2 times for cluster F1.
•Start number 13 was manually annotated 2 times for cluster F1.
•Start number 16 was manually annotated 1 time for cluster F1.

Info for manual annotations of cluster F2:
•Start number 9 was manually annotated 3 times for cluster F2.

Gene Information:

Gene: Alexphander_50 Start: 35477, Stop: 34944, Start Num: 6
Candidate Starts for Alexphander_50:
(Start: 6 @35477 has 41 MA's), (Start: 8 @35447 has 6 MA's), (11, 35432), (Start: 12 @35429 has 2 MA's), (Start: 16 @35297 has 1 MA's), (17, 35270), (21, 35147), (22, 35126),

Gene: Ardmore_38 Start: 33212, Stop: 32799, Start Num: 13
Candidate Starts for Ardmore_38:
(1, 33467), (3, 33398), (Start: 4 @33368 has 2 MA's), (Start: 13 @33212 has 2 MA's), (14, 33149), (17, 33116), (22, 32978),

Gene: Aubs_43 Start: 34347, Stop: 33856, Start Num: 9

Candidate Starts for Aubs_43:
(Start: 9 @34347 has 4 MA's), (15, 34209), (19, 34116), (20, 34077), (22, 34035),

Gene: Avani_53 Start: 34662, Stop: 34168, Start Num: 9
Candidate Starts for Avani_53:
(Start: 9 @34662 has 4 MA's), (15, 34524), (19, 34431), (20, 34392), (22, 34350),

Gene: Bipolar_41 Start: 33810, Stop: 33277, Start Num: 6
Candidate Starts for Bipolar_41:
(Start: 6 @33810 has 41 MA's), (Start: 8 @33780 has 6 MA's), (11, 33765), (Start: 12 @33762 has 2 MA's), (Start: 16 @33630 has 1 MA's), (17, 33603), (21, 33480), (22, 33459),

Gene: BobaPhett_47 Start: 36271, Stop: 35741, Start Num: 6
Candidate Starts for BobaPhett_47:
(Start: 6 @36271 has 41 MA's), (Start: 8 @36241 has 6 MA's), (11, 36226), (Start: 12 @36223 has 2 MA's), (Start: 16 @36091 has 1 MA's), (17, 36064), (18, 36046), (22, 35920),

Gene: BuzzLyseyear_50 Start: 36165, Stop: 35632, Start Num: 6
Candidate Starts for BuzzLyseyear_50:
(Start: 6 @36165 has 41 MA's), (Start: 8 @36135 has 6 MA's), (11, 36120), (Start: 12 @36117 has 2 MA's), (Start: 16 @35985 has 1 MA's), (17, 35958), (21, 35835), (22, 35814),

Gene: ByChance_34 Start: 29355, Stop: 28825, Start Num: 6
Candidate Starts for ByChance_34:
(Start: 6 @29355 has 41 MA's), (Start: 8 @29325 has 6 MA's), (11, 29310), (Start: 12 @29307 has 2 MA's), (Start: 16 @29175 has 1 MA's), (17, 29148), (18, 29130), (22, 29004),

Gene: CaptainTrips_43 Start: 34800, Stop: 34231, Start Num: 4
Candidate Starts for CaptainTrips_43:
(1, 34899), (2, 34848), (3, 34830), (Start: 4 @34800 has 2 MA's), (Start: 13 @34644 has 2 MA's), (14, 34581), (17, 34548), (22, 34410),

Gene: Clank_47 Start: 34602, Stop: 34099, Start Num: 8
Candidate Starts for Clank_47:
(Start: 6 @34632 has 41 MA's), (Start: 8 @34602 has 6 MA's), (11, 34587), (Start: 12 @34584 has 2 MA's), (Start: 16 @34452 has 1 MA's), (17, 34425), (21, 34302), (22, 34281),

Gene: DRBy19_47 Start: 35058, Stop: 34528, Start Num: 6
Candidate Starts for DRBy19_47:
(Start: 6 @35058 has 41 MA's), (Start: 8 @35028 has 6 MA's), (11, 35013), (Start: 12 @35010 has 2 MA's), (Start: 16 @34878 has 1 MA's), (17, 34851), (18, 34833), (22, 34707),

