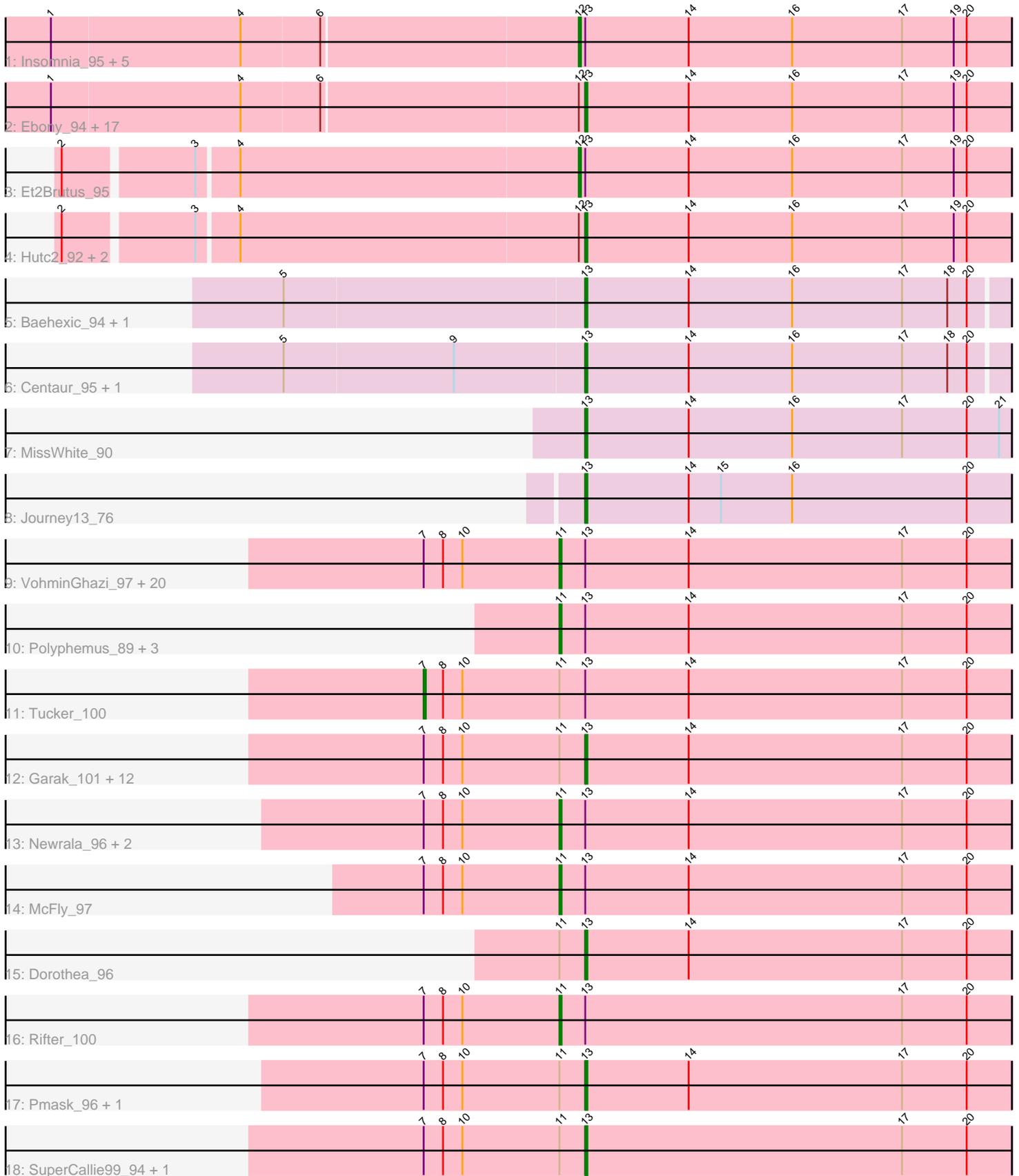# Pham 285498

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 285498 Report

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

Pham number 285498 has 83 members, 9 are drafts.

Phages represented in each track:
• Track 1 : Insomnia_95, Sham4_92, Lucivia_96, Aneem_96, Timothy_95, Munch_94
• Track 2 : Ebony_94, MaCh_95, Bachome_93, Mabel_95, Snape_95, Flaverint_96, Joselito_93, Mulciber_94, Kimba_92, TinyTimmy_93, Saskia_92, Orange_95, Gilberta_93, Bowtie_91, Petersenfast_89, Bud_88, Wolpertinger_95, Fibonacci_95
• Track 3 : Et2Brutus_95
• Track 4 : Hutc2_92, Salz_91, Jabith_95
• Track 5 : Baehexic_94, Sknot_95
• Track 6 : Centaur_95, Terrific_96
• Track 7 : MissWhite_90
• Track 8 : Journey13_76
• Track 9 : VohminGhazi_97, CloudWang3_100, Hexamo_99, Neeharika16_96, Zulu_101, Zaka_100, Gruunaga_100, Cookiedough_97, Artemis2UCLA_99, Indra_102, Chartreuse_96, Wiks_99, EricB_95, Koko_101, BABullseye_90, BlessJoy_100, Temprado_101, Lilbunny_96, SmellyB_97, Helmet_102, Isiphiwo_94
• Track 10 : Polyphemus_89, JewelBug_88, Jordennis_94, Kipper29_96
• Track 11 : Tucker_100
• Track 12 : Garak_101, Yokurt_99, DelvinSonDorr_93, Candra_95, Kazan_98, Priamo_97, BennyP_98, DaVinci_95, Blue7_101, ToneTone_96, Hammer_100, Jeffabunny_88, Roksolana_100
• Track 13 : Newrala_96, SuperAwesome_97, Hoot_92
• Track 14 : McFly_97
• Track 15 : Dorothea_96
• Track 16 : Rifter_100
• Track 17 : Pmask_96, GreedyLawyer_87
• Track 18 : SuperCallie99_94, Gladiator_96

