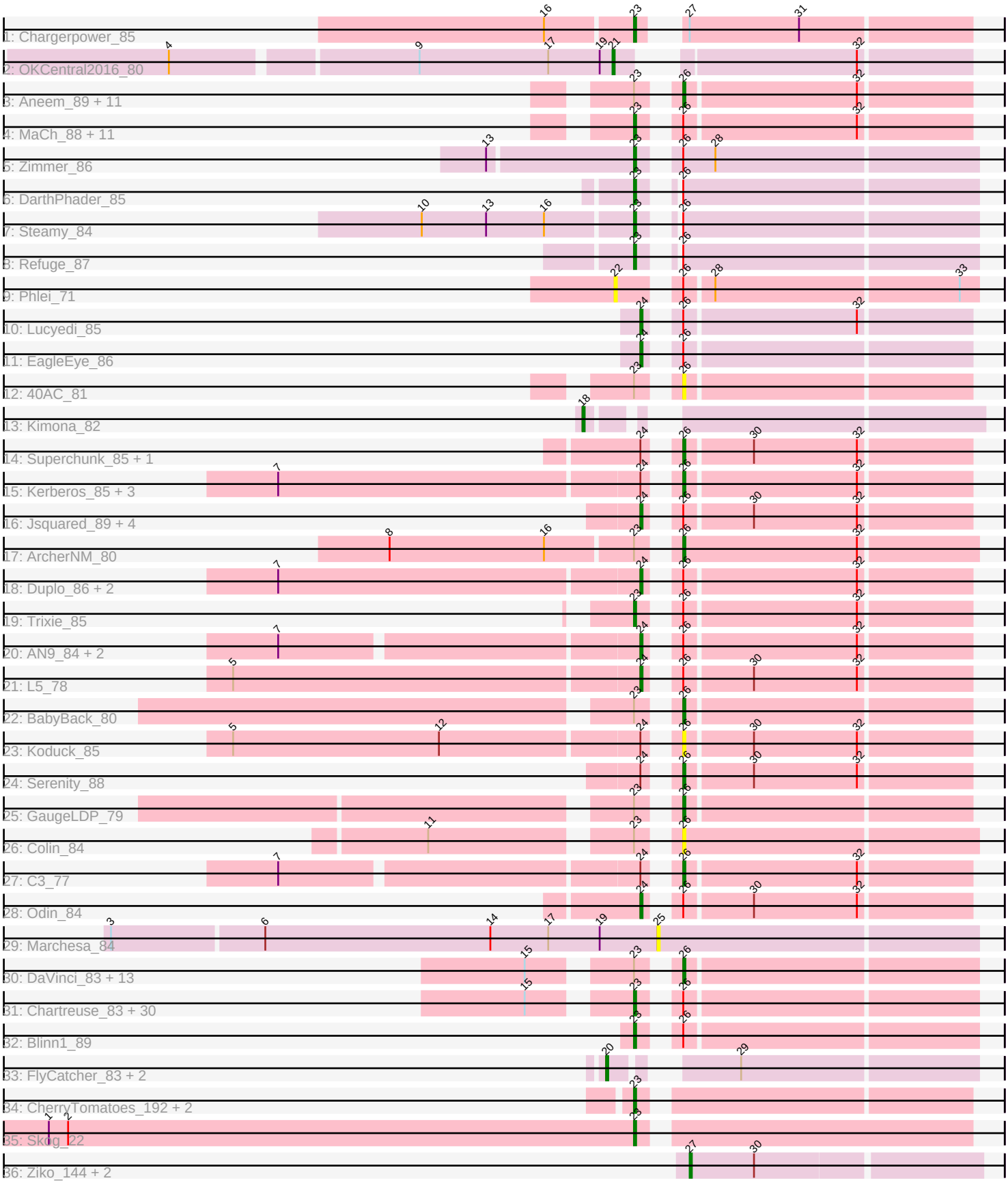
Pham 202791


1: Chargerpower_85
2: OKCentral2016_80
3: Aneem_89 + 11
4: MaCh_88 + 11
5: Zimmer_86
6: DarthPhader_85
7: Steamy_84
8: Refuge_87
9: Phlei_71
10: Lucyedi_85
11: EagleEye_86
12: 40AC_81
13: Kimona_82
14: Superchunk_85 + 1
15: Kerberos_85 + 3
16: Jsquared_89 + 4
17: ArcherNM_80
18: Duplo_86 + 2
19: Trixie_85
20: AN9_84 + 2
21: L5_78
22: BabyBack_80
23: Koduck_85
24: Serenity_88
25: GaugeLDP_79
26: Colin_84
27: C3_77
28: Odin_84
29: Marchesa_84
30: DaVinci_83 + 13
31: Chartreuse_83 + 30
32: Blinn1_89
33: FlyCatcher_83 + 2
34: CherryTomatoes_192 + 2
35: Skog_22
36: Ziko_144 + 2

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 202791 Report

This analysis was run 01/18/25 on database version 583.