Gene: DaddyRickover_44 Start: 34732, Stop: 34199, Start Num: 6
Candidate Starts for DaddyRickover_44:
(Start: 6 @34732 has 41 MA's), (Start: 8 @34702 has 6 MA's), (11, 34687), (Start: 12 @34684 has 2 MA's), (Start: 16 @34552 has 1 MA's), (17, 34525), (21, 34402), (22, 34381),

Gene: DeadP_49 Start: 35014, Stop: 34481, Start Num: 6
Candidate Starts for DeadP_49:
(Start: 6 @35014 has 41 MA's), (Start: 8 @34984 has 6 MA's), (11, 34969), (Start: 12 @34966 has 2 MA's), (Start: 16 @34834 has 1 MA's), (17, 34807), (22, 34663),

Gene: DosHalletts_45 Start: 34329, Stop: 33799, Start Num: 6

Candidate Starts for DosHalletts_45:
(Start: 6 @34329 has 41 MA's), (Start: 8 @34299 has 6 MA's), (11, 34284), (Start: 12 @34281 has 2 MA's), (Start: 16 @34149 has 1 MA's), (17, 34122), (22, 33978),

Gene: DotProduct_42 Start: 34013, Stop: 33480, Start Num: 6
Candidate Starts for DotProduct_42:
(Start: 6 @34013 has 41 MA's), (Start: 8 @33983 has 6 MA's), (11, 33968), (Start: 12 @33965 has 2 MA's), (Start: 16 @33833 has 1 MA's), (17, 33806), (21, 33683), (22, 33662),

Gene: EmiMonkey_42 Start: 35637, Stop: 35134, Start Num: 8
Candidate Starts for EmiMonkey_42:
(Start: 6 @35667 has 41 MA's), (Start: 8 @35637 has 6 MA's), (11, 35622), (Start: 12 @35619 has 2 MA's), (Start: 16 @35487 has 1 MA's), (17, 35460), (21, 35337), (22, 35316),

Gene: Emmaloid_46 Start: 35743, Stop: 35210, Start Num: 6
Candidate Starts for Emmaloid_46:
(Start: 6 @35743 has 41 MA's), (Start: 8 @35713 has 6 MA's), (11, 35698), (Start: 12 @35695 has 2 MA's), (Start: 16 @35563 has 1 MA's), (17, 35536), (21, 35413), (22, 35392),

Gene: Filuzino_43 Start: 33794, Stop: 33225, Start Num: 4
Candidate Starts for Filuzino_43:
(1, 33893), (3, 33824), (Start: 4 @33794 has 2 MA's), (Start: 13 @33638 has 2 MA's), (14, 33575), (22, 33404),

Gene: Firehouse51_44 Start: 35967, Stop: 35437, Start Num: 6
Candidate Starts for Firehouse51_44:
(Start: 6 @35967 has 41 MA's), (Start: 8 @35937 has 6 MA's), (11, 35922), (Start: 12 @35919 has 2 MA's), (Start: 16 @35787 has 1 MA's), (17, 35760), (18, 35742), (22, 35616),

Gene: Florinda_54 Start: 35452, Stop: 35102, Start Num: 16
Candidate Starts for Florinda_54:
(Start: 16 @35452 has 1 MA's), (17, 35425), (18, 35407), (22, 35281),

Gene: Frankie_49 Start: 35937, Stop: 35446, Start Num: 10
Candidate Starts for Frankie_49:
(5, 35997), (7, 35964), (Start: 10 @35937 has 4 MA's), (15, 35799), (19, 35706), (20, 35667), (22, 35625),

Gene: Fruitloop_44 Start: 35504, Stop: 35091, Start Num: 13
Candidate Starts for Fruitloop_44:
(1, 35759), (3, 35690), (Start: 4 @35660 has 2 MA's), (Start: 13 @35504 has 2 MA's), (14, 35441), (17, 35408), (22, 35270),