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

The start number called the most often in the published annotations is 13, it was called in 36 of the 74 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Bachome_93, Baehexic_94, BennyP_98, Blue7_101, Bowtie_91, Bud_88, Candra_95, Centaur_95, DaVinci_95, DelvinSonDorr_93, Dorothea_96, Ebony_94,

Fibonacci_95, Flaverint_96, Garak_101, Gilberta_93, Gladiator_96, GreedyLawyer_87, Hammer_100, Hutc2_92, Jabith_95, Jeffabunny_88, Joselito_93, Journey13_76, Kazan_98, Kimba_92, MaCh_95, Mabel_95, MissWhite_90, Mulciber_94, Orange_95, Petersenfast_89, Pmask_96, Priamo_97, Roksolana_100, Salz_91, Saskia_92, Sknot_95, Snape_95, SuperCallie99_94, Terrific_96, TinyTimmy_93, ToneTone_96, Wolpertinger_95, Yokurt_99,

Genes that have the "Most Annotated" start but do not call it:
• Aneem_96, Artemis2UCLA_99, BABullseye_90, BlessJoy_100, Chartreuse_96, CloudWang3_100, Cookiedough_97, EricB_95, Et2Brutus_95, Gruunaga_100, Helmet_102, Hexamo_99, Hoot_92, Indra_102, Insomnia_95, Isiphiwo_94, JewelBug_88, Jordennis_94, Kipper29_96, Koko_101, Lilbunny_96, Lucivia_96, McFly_97, Munch_94, Neeharika16_96, Newrala_96, Polyphemus_89, Rifter_100, Sham4_92, SmellyB_97, SuperAwesome_97, Temprado_101, Timothy_95, Tucker_100, VohminGhazi_97, Wiks_99, Zaka_100, Zulu_101,

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

Summary by start number:

Start 7:
• Found in 44 of 83 (53.0%) of genes in pham
• Manual Annotations of this start: 1 of 74
• Called 2.3% of time when present
• Phage (with cluster) where this start called: Tucker_100 (A6),

Start 11:
• Found in 49 of 83 (59.0%) of genes in pham
• Manual Annotations of this start: 30 of 74
• Called 61.2% of time when present
• Phage (with cluster) where this start called: Artemis2UCLA_99 (A6), BABullseye_90 (A6), BlessJoy_100 (A6), Chartreuse_96 (A6), CloudWang3_100 (A6), Cookiedough_97 (A6), EricB_95 (A6), Gruunaga_100 (A6), Helmet_102 (A6), Hexamo_99 (A6), Hoot_92 (A6), Indra_102 (A6), Isiphiwo_94 (A6), JewelBug_88 (A6), Jordennis_94 (A6), Kipper29_96 (A6), Koko_101 (A6), Lilbunny_96 (A6), McFly_97 (A6), Neeharika16_96 (A6), Newrala_96 (A6), Polyphemus_89 (A6), Rifter_100 (A6), SmellyB_97 (A6), SuperAwesome_97 (A6), Temprado_101 (A6), VohminGhazi_97 (A6), Wiks_99 (A6), Zaka_100 (A6), Zulu_101 (A6),

Start 12:
• Found in 28 of 83 (33.7%) of genes in pham
• Manual Annotations of this start: 7 of 74
• Called 25.0% of time when present
• Phage (with cluster) where this start called: Aneem_96 (A11), Et2Brutus_95 (A11), Insomnia_95 (A11), Lucivia_96 (A11), Munch_94 (A11), Sham4_92 (A11), Timothy_95 (A11),

Start 13:
• Found in 83 of 83 (100.0%) of genes in pham
• Manual Annotations of this start: 36 of 74
• Called 54.2% of time when present