Pham number 202791 has 119 members, 19 are drafts.

Phages represented in each track:
• Track 1 : Chargerpower_85
• Track 2 : OKCentral2016_80
• Track 3 : Aneem_89, Salz_84, Munch_87, Bowtie_84, Et2Brutus_88, Lucivia_89, Joselito_86, Bachome_86, Insomnia_88, Ebony_87, Petersenfast_82, Timothy_88
• Track 4 : MaCh_88, Jabith_88, TinyTimmy_86, Sham4_85, Mulciber_87, Orange_88, Gilberta_86, Hutc2_85, Flaverint_89, Fibonacci_88, Snape_88, Mabel_88
• Track 5 : Zimmer_86
• Track 6 : DarthPhader_85
• Track 7 : Steamy_84
• Track 8 : Refuge_87
• Track 9 : Phlei_71
• Track 10 : Lucyedi_85
• Track 11 : EagleEye_86
• Track 12 : 40AC_81
• Track 13 : Kimona_82
• Track 14 : Superchunk_85, Caraxes_86
• Track 15 : Kerberos_85, Tomathan_85, Pomar16_85, DBQu4n_85
• Track 16 : Jsquared_89, Quokka_87, MajorMajor_82, Bradman_88, TipsytheTRex_84
• Track 17 : ArcherNM_80
• Track 18 : Duplo_86, StarStuff_85, Travvers_85
• Track 19 : Trixie_85
• Track 20 : AN9_84, VC3_83, ANI8_84
• Track 21 : L5_78
• Track 22 : BabyBack_80
• Track 23 : Koduck_85
• Track 24 : Serenity_88
• Track 25 : GaugeLDP_79
• Track 26 : Colin_84
• Track 27 : C3_77
• Track 28 : Odin_84
• Track 29 : Marchesa_84
• Track 30 : DaVinci_83, Pmask_84, McFly_85, Yokurt_86, Zaka_87, ToneTone_84, Isiphiwo_81, Candra_83, SuperCallie99_81, Artemis2UCLA_86, Priamo_86, Garak_88, Temprado_88, Tucker_87

• Track 31 : Chartreuse_83, CloudWang3_87, Indra_90, Hammer_87, Roksolana_87, Hexamo_86, Kazan_86, Zulu_88, Dorothea_85, EricB_83, Rifter_87, Neeharika16_84, BlessJoy_86, SuperAwesome_85, Jordennis_83, Koko_88, Hoot_80, Wiks_86, Cookiedough_85, SmellyB_85, Blue7_88, BABullseye_78, WunderPhul_87, Lilbunny_86, Kipper29_85, Gladiator_83, JewelBug_77, Helmet_88, Newrala_84, VohminGhazi_85, Gruunaga_86
• Track 32 : Blinn1_89
• Track 33 : FlyCatcher_83, Sheen_80, Toro_81
• Track 34 : CherryTomatoes_192, Pupper_190, SCentae_189
• Track 35 : Skog_22
• Track 36 : Ziko_144, Volt_145, Ronaldo_142

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

The start number called the most often in the published annotations is 23, it was called in 51 of the 100 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• BABullseye_78, BlessJoy_86, Blinn1_89, Blue7_88, Chargerpower_85, Chartreuse_83, CherryTomatoes_192, CloudWang3_87, Cookiedough_85, DarthPhader_85, Dorothea_85, EricB_83, Fibonacci_88, Flaverint_89, Gilberta_86, Gladiator_83, Gruunaga_86, Hammer_87, Helmet_88, Hexamo_86, Hoot_80, Hutc2_85, Indra_90, Jabith_88, JewelBug_77, Jordennis_83, Kazan_86, Kipper29_85, Koko_88, Lilbunny_86, MaCh_88, Mabel_88, Mulciber_87, Neeharika16_84, Newrala_84, Orange_88, Pupper_190, Refuge_87, Rifter_87, Roksolana_87, SCentae_189, Sham4_85, Skog_22, SmellyB_85, Snape_88, Steamy_84, SuperAwesome_85, TinyTimmy_86, Trixie_85, VohminGhazi_85, Wiks_86, WunderPhul_87, Zimmer_86, Zulu_88,