Gene: GUmbie_43 Start: 34242, Stop: 33709, Start Num: 6
Candidate Starts for GUmbie_43:
(Start: 6 @34242 has 41 MA's), (Start: 8 @34212 has 6 MA's), (11, 34197), (Start: 12 @34194 has 2 MA's), (Start: 16 @34062 has 1 MA's), (17, 34035), (21, 33912), (22, 33891),

Gene: Gandalph_45 Start: 34322, Stop: 33789, Start Num: 6
Candidate Starts for Gandalph_45:
(Start: 6 @34322 has 41 MA's), (Start: 8 @34292 has 6 MA's), (11, 34277), (Start: 12 @34274 has 2 MA's), (Start: 16 @34142 has 1 MA's), (17, 34115), (21, 33992), (22, 33971),

Gene: GigiOuiOui_42 Start: 34155, Stop: 33622, Start Num: 6
Candidate Starts for GigiOuiOui_42:
(Start: 6 @34155 has 41 MA's), (Start: 8 @34125 has 6 MA's), (11, 34110), (Start: 12 @34107 has 2 MA's), (Start: 16 @33975 has 1 MA's), (17, 33948), (21, 33825), (22, 33804),

Gene: Girafales_54 Start: 35441, Stop: 34908, Start Num: 6
Candidate Starts for Girafales_54:
(Start: 6 @35441 has 41 MA's), (Start: 8 @35411 has 6 MA's), (11, 35396), (Start: 12 @35393 has 2 MA's), (Start: 16 @35261 has 1 MA's), (17, 35234), (18, 35216), (22, 35090),

Gene: Gorge_48 Start: 35192, Stop: 34662, Start Num: 6
Candidate Starts for Gorge_48:
(Start: 6 @35192 has 41 MA's), (Start: 8 @35162 has 6 MA's), (11, 35147), (Start: 12 @35144 has 2 MA's), (Start: 16 @35012 has 1 MA's), (17, 34985), (18, 34967), (22, 34841),

Gene: Hades_45 Start: 34414, Stop: 33881, Start Num: 6
Candidate Starts for Hades_45:
(Start: 6 @34414 has 41 MA's), (Start: 8 @34384 has 6 MA's), (11, 34369), (Start: 12 @34366 has 2 MA's), (Start: 16 @34234 has 1 MA's), (17, 34207), (22, 34063),

Gene: Hamulus_46 Start: 35597, Stop: 35064, Start Num: 6
Candidate Starts for Hamulus_46:
(Start: 6 @35597 has 41 MA's), (Start: 8 @35567 has 6 MA's), (11, 35552), (Start: 12 @35549 has 2 MA's), (Start: 16 @35417 has 1 MA's), (17, 35390), (21, 35267), (22, 35246),

Gene: Harley_48 Start: 34950, Stop: 34417, Start Num: 6
Candidate Starts for Harley_48:
(Start: 6 @34950 has 41 MA's), (Start: 8 @34920 has 6 MA's), (11, 34905), (Start: 12 @34902 has 2 MA's), (Start: 16 @34770 has 1 MA's), (17, 34743), (21, 34620), (22, 34599),

Gene: IbOuu_45 Start: 34791, Stop: 34258, Start Num: 6
Candidate Starts for IbOuu_45:
(Start: 6 @34791 has 41 MA's), (Start: 8 @34761 has 6 MA's), (11, 34746), (Start: 12 @34743 has 2 MA's), (Start: 16 @34611 has 1 MA's), (17, 34584), (21, 34461), (22, 34440),

Gene: IrishSherpFalk_45 Start: 35509, Stop: 35018, Start Num: 10
Candidate Starts for IrishSherpFalk_45:
(5, 35569), (7, 35536), (Start: 10 @35509 has 4 MA's), (15, 35371), (19, 35278), (20, 35239), (22, 35197),

Gene: Jabbawokkie_59 Start: 35688, Stop: 35194, Start Num: 9
Candidate Starts for Jabbawokkie_59:
(Start: 9 @35688 has 4 MA's), (15, 35550), (19, 35457), (20, 35418), (22, 35376),