• Phage (with cluster) where this start called: Bachome_93 (A11), Baehexic_94 (A2), BennyP_98 (A6), Blue7_101 (A6), Bowtie_91 (A11), Bud_88 (A11), Candra_95 (A6), Centaur_95 (A2), DaVinci_95 (A6), DelvinSonDorr_93 (A6), Dorothea_96 (A6), Ebony_94 (A11), Fibonacci_95 (A11), Flaverint_96 (A11), Garak_101 (A6), Gilberta_93 (A11), Gladiator_96 (A6), GreedyLawyer_87 (A6), Hammer_100 (A6), Hutc2_92 (A11), Jabith_95 (A11), Jeffabunny_88 (A6), Joselito_93 (A11), Journey13_76 (A2), Kazan_98 (A6), Kimba_92 (A11), MaCh_95 (A11), Mabel_95 (A11), MissWhite_90 (A2), Mulciber_94 (A11), Orange_95 (A11), Petersenfast_89 (A11), Pmask_96 (A6), Priamo_97 (A6), Roksolana_100 (A6), Salz_91 (A11), Saskia_92 (A11), Sknot_95 (A2), Snape_95 (A11), SuperCallie99_94 (A6), Terrific_96 (A2), TinyTimmy_93 (A11), ToneTone_96 (A6), Wolpertinger_95 (A11), Yokurt_99 (A6),

Summary by clusters:

There are 3 clusters represented in this pham: A2, A11, A6,

Info for manual annotations of cluster A11:
•Start number 12 was manually annotated 7 times for cluster A11.
•Start number 13 was manually annotated 17 times for cluster A11.

Info for manual annotations of cluster A2:
•Start number 13 was manually annotated 5 times for cluster A2.

Info for manual annotations of cluster A6:
•Start number 7 was manually annotated 1 time for cluster A6.
•Start number 11 was manually annotated 30 times for cluster A6.
•Start number 13 was manually annotated 14 times for cluster A6.

Gene Information:
Gene: Aneem_96 Start: 49808, Stop: 49608, Start Num: 12
Candidate Starts for Aneem_96:
(1, 50048), (4, 49961), (6, 49925), (Start: 12 @49808 has 7 MA's), (Start: 13 @49805 has 36 MA's), (14, 49757), (16, 49709), (17, 49658), (19, 49634), (20, 49628),

Gene: Artemis2UCLA_99 Start: 49409, Stop: 49200, Start Num: 11
Candidate Starts for Artemis2UCLA_99:
(Start: 7 @49472 has 1 MA's), (8, 49463), (10, 49454), (Start: 11 @49409 has 30 MA's), (Start: 13 @49397 has 36 MA's), (14, 49349), (17, 49250), (20, 49220),

Gene: BABullseye_90 Start: 47547, Stop: 47338, Start Num: 11
Candidate Starts for BABullseye_90:
(Start: 7 @47610 has 1 MA's), (8, 47601), (10, 47592), (Start: 11 @47547 has 30 MA's), (Start: 13 @47535 has 36 MA's), (14, 47487), (17, 47388), (20, 47358),

Gene: Bachome_93 Start: 48853, Stop: 48656, Start Num: 13
Candidate Starts for Bachome_93:
(1, 49096), (4, 49009), (6, 48973), (Start: 12 @48856 has 7 MA's), (Start: 13 @48853 has 36 MA's), (14, 48805), (16, 48757), (17, 48706), (19, 48682), (20, 48676),

Gene: Baehexic_94 Start: 50815, Stop: 50621, Start Num: 13
Candidate Starts for Baehexic_94:
(5, 50953), (Start: 13 @50815 has 36 MA's), (14, 50767), (16, 50719), (17, 50668), (18, 50647), (20, 50638),

Gene: BennyP_98 Start: 49381, Stop: 49184, Start Num: 13
Candidate Starts for BennyP_98:
(Start: 7 @49456 has 1 MA's), (8, 49447), (10, 49438), (Start: 11 @49393 has 30 MA's), (Start: 13 @49381 has 36 MA's), (14, 49333), (17, 49234), (20, 49204),

Gene: BlessJoy_100 Start: 49933, Stop: 49724, Start Num: 11
Candidate Starts for BlessJoy_100:
(Start: 7 @49996 has 1 MA's), (8, 49987), (10, 49978), (Start: 11 @49933 has 30 MA's), (Start: 13 @49921 has 36 MA's), (14, 49873), (17, 49774), (20, 49744),

Gene: Blue7_101 Start: 49631, Stop: 49434, Start Num: 13
Candidate Starts for Blue7_101:
(Start: 7 @49706 has 1 MA's), (8, 49697), (10, 49688), (Start: 11 @49643 has 30 MA's), (Start: 13 @49631 has 36 MA's), (14, 49583), (17, 49484), (20, 49454),

Gene: Bowtie_91 Start: 48412, Stop: 48215, Start Num: 13
Candidate Starts for Bowtie_91:
(1, 48655), (4, 48568), (6, 48532), (Start: 12 @48415 has 7 MA's), (Start: 13 @48412 has 36 MA's), (14, 48364), (16, 48316), (17, 48265), (19, 48241), (20, 48235),

Gene: Bud_88 Start: 48511, Stop: 48314, Start Num: 13
Candidate Starts for Bud_88:
(1, 48754), (4, 48667), (6, 48631), (Start: 12 @48514 has 7 MA's), (Start: 13 @48511 has 36 MA's), (14, 48463), (16, 48415), (17, 48364), (19, 48340), (20, 48334),