Genes that have the "Most Annotated" start but do not call it:
• 40AC_81, Aneem_89, ArcherNM_80, Artemis2UCLA_86, BabyBack_80, Bachome_86, Bowtie_84, Candra_83, Colin_84, DaVinci_83, Ebony_87, Et2Brutus_88, Garak_88, GaugeLDP_79, Insomnia_88, Isiphiwo_81, Joselito_86, Lucivia_89, McFly_85, Munch_87, Petersenfast_82, Pmask_84, Priamo_86, Salz_84, SuperCallie99_81, Temprado_88, Timothy_88, ToneTone_84, Tucker_87, Yokurt_86, Zaka_87,

Genes that do not have the "Most Annotated" start:
• AN9_84, ANI8_84, Bradman_88, C3_77, Caraxes_86, DBQu4n_85, Duplo_86, EagleEye_86, FlyCatcher_83, Jsquared_89, Kerberos_85, Kimona_82, Koduck_85, L5_78, Lucyedi_85, MajorMajor_82, Marchesa_84, OKCentral2016_80, Odin_84, Phlei_71, Pomar16_85, Quokka_87, Ronaldo_142, Serenity_88, Sheen_80, StarStuff_85, Superchunk_85, TipsytheTRex_84, Tomathan_85, Toro_81, Travvers_85, VC3_83, Volt_145, Ziko_144,

Summary by start number:

Start 18:
• Found in 1 of 119 (0.8%) of genes in pham
• Manual Annotations of this start: 1 of 100

• Called 100.0% of time when present
• Phage (with cluster) where this start called: Kimona_82 (A19),

Start 20:
• Found in 3 of 119 (2.5%) of genes in pham
• Manual Annotations of this start: 1 of 100
• Called 100.0% of time when present
• Phage (with cluster) where this start called: FlyCatcher_83 (A7), Sheen_80 (A7), Toro_81 (A7),

Start 21:
• Found in 1 of 119 (0.8%) of genes in pham
• Manual Annotations of this start: 1 of 100
• Called 100.0% of time when present
• Phage (with cluster) where this start called: OKCentral2016_80 (A10),

Start 22:
• Found in 1 of 119 (0.8%) of genes in pham
• No Manual Annotations of this start.
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Phlei_71 (A13),

Start 23:
• Found in 85 of 119 (71.4%) of genes in pham
• Manual Annotations of this start: 51 of 100
• Called 63.5% of time when present
• Phage (with cluster) where this start called: BABullseye_78 (A6), BlessJoy_86 (A6), Blinn1_89 (A6), Blue7_88 (A6), Chargerpower_85 (A), Chartreuse_83 (A6), CherryTomatoes_192 (DO), CloudWang3_87 (A6), Cookiedough_85 (A6), DarthPhader_85 (A12), Dorothea_85 (A6), EricB_83 (A6), Fibonacci_88 (A11), Flaverint_89 (A11), Gilberta_86 (A11), Gladiator_83 (A6), Gruunaga_86 (A6), Hammer_87 (A6), Helmet_88 (A6), Hexamo_86 (A6), Hoot_80 (A6), Hutc2_85 (A11), Indra_90 (A6), Jabith_88 (A11), JewelBug_77 (A6), Jordennis_83 (A6), Kazan_86 (A6), Kipper29_85 (A6), Koko_88 (A6), Lilbunny_86 (A6), MaCh_88 (A11), Mabel_88 (A11), Mulciber_87 (A11), Neeharika16_84 (A6), Newrala_84 (A6), Orange_88 (A11), Pupper_190 (DO), Refuge_87 (A12), Rifter_87 (A6), Roksolana_87 (A6), SCentae_189 (DO), Sham4_85 (A11), Skog_22 (DO), SmellyB_85 (A6), Snape_88 (A11), Steamy_84 (A12), SuperAwesome_85 (A6), TinyTimmy_86 (A11), Trixie_85 (A2), VohminGhazi_85 (A6), Wiks_86 (A6), WunderPhul_87 (A6), Zimmer_86 (A12), Zulu_88 (A6),

Start 24:
• Found in 24 of 119 (20.2%) of genes in pham
• Manual Annotations of this start: 11 of 100
• Called 62.5% of time when present
• Phage (with cluster) where this start called: AN9_84 (A2), ANI8_84 (A2), Bradman_88 (A2), Duplo_86 (A2), EagleEye_86 (A16), Jsquared_89 (A2), L5_78 (A2), Lucyedi_85 (A16), MajorMajor_82 (A2), Odin_84 (A2), Quokka_87 (A2), StarStuff_85 (A2), TipsytheTRex_84 (A2), Travvers_85 (A2), VC3_83 (A2),

Start 25:
• Found in 1 of 119 (0.8%) of genes in pham
• No Manual Annotations of this start.