Gene: James_47 Start: 35149, Stop: 34619, Start Num: 6
Candidate Starts for James_47:
(Start: 6 @35149 has 41 MA's), (Start: 8 @35119 has 6 MA's), (11, 35104), (Start: 12 @35101 has 2 MA's), (Start: 16 @34969 has 1 MA's), (17, 34942), (18, 34924), (22, 34798),

Gene: Karhdo_44 Start: 35007, Stop: 34504, Start Num: 8
Candidate Starts for Karhdo_44:
(Start: 6 @35037 has 41 MA's), (Start: 8 @35007 has 6 MA's), (11, 34992), (Start: 12 @34989 has 2 MA's), (Start: 16 @34857 has 1 MA's), (17, 34830), (21, 34707), (22, 34686),

Gene: Mantra_42 Start: 34073, Stop: 33588, Start Num: 12
Candidate Starts for Mantra_42:
(Start: 6 @34121 has 41 MA's), (Start: 8 @34091 has 6 MA's), (11, 34076), (Start: 12 @34073 has 2 MA's), (Start: 16 @33941 has 1 MA's), (17, 33914), (21, 33791), (22, 33770),

Gene: Mattes_47 Start: 35119, Stop: 34619, Start Num: 8
Candidate Starts for Mattes_47:
(Start: 6 @35149 has 41 MA's), (Start: 8 @35119 has 6 MA's), (11, 35104), (Start: 12 @35101 has 2 MA's), (Start: 16 @34969 has 1 MA's), (17, 34942), (18, 34924), (22, 34798),

Gene: Nichirin_48 Start: 35793, Stop: 35260, Start Num: 6
Candidate Starts for Nichirin_48:
(Start: 6 @35793 has 41 MA's), (Start: 8 @35763 has 6 MA's), (11, 35748), (Start: 12 @35745 has 2 MA's), (Start: 16 @35613 has 1 MA's), (17, 35586), (21, 35463), (22, 35442),

Gene: Oksu_48 Start: 35616, Stop: 35083, Start Num: 6
Candidate Starts for Oksu_48:
(Start: 6 @35616 has 41 MA's), (Start: 8 @35586 has 6 MA's), (11, 35571), (Start: 12 @35568 has 2 MA's), (Start: 16 @35436 has 1 MA's), (17, 35409), (22, 35265),

Gene: OldBen_43 Start: 34181, Stop: 33696, Start Num: 12
Candidate Starts for OldBen_43:
(Start: 6 @34229 has 41 MA's), (Start: 8 @34199 has 6 MA's), (11, 34184), (Start: 12 @34181 has 2 MA's), (Start: 16 @34049 has 1 MA's), (17, 34022), (21, 33899), (22, 33878),

Gene: OwlsT2W_43 Start: 34652, Stop: 34119, Start Num: 6
Candidate Starts for OwlsT2W_43:
(Start: 6 @34652 has 41 MA's), (Start: 8 @34622 has 6 MA's), (11, 34607), (Start: 12 @34604 has 2 MA's), (Start: 16 @34472 has 1 MA's), (17, 34445), (21, 34322), (22, 34301),

Gene: Phanphagia_39 Start: 33469, Stop: 32939, Start Num: 6
Candidate Starts for Phanphagia_39:
(Start: 6 @33469 has 41 MA's), (Start: 8 @33439 has 6 MA's), (11, 33424), (Start: 12 @33421 has 2 MA's), (Start: 16 @33289 has 1 MA's), (17, 33262), (21, 33139), (22, 33118),

Gene: Philus_47 Start: 35004, Stop: 34504, Start Num: 8
Candidate Starts for Philus_47:
(Start: 6 @35034 has 41 MA's), (Start: 8 @35004 has 6 MA's), (11, 34989), (Start: 12 @34986 has 2 MA's), (Start: 16 @34854 has 1 MA's), (17, 34827), (18, 34809), (22, 34683),