Gene: Candra_95 Start: 49243, Stop: 49046, Start Num: 13
Candidate Starts for Candra_95:
(Start: 7 @49318 has 1 MA's), (8, 49309), (10, 49300), (Start: 11 @49255 has 30 MA's), (Start: 13 @49243 has 36 MA's), (14, 49195), (17, 49096), (20, 49066),

Gene: Centaur_95 Start: 50682, Stop: 50488, Start Num: 13
Candidate Starts for Centaur_95:
(5, 50820), (9, 50742), (Start: 13 @50682 has 36 MA's), (14, 50634), (16, 50586), (17, 50535), (18, 50514), (20, 50505),

Gene: Chartreuse_96 Start: 48556, Stop: 48347, Start Num: 11
Candidate Starts for Chartreuse_96:
(Start: 7 @48619 has 1 MA's), (8, 48610), (10, 48601), (Start: 11 @48556 has 30 MA's), (Start: 13 @48544 has 36 MA's), (14, 48496), (17, 48397), (20, 48367),

Gene: CloudWang3_100 Start: 49938, Stop: 49729, Start Num: 11
Candidate Starts for CloudWang3_100:
(Start: 7 @50001 has 1 MA's), (8, 49992), (10, 49983), (Start: 11 @49938 has 30 MA's), (Start: 13 @49926 has 36 MA's), (14, 49878), (17, 49779), (20, 49749),

Gene: Cookiedough_97 Start: 49866, Stop: 49657, Start Num: 11
Candidate Starts for Cookiedough_97:

(Start: 7 @49929 has 1 MA's), (8, 49920), (10, 49911), (Start: 11 @49866 has 30 MA's), (Start: 13 @49854 has 36 MA's), (14, 49806), (17, 49707), (20, 49677),

Gene: DaVinci_95 Start: 48598, Stop: 48401, Start Num: 13
Candidate Starts for DaVinci_95:
(Start: 7 @48673 has 1 MA's), (8, 48664), (10, 48655), (Start: 11 @48610 has 30 MA's), (Start: 13 @48598 has 36 MA's), (14, 48550), (17, 48451), (20, 48421),

Gene: DelvinSonDorr_93 Start: 49000, Stop: 48803, Start Num: 13
Candidate Starts for DelvinSonDorr_93:
(Start: 7 @49075 has 1 MA's), (8, 49066), (10, 49057), (Start: 11 @49012 has 30 MA's), (Start: 13 @49000 has 36 MA's), (14, 48952), (17, 48853), (20, 48823),

Gene: Dorothea_96 Start: 49734, Stop: 49537, Start Num: 13
Candidate Starts for Dorothea_96:
(Start: 11 @49746 has 30 MA's), (Start: 13 @49734 has 36 MA's), (14, 49686), (17, 49587), (20, 49557),

Gene: Ebony_94 Start: 49376, Stop: 49179, Start Num: 13
Candidate Starts for Ebony_94:
(1, 49619), (4, 49532), (6, 49496), (Start: 12 @49379 has 7 MA's), (Start: 13 @49376 has 36 MA's), (14, 49328), (16, 49280), (17, 49229), (19, 49205), (20, 49199),

Gene: EricB_95 Start: 48755, Stop: 48546, Start Num: 11
Candidate Starts for EricB_95:
(Start: 7 @48818 has 1 MA's), (8, 48809), (10, 48800), (Start: 11 @48755 has 30 MA's), (Start: 13 @48743 has 36 MA's), (14, 48695), (17, 48596), (20, 48566),

Gene: Et2Brutus_95 Start: 49656, Stop: 49456, Start Num: 12
Candidate Starts for Et2Brutus_95:
(2, 49887), (3, 49830), (4, 49812), (Start: 12 @49656 has 7 MA's), (Start: 13 @49653 has 36 MA's), (14, 49605), (16, 49557), (17, 49506), (19, 49482), (20, 49476),

Gene: Fibonacci_95 Start: 49659, Stop: 49462, Start Num: 13
Candidate Starts for Fibonacci_95:
(1, 49902), (4, 49815), (6, 49779), (Start: 12 @49662 has 7 MA's), (Start: 13 @49659 has 36 MA's), (14, 49611), (16, 49563), (17, 49512), (19, 49488), (20, 49482),

Gene: Flaverint_96 Start: 49803, Stop: 49606, Start Num: 13
Candidate Starts for Flaverint_96:
(1, 50046), (4, 49959), (6, 49923), (Start: 12 @49806 has 7 MA's), (Start: 13 @49803 has 36 MA's), (14, 49755), (16, 49707), (17, 49656), (19, 49632), (20, 49626),

Gene: Garak_101 Start: 49871, Stop: 49674, Start Num: 13
Candidate Starts for Garak_101:
(Start: 7 @49946 has 1 MA's), (8, 49937), (10, 49928), (Start: 11 @49883 has 30 MA's), (Start: 13 @49871 has 36 MA's), (14, 49823), (17, 49724), (20, 49694),

Gene: Gilberta_93 Start: 48679, Stop: 48482, Start Num: 13
Candidate Starts for Gilberta_93:
(1, 48922), (4, 48835), (6, 48799), (Start: 12 @48682 has 7 MA's), (Start: 13 @48679 has 36 MA's), (14, 48631), (16, 48583), (17, 48532), (19, 48508), (20, 48502),