• Called 100.0% of time when present
• Phage (with cluster) where this start called: Marchesa_84 (A3),

Start 26:
• Found in 105 of 119 (88.2%) of genes in pham
• Manual Annotations of this start: 32 of 100
• Called 38.1% of time when present
• Phage (with cluster) where this start called: 40AC_81 (A17), Aneem_89 (A11), ArcherNM_80 (A2), Artemis2UCLA_86 (A6), BabyBack_80 (A2), Bachome_86 (A11), Bowtie_84 (A11), C3_77 (A2), Candra_83 (A6), Caraxes_86 (A2), Colin_84 (A2), DBQu4n_85 (A2), DaVinci_83 (A6), Ebony_87 (A11), Et2Brutus_88 (A11), Garak_88 (A6), GaugeLDP_79 (A2), Insomnia_88 (A11), Isiphiwo_81 (A6), Joselito_86 (A11), Kerberos_85 (A2), Koduck_85 (A2), Lucivia_89 (A11), McFly_85 (A6), Munch_87 (A11), Petersenfast_82 (A11), Pmask_84 (A6), Pomar16_85 (A2), Priamo_86 (A6), Salz_84 (A11), Serenity_88 (A2), SuperCallie99_81 (A6), Superchunk_85 (A2), Temprado_88 (A6), Timothy_88 (A11), Tomathan_85 (A2), ToneTone_84 (A6), Tucker_87 (A6), Yokurt_86 (A6), Zaka_87 (A6),

Start 27:
• Found in 4 of 119 (3.4%) of genes in pham
• Manual Annotations of this start: 3 of 100
• Called 75.0% of time when present
• Phage (with cluster) where this start called: Ronaldo_142 (DP), Volt_145 (DP), Ziko_144 (DP),

Summary by clusters:

There are 14 clusters represented in this pham: A, DO, A17, A16, A11, A10, A13, A12, A19, A3, A2, A7, A6, DP,

Info for manual annotations of cluster A:
•Start number 23 was manually annotated 1 time for cluster A.

Info for manual annotations of cluster A10:
•Start number 21 was manually annotated 1 time for cluster A10.

Info for manual annotations of cluster A11:
•Start number 23 was manually annotated 12 times for cluster A11.
•Start number 26 was manually annotated 11 times for cluster A11.

Info for manual annotations of cluster A12:
•Start number 23 was manually annotated 4 times for cluster A12.

Info for manual annotations of cluster A16:
•Start number 24 was manually annotated 2 times for cluster A16.

Info for manual annotations of cluster A19:
•Start number 18 was manually annotated 1 time for cluster A19.

Info for manual annotations of cluster A2:
•Start number 23 was manually annotated 1 time for cluster A2.

•Start number 24 was manually annotated 9 times for cluster A2.
•Start number 26 was manually annotated 10 times for cluster A2.

Info for manual annotations of cluster A6:
•Start number 23 was manually annotated 29 times for cluster A6.
•Start number 26 was manually annotated 11 times for cluster A6.

Info for manual annotations of cluster A7:
•Start number 20 was manually annotated 1 time for cluster A7.

Info for manual annotations of cluster DO:
•Start number 23 was manually annotated 4 times for cluster DO.

Info for manual annotations of cluster DP:
•Start number 27 was manually annotated 3 times for cluster DP.

Gene Information:

Gene: 40AC_81 Start: 48267, Stop: 48139, Start Num: 26
Candidate Starts for 40AC_81:
(Start: 23 @48279 has 51 MA's), (Start: 26 @48267 has 32 MA's),

Gene: AN9_84 Start: 47045, Stop: 46908, Start Num: 24
Candidate Starts for AN9_84:
(7, 47204), (Start: 24 @47045 has 11 MA's), (Start: 26 @47036 has 32 MA's), (32, 46958),

Gene: ANI8_84 Start: 47045, Stop: 46908, Start Num: 24
Candidate Starts for ANI8_84:
(7, 47204), (Start: 24 @47045 has 11 MA's), (Start: 26 @47036 has 32 MA's), (32, 46958),