Gene: PhlipPhlop_44 Start: 35667, Stop: 35134, Start Num: 6
Candidate Starts for PhlipPhlop_44:
(Start: 6 @35667 has 41 MA's), (Start: 8 @35637 has 6 MA's), (11, 35622), (Start: 12 @35619 has 2 MA's), (Start: 16 @35487 has 1 MA's), (17, 35460), (21, 35337), (22, 35316),

Gene: Quico_52 Start: 35423, Stop: 34923, Start Num: 8
Candidate Starts for Quico_52:
(Start: 6 @35453 has 41 MA's), (Start: 8 @35423 has 6 MA's), (11, 35408), (Start: 12 @35405 has 2 MA's), (Start: 16 @35273 has 1 MA's), (17, 35246), (18, 35228), (22, 35102),

Gene: Radiance_44 Start: 34399, Stop: 33866, Start Num: 6
Candidate Starts for Radiance_44:

(Start: 6 @34399 has 41 MA's), (Start: 8 @34369 has 6 MA's), (11, 34354), (Start: 12 @34351 has 2 MA's), (Start: 16 @34219 has 1 MA's), (17, 34192), (21, 34069), (22, 34048),

Gene: Ramsey_46 Start: 35025, Stop: 34492, Start Num: 6
Candidate Starts for Ramsey_46:
(Start: 6 @35025 has 41 MA's), (Start: 8 @34995 has 6 MA's), (11, 34980), (Start: 12 @34977 has 2 MA's), (Start: 16 @34845 has 1 MA's), (17, 34818), (21, 34695), (22, 34674),

Gene: Royals2015_46 Start: 34672, Stop: 34139, Start Num: 6
Candidate Starts for Royals2015_46:
(Start: 6 @34672 has 41 MA's), (Start: 8 @34642 has 6 MA's), (11, 34627), (Start: 12 @34624 has 2 MA's), (Start: 16 @34492 has 1 MA's), (17, 34465), (21, 34342), (22, 34321),

Gene: Saal_47 Start: 35012, Stop: 34482, Start Num: 6
Candidate Starts for Saal_47:
(Start: 6 @35012 has 41 MA's), (Start: 8 @34982 has 6 MA's), (11, 34967), (Start: 12 @34964 has 2 MA's), (Start: 16 @34832 has 1 MA's), (17, 34805), (18, 34787), (22, 34661),

Gene: Sandalphon_47 Start: 35586, Stop: 35053, Start Num: 6
Candidate Starts for Sandalphon_47:
(Start: 6 @35586 has 41 MA's), (Start: 8 @35556 has 6 MA's), (11, 35541), (Start: 12 @35538 has 2 MA's), (Start: 16 @35406 has 1 MA's), (17, 35379), (21, 35256), (22, 35235),

Gene: SiSi_45 Start: 34585, Stop: 34052, Start Num: 6
Candidate Starts for SiSi_45:
(Start: 6 @34585 has 41 MA's), (Start: 8 @34555 has 6 MA's), (11, 34540), (Start: 12 @34537 has 2 MA's), (Start: 16 @34405 has 1 MA's), (17, 34378), (21, 34255), (22, 34234),

Gene: Slim_46 Start: 35734, Stop: 35201, Start Num: 6
Candidate Starts for Slim_46:
(Start: 6 @35734 has 41 MA's), (Start: 8 @35704 has 6 MA's), (11, 35689), (Start: 12 @35686 has 2 MA's), (Start: 16 @35554 has 1 MA's), (17, 35527), (21, 35404), (22, 35383),

Gene: Spartacus_45 Start: 34426, Stop: 33935, Start Num: 10
Candidate Starts for Spartacus_45:
(5, 34486), (7, 34453), (Start: 10 @34426 has 4 MA's), (15, 34288), (19, 34195), (20, 34156), (22, 34114),

Gene: Spikelee_51 Start: 35582, Stop: 35049, Start Num: 6
Candidate Starts for Spikelee_51:
(Start: 6 @35582 has 41 MA's), (Start: 8 @35552 has 6 MA's), (11, 35537), (Start: 12 @35534 has 2 MA's), (Start: 16 @35402 has 1 MA's), (17, 35375), (21, 35252), (22, 35231),