Gene: Gladiator_96 Start: 49591, Stop: 49394, Start Num: 13
Candidate Starts for Gladiator_96:
(Start: 7 @49666 has 1 MA's), (8, 49657), (10, 49648), (Start: 11 @49603 has 30 MA's), (Start: 13 @49591 has 36 MA's), (17, 49444), (20, 49414),

Gene: GreedyLawyer_87 Start: 49176, Stop: 48979, Start Num: 13
Candidate Starts for GreedyLawyer_87:
(Start: 7 @49251 has 1 MA's), (8, 49242), (10, 49233), (Start: 11 @49188 has 30 MA's), (Start: 13 @49176 has 36 MA's), (14, 49128), (17, 49029), (20, 48999),

Gene: Gruunaga_100 Start: 49559, Stop: 49350, Start Num: 11
Candidate Starts for Gruunaga_100:
(Start: 7 @49622 has 1 MA's), (8, 49613), (10, 49604), (Start: 11 @49559 has 30 MA's), (Start: 13 @49547 has 36 MA's), (14, 49499), (17, 49400), (20, 49370),

Gene: Hammer_100 Start: 49244, Stop: 49047, Start Num: 13
Candidate Starts for Hammer_100:
(Start: 7 @49319 has 1 MA's), (8, 49310), (10, 49301), (Start: 11 @49256 has 30 MA's), (Start: 13 @49244 has 36 MA's), (14, 49196), (17, 49097), (20, 49067),

Gene: Helmet_102 Start: 49883, Stop: 49674, Start Num: 11
Candidate Starts for Helmet_102:
(Start: 7 @49946 has 1 MA's), (8, 49937), (10, 49928), (Start: 11 @49883 has 30 MA's), (Start: 13 @49871 has 36 MA's), (14, 49823), (17, 49724), (20, 49694),

Gene: Hexamo_99 Start: 49424, Stop: 49215, Start Num: 11
Candidate Starts for Hexamo_99:
(Start: 7 @49487 has 1 MA's), (8, 49478), (10, 49469), (Start: 11 @49424 has 30 MA's), (Start: 13 @49412 has 36 MA's), (14, 49364), (17, 49265), (20, 49235),

Gene: Hoot_92 Start: 47072, Stop: 46863, Start Num: 11
Candidate Starts for Hoot_92:
(Start: 7 @47135 has 1 MA's), (8, 47126), (10, 47117), (Start: 11 @47072 has 30 MA's), (Start: 13 @47060 has 36 MA's), (14, 47012), (17, 46913), (20, 46883),

Gene: Hutc2_92 Start: 48543, Stop: 48346, Start Num: 13
Candidate Starts for Hutc2_92:
(2, 48777), (3, 48720), (4, 48702), (Start: 12 @48546 has 7 MA's), (Start: 13 @48543 has 36 MA's), (14, 48495), (16, 48447), (17, 48396), (19, 48372), (20, 48366),

Gene: Indra_102 Start: 49884, Stop: 49675, Start Num: 11
Candidate Starts for Indra_102:
(Start: 7 @49947 has 1 MA's), (8, 49938), (10, 49929), (Start: 11 @49884 has 30 MA's), (Start: 13 @49872 has 36 MA's), (14, 49824), (17, 49725), (20, 49695),

Gene: Insomnia_95 Start: 49840, Stop: 49640, Start Num: 12
Candidate Starts for Insomnia_95:
(1, 50080), (4, 49993), (6, 49957), (Start: 12 @49840 has 7 MA's), (Start: 13 @49837 has 36 MA's), (14, 49789), (16, 49741), (17, 49690), (19, 49666), (20, 49660),

Gene: Isiphiwo_94 Start: 48974, Stop: 48765, Start Num: 11
Candidate Starts for Isiphiwo_94:

(Start: 7 @49037 has 1 MA's), (8, 49028), (10, 49019), (Start: 11 @48974 has 30 MA's), (Start: 13 @48962 has 36 MA's), (14, 48914), (17, 48815), (20, 48785),

Gene: Jabith_95 Start: 49851, Stop: 49654, Start Num: 13
Candidate Starts for Jabith_95:
(2, 50085), (3, 50028), (4, 50010), (Start: 12 @49854 has 7 MA's), (Start: 13 @49851 has 36 MA's), (14, 49803), (16, 49755), (17, 49704), (19, 49680), (20, 49674),

Gene: Jeffabunny_88 Start: 46015, Stop: 45818, Start Num: 13
Candidate Starts for Jeffabunny_88:
(Start: 7 @46090 has 1 MA's), (8, 46081), (10, 46072), (Start: 11 @46027 has 30 MA's), (Start: 13 @46015 has 36 MA's), (14, 45967), (17, 45868), (20, 45838),

Gene: JewelBug_88 Start: 47439, Stop: 47230, Start Num: 11
Candidate Starts for JewelBug_88:
(Start: 11 @47439 has 30 MA's), (Start: 13 @47427 has 36 MA's), (14, 47379), (17, 47280), (20, 47250),

Gene: Jordennis_94 Start: 49343, Stop: 49134, Start Num: 11
Candidate Starts for Jordennis_94:
(Start: 11 @49343 has 30 MA's), (Start: 13 @49331 has 36 MA's), (14, 49283), (17, 49184), (20, 49154),

Gene: Joselito_93 Start: 49557, Stop: 49360, Start Num: 13
Candidate Starts for Joselito_93:
(1, 49800), (4, 49713), (6, 49677), (Start: 12 @49560 has 7 MA's), (Start: 13 @49557 has 36 MA's), (14, 49509), (16, 49461), (17, 49410), (19, 49386), (20, 49380),

Gene: Journey13_76 Start: 45895, Stop: 45698, Start Num: 13
Candidate Starts for Journey13_76:
(Start: 13 @45895 has 36 MA's), (14, 45847), (15, 45832), (16, 45799), (20, 45718),

Gene: Kazan_98 Start: 49213, Stop: 49016, Start Num: 13
Candidate Starts for Kazan_98:
(Start: 7 @49288 has 1 MA's), (8, 49279), (10, 49270), (Start: 11 @49225 has 30 MA's), (Start: 13 @49213 has 36 MA's), (14, 49165), (17, 49066), (20, 49036),

Gene: Kimba_92 Start: 48860, Stop: 48663, Start Num: 13
Candidate Starts for Kimba_92:
(1, 49103), (4, 49016), (6, 48980), (Start: 12 @48863 has 7 MA's), (Start: 13 @48860 has 36 MA's), (14, 48812), (16, 48764), (17, 48713), (19, 48689), (20, 48683),

Gene: Kipper29_96 Start: 49118, Stop: 48909, Start Num: 11
Candidate Starts for Kipper29_96:
(Start: 11 @49118 has 30 MA's), (Start: 13 @49106 has 36 MA's), (14, 49058), (17, 48959), (20, 48929),

Gene: Koko_101 Start: 50273, Stop: 50064, Start Num: 11
Candidate Starts for Koko_101:
(Start: 7 @50336 has 1 MA's), (8, 50327), (10, 50318), (Start: 11 @50273 has 30 MA's), (Start: 13 @50261 has 36 MA's), (14, 50213), (17, 50114), (20, 50084),

Gene: Lilbunny_96 Start: 48131, Stop: 47922, Start Num: 11

Candidate Starts for Lilbunny_96:
(Start: 7 @48194 has 1 MA's), (8, 48185), (10, 48176), (Start: 11 @48131 has 30 MA's), (Start: 13 @48119 has 36 MA's), (14, 48071), (17, 47972), (20, 47942),

Gene: Lucivia_96 Start: 49839, Stop: 49639, Start Num: 12
Candidate Starts for Lucivia_96:
(1, 50079), (4, 49992), (6, 49956), (Start: 12 @49839 has 7 MA's), (Start: 13 @49836 has 36 MA's), (14, 49788), (16, 49740), (17, 49689), (19, 49665), (20, 49659),

Gene: MaCh_95 Start: 49800, Stop: 49603, Start Num: 13
Candidate Starts for MaCh_95:
(1, 50043), (4, 49956), (6, 49920), (Start: 12 @49803 has 7 MA's), (Start: 13 @49800 has 36 MA's), (14, 49752), (16, 49704), (17, 49653), (19, 49629), (20, 49623),

Gene: Mabel_95 Start: 49801, Stop: 49604, Start Num: 13
Candidate Starts for Mabel_95:
(1, 50044), (4, 49957), (6, 49921), (Start: 12 @49804 has 7 MA's), (Start: 13 @49801 has 36 MA's), (14, 49753), (16, 49705), (17, 49654), (19, 49630), (20, 49624),

Gene: McFly_97 Start: 49564, Stop: 49355, Start Num: 11
Candidate Starts for McFly_97:
(Start: 7 @49627 has 1 MA's), (8, 49618), (10, 49609), (Start: 11 @49564 has 30 MA's), (Start: 13 @49552 has 36 MA's), (14, 49504), (17, 49405), (20, 49375),

Gene: MissWhite_90 Start: 47674, Stop: 47477, Start Num: 13
Candidate Starts for MissWhite_90:
(Start: 13 @47674 has 36 MA's), (14, 47626), (16, 47578), (17, 47527), (20, 47497), (21, 47482),

Gene: Mulciber_94 Start: 49656, Stop: 49459, Start Num: 13
Candidate Starts for Mulciber_94:
(1, 49899), (4, 49812), (6, 49776), (Start: 12 @49659 has 7 MA's), (Start: 13 @49656 has 36 MA's), (14, 49608), (16, 49560), (17, 49509), (19, 49485), (20, 49479),

Gene: Munch_94 Start: 49808, Stop: 49608, Start Num: 12
Candidate Starts for Munch_94:
(1, 50048), (4, 49961), (6, 49925), (Start: 12 @49808 has 7 MA's), (Start: 13 @49805 has 36 MA's), (14, 49757), (16, 49709), (17, 49658), (19, 49634), (20, 49628),