Gene: Starcevich_45 Start: 35189, Stop: 34686, Start Num: 8
Candidate Starts for Starcevich_45:
(Start: 6 @35219 has 41 MA's), (Start: 8 @35189 has 6 MA's), (11, 35174), (Start: 12 @35171 has 2 MA's), (Start: 16 @35039 has 1 MA's), (17, 35012), (22, 34868),

Gene: SuperGrey_46 Start: 35564, Stop: 35151, Start Num: 13
Candidate Starts for SuperGrey_46:
(1, 35819), (3, 35750), (Start: 4 @35720 has 2 MA's), (Start: 13 @35564 has 2 MA's), (14, 35501), (17, 35468), (22, 35330),

Gene: SwagPigglett_49 Start: 36067, Stop: 35537, Start Num: 6
Candidate Starts for SwagPigglett_49:
(Start: 6 @36067 has 41 MA's), (Start: 8 @36037 has 6 MA's), (11, 36022), (Start: 12 @36019 has 2 MA's), (Start: 16 @35887 has 1 MA's), (17, 35860), (18, 35842), (22, 35716),

Gene: Totinger_45 Start: 34331, Stop: 33828, Start Num: 8
Candidate Starts for Totinger_45:
(Start: 6 @34361 has 41 MA's), (Start: 8 @34331 has 6 MA's), (11, 34316), (Start: 12 @34313 has 2 MA's), (Start: 16 @34181 has 1 MA's), (17, 34154), (21, 34031), (22, 34010),

Gene: Tweety_45 Start: 35097, Stop: 34564, Start Num: 6
Candidate Starts for Tweety_45:
(Start: 6 @35097 has 41 MA's), (Start: 8 @35067 has 6 MA's), (11, 35052), (Start: 12 @35049 has 2 MA's), (Start: 16 @34917 has 1 MA's), (17, 34890), (21, 34767), (22, 34746),

Gene: Veteran_43 Start: 34229, Stop: 33696, Start Num: 6
Candidate Starts for Veteran_43:
(Start: 6 @34229 has 41 MA's), (Start: 8 @34199 has 6 MA's), (11, 34184), (Start: 12 @34181 has 2 MA's), (Start: 16 @34049 has 1 MA's), (17, 34022), (21, 33899), (22, 33878),

Gene: Violac_47 Start: 35659, Stop: 35126, Start Num: 6
Candidate Starts for Violac_47:
(Start: 6 @35659 has 41 MA's), (Start: 8 @35629 has 6 MA's), (11, 35614), (Start: 12 @35611 has 2 MA's), (Start: 16 @35479 has 1 MA's), (17, 35452), (21, 35329), (22, 35308),

Gene: Vivum_48 Start: 35347, Stop: 34814, Start Num: 6
Candidate Starts for Vivum_48:
(Start: 6 @35347 has 41 MA's), (Start: 8 @35317 has 6 MA's), (11, 35302), (Start: 12 @35299 has 2 MA's), (Start: 16 @35167 has 1 MA's), (17, 35140), (21, 35017), (22, 34996),

Gene: Wee_48 Start: 35596, Stop: 35063, Start Num: 6
Candidate Starts for Wee_48:
(Start: 6 @35596 has 41 MA's), (Start: 8 @35566 has 6 MA's), (11, 35551), (Start: 12 @35548 has 2 MA's), (Start: 16 @35416 has 1 MA's), (17, 35389), (21, 35266), (22, 35245),

Gene: WillSterrel_45 Start: 35542, Stop: 35051, Start Num: 10
Candidate Starts for WillSterrel_45:
(5, 35602), (7, 35569), (Start: 10 @35542 has 4 MA's), (15, 35404), (19, 35311), (20, 35272), (22, 35230),

Gene: Zapner_57 Start: 35689, Stop: 35195, Start Num: 9
Candidate Starts for Zapner_57:
(Start: 9 @35689 has 4 MA's), (15, 35551), (19, 35458), (20, 35419), (22, 35377),