Gene: Neeharika16_96 Start: 49317, Stop: 49108, Start Num: 11
Candidate Starts for Neeharika16_96:
(Start: 7 @49380 has 1 MA's), (8, 49371), (10, 49362), (Start: 11 @49317 has 30 MA's), (Start: 13 @49305 has 36 MA's), (14, 49257), (17, 49158), (20, 49128),

Gene: Newrala_96 Start: 49663, Stop: 49454, Start Num: 11
Candidate Starts for Newrala_96:
(Start: 7 @49726 has 1 MA's), (8, 49717), (10, 49708), (Start: 11 @49663 has 30 MA's), (Start: 13 @49651 has 36 MA's), (14, 49603), (17, 49504), (20, 49474),

Gene: Orange_95 Start: 49355, Stop: 49158, Start Num: 13
Candidate Starts for Orange_95:
(1, 49598), (4, 49511), (6, 49475), (Start: 12 @49358 has 7 MA's), (Start: 13 @49355 has 36 MA's), (14, 49307), (16, 49259), (17, 49208), (19, 49184), (20, 49178),

Gene: Petersenfast_89 Start: 48236, Stop: 48039, Start Num: 13
Candidate Starts for Petersenfast_89:
(1, 48479), (4, 48392), (6, 48356), (Start: 12 @48239 has 7 MA's), (Start: 13 @48236 has 36 MA's), (14, 48188), (16, 48140), (17, 48089), (19, 48065), (20, 48059),

Gene: Pmask_96 Start: 49852, Stop: 49655, Start Num: 13
Candidate Starts for Pmask_96:
(Start: 7 @49927 has 1 MA's), (8, 49918), (10, 49909), (Start: 11 @49864 has 30 MA's), (Start: 13 @49852 has 36 MA's), (14, 49804), (17, 49705), (20, 49675),

Gene: Polyphemus_89 Start: 47523, Stop: 47314, Start Num: 11
Candidate Starts for Polyphemus_89:
(Start: 11 @47523 has 30 MA's), (Start: 13 @47511 has 36 MA's), (14, 47463), (17, 47364), (20, 47334),

Gene: Priamo_97 Start: 48895, Stop: 48698, Start Num: 13
Candidate Starts for Priamo_97:
(Start: 7 @48970 has 1 MA's), (8, 48961), (10, 48952), (Start: 11 @48907 has 30 MA's), (Start: 13 @48895 has 36 MA's), (14, 48847), (17, 48748), (20, 48718),

Gene: Rifter_100 Start: 49051, Stop: 48842, Start Num: 11
Candidate Starts for Rifter_100:
(Start: 7 @49114 has 1 MA's), (8, 49105), (10, 49096), (Start: 11 @49051 has 30 MA's), (Start: 13 @49039 has 36 MA's), (17, 48892), (20, 48862),

Gene: Roksolana_100 Start: 49755, Stop: 49558, Start Num: 13
Candidate Starts for Roksolana_100:
(Start: 7 @49830 has 1 MA's), (8, 49821), (10, 49812), (Start: 11 @49767 has 30 MA's), (Start: 13 @49755 has 36 MA's), (14, 49707), (17, 49608), (20, 49578),

Gene: Salz_91 Start: 48465, Stop: 48268, Start Num: 13
Candidate Starts for Salz_91:
(2, 48699), (3, 48642), (4, 48624), (Start: 12 @48468 has 7 MA's), (Start: 13 @48465 has 36 MA's), (14, 48417), (16, 48369), (17, 48318), (19, 48294), (20, 48288),

Gene: Saskia_92 Start: 48867, Stop: 48670, Start Num: 13
Candidate Starts for Saskia_92:
(1, 49110), (4, 49023), (6, 48987), (Start: 12 @48870 has 7 MA's), (Start: 13 @48867 has 36 MA's), (14, 48819), (16, 48771), (17, 48720), (19, 48696), (20, 48690),

Gene: Sham4_92 Start: 48554, Stop: 48354, Start Num: 12
Candidate Starts for Sham4_92:
(1, 48794), (4, 48707), (6, 48671), (Start: 12 @48554 has 7 MA's), (Start: 13 @48551 has 36 MA's), (14, 48503), (16, 48455), (17, 48404), (19, 48380), (20, 48374),

Gene: Sknot_95 Start: 50729, Stop: 50535, Start Num: 13
Candidate Starts for Sknot_95:
(5, 50867), (Start: 13 @50729 has 36 MA's), (14, 50681), (16, 50633), (17, 50582), (18, 50561), (20, 50552),

Gene: SmellyB_97 Start: 49219, Stop: 49010, Start Num: 11
Candidate Starts for SmellyB_97:

(Start: 7 @49282 has 1 MA's), (8, 49273), (10, 49264), (Start: 11 @49219 has 30 MA's), (Start: 13 @49207 has 36 MA's), (14, 49159), (17, 49060), (20, 49030),

Gene: Snape_95 Start: 49344, Stop: 49147, Start Num: 13
Candidate Starts for Snape_95:
(1, 49587), (4, 49500), (6, 49464), (Start: 12 @49347 has 7 MA's), (Start: 13 @49344 has 36 MA's), (14, 49296), (16, 49248), (17, 49197), (19, 49173), (20, 49167),

Gene: SuperAwesome_97 Start: 49903, Stop: 49694, Start Num: 11
Candidate Starts for SuperAwesome_97:
(Start: 7 @49966 has 1 MA's), (8, 49957), (10, 49948), (Start: 11 @49903 has 30 MA's), (Start: 13 @49891 has 36 MA's), (14, 49843), (17, 49744), (20, 49714),

Gene: SuperCallie99_94 Start: 49463, Stop: 49266, Start Num: 13
Candidate Starts for SuperCallie99_94:
(Start: 7 @49538 has 1 MA's), (8, 49529), (10, 49520), (Start: 11 @49475 has 30 MA's), (Start: 13 @49463 has 36 MA's), (17, 49316), (20, 49286),

Gene: Temprado_101 Start: 49883, Stop: 49674, Start Num: 11
Candidate Starts for Temprado_101:
(Start: 7 @49946 has 1 MA's), (8, 49937), (10, 49928), (Start: 11 @49883 has 30 MA's), (Start: 13 @49871 has 36 MA's), (14, 49823), (17, 49724), (20, 49694),

Gene: Terrific_96 Start: 50697, Stop: 50503, Start Num: 13
Candidate Starts for Terrific_96:
(5, 50835), (9, 50757), (Start: 13 @50697 has 36 MA's), (14, 50649), (16, 50601), (17, 50550), (18, 50529), (20, 50520),

Gene: Timothy_95 Start: 49324, Stop: 49124, Start Num: 12
Candidate Starts for Timothy_95:
(1, 49564), (4, 49477), (6, 49441), (Start: 12 @49324 has 7 MA's), (Start: 13 @49321 has 36 MA's), (14, 49273), (16, 49225), (17, 49174), (19, 49150), (20, 49144),

Gene: TinyTimmy_93 Start: 49050, Stop: 48853, Start Num: 13
Candidate Starts for TinyTimmy_93:
(1, 49293), (4, 49206), (6, 49170), (Start: 12 @49053 has 7 MA's), (Start: 13 @49050 has 36 MA's), (14, 49002), (16, 48954), (17, 48903), (19, 48879), (20, 48873),

Gene: ToneTone_96 Start: 49422, Stop: 49225, Start Num: 13
Candidate Starts for ToneTone_96:
(Start: 7 @49497 has 1 MA's), (8, 49488), (10, 49479), (Start: 11 @49434 has 30 MA's), (Start: 13 @49422 has 36 MA's), (14, 49374), (17, 49275), (20, 49245),

Gene: Tucker_100 Start: 49700, Stop: 49428, Start Num: 7
Candidate Starts for Tucker_100:
(Start: 7 @49700 has 1 MA's), (8, 49691), (10, 49682), (Start: 11 @49637 has 30 MA's), (Start: 13 @49625 has 36 MA's), (14, 49577), (17, 49478), (20, 49448),

Gene: VohminGhazi_97 Start: 49220, Stop: 49011, Start Num: 11
Candidate Starts for VohminGhazi_97:
(Start: 7 @49283 has 1 MA's), (8, 49274), (10, 49265), (Start: 11 @49220 has 30 MA's), (Start: 13 @49208 has 36 MA's), (14, 49160), (17, 49061), (20, 49031),

Gene: Wiks_99 Start: 49514, Stop: 49305, Start Num: 11
Candidate Starts for Wiks_99:
(Start: 7 @49577 has 1 MA's), (8, 49568), (10, 49559), (Start: 11 @49514 has 30 MA's), (Start: 13 @49502 has 36 MA's), (14, 49454), (17, 49355), (20, 49325),

Gene: Wolpertinger_95 Start: 49670, Stop: 49473, Start Num: 13
Candidate Starts for Wolpertinger_95:
(1, 49913), (4, 49826), (6, 49790), (Start: 12 @49673 has 7 MA's), (Start: 13 @49670 has 36 MA's), (14, 49622), (16, 49574), (17, 49523), (19, 49499), (20, 49493),

Gene: Yokurt_99 Start: 49502, Stop: 49305, Start Num: 13
Candidate Starts for Yokurt_99:
(Start: 7 @49577 has 1 MA's), (8, 49568), (10, 49559), (Start: 11 @49514 has 30 MA's), (Start: 13 @49502 has 36 MA's), (14, 49454), (17, 49355), (20, 49325),

Gene: Zaka_100 Start: 49514, Stop: 49305, Start Num: 11
Candidate Starts for Zaka_100:
(Start: 7 @49577 has 1 MA's), (8, 49568), (10, 49559), (Start: 11 @49514 has 30 MA's), (Start: 13 @49502 has 36 MA's), (14, 49454), (17, 49355), (20, 49325),

Gene: Zulu_101 Start: 49891, Stop: 49682, Start Num: 11
Candidate Starts for Zulu_101:
(Start: 7 @49954 has 1 MA's), (8, 49945), (10, 49936), (Start: 11 @49891 has 30 MA's), (Start: 13 @49879 has 36 MA's), (14, 49831), (17, 49732), (20, 49702),