Gene: Aneem_89 Start: 48093, Stop: 47965, Start Num: 26
Candidate Starts for Aneem_89:
(Start: 23 @48105 has 51 MA's), (Start: 26 @48093 has 32 MA's), (32, 48015),

Gene: ArcherNM_80 Start: 48138, Stop: 48004, Start Num: 26
Candidate Starts for ArcherNM_80:
(8, 48261), (16, 48189), (Start: 23 @48150 has 51 MA's), (Start: 26 @48138 has 32 MA's), (32, 48057),

Gene: Artemis2UCLA_86 Start: 46158, Stop: 46027, Start Num: 26
Candidate Starts for Artemis2UCLA_86:
(15, 46209), (Start: 23 @46170 has 51 MA's), (Start: 26 @46158 has 32 MA's),

Gene: BABullseye_78 Start: 44490, Stop: 44347, Start Num: 23
Candidate Starts for BABullseye_78:
(15, 44529), (Start: 23 @44490 has 51 MA's), (Start: 26 @44478 has 32 MA's),

Gene: BabyBack_80 Start: 48059, Stop: 47931, Start Num: 26
Candidate Starts for BabyBack_80:
(Start: 23 @48071 has 51 MA's), (Start: 26 @48059 has 32 MA's),

Gene: Bachome_86 Start: 46976, Stop: 46848, Start Num: 26
Candidate Starts for Bachome_86:
(Start: 23 @46988 has 51 MA's), (Start: 26 @46976 has 32 MA's), (32, 46898),

Gene: BlessJoy_86 Start: 46691, Stop: 46548, Start Num: 23
Candidate Starts for BlessJoy_86:
(15, 46730), (Start: 23 @46691 has 51 MA's), (Start: 26 @46679 has 32 MA's),

Gene: Blinn1_89 Start: 47148, Stop: 47005, Start Num: 23
Candidate Starts for Blinn1_89:
(Start: 23 @47148 has 51 MA's), (Start: 26 @47136 has 32 MA's),

Gene: Blue7_88 Start: 46389, Stop: 46246, Start Num: 23
Candidate Starts for Blue7_88:
(15, 46428), (Start: 23 @46389 has 51 MA's), (Start: 26 @46377 has 32 MA's),

Gene: Bowtie_84 Start: 46700, Stop: 46572, Start Num: 26
Candidate Starts for Bowtie_84:
(Start: 23 @46712 has 51 MA's), (Start: 26 @46700 has 32 MA's), (32, 46622),

Gene: Bradman_88 Start: 47715, Stop: 47578, Start Num: 24
Candidate Starts for Bradman_88:
(Start: 24 @47715 has 11 MA's), (Start: 26 @47706 has 32 MA's), (30, 47676), (32, 47628),

Gene: C3_77 Start: 47036, Stop: 46908, Start Num: 26
Candidate Starts for C3_77:
(7, 47204), (Start: 24 @47045 has 11 MA's), (Start: 26 @47036 has 32 MA's), (32, 46958),

Gene: Candra_83 Start: 46183, Stop: 46052, Start Num: 26
Candidate Starts for Candra_83:
(15, 46234), (Start: 23 @46195 has 51 MA's), (Start: 26 @46183 has 32 MA's),

Gene: Caraxes_86 Start: 47335, Stop: 47207, Start Num: 26
Candidate Starts for Caraxes_86:
(Start: 24 @47344 has 11 MA's), (Start: 26 @47335 has 32 MA's), (30, 47305), (32, 47257),

Gene: Chargerpower_85 Start: 46897, Stop: 46760, Start Num: 23
Candidate Starts for Chargerpower_85:
(16, 46936), (Start: 23 @46897 has 51 MA's), (Start: 27 @46888 has 3 MA's), (31, 46837),

Gene: Chartreuse_83 Start: 45496, Stop: 45353, Start Num: 23
Candidate Starts for Chartreuse_83:
(15, 45535), (Start: 23 @45496 has 51 MA's), (Start: 26 @45484 has 32 MA's),

Gene: CherryTomatoes_192 Start: 134867, Stop: 135010, Start Num: 23
Candidate Starts for CherryTomatoes_192:
(Start: 23 @134867 has 51 MA's),

Gene: CloudWang3_87 Start: 46699, Stop: 46556, Start Num: 23
Candidate Starts for CloudWang3_87:
(15, 46738), (Start: 23 @46699 has 51 MA's), (Start: 26 @46687 has 32 MA's),

Gene: Colin_84 Start: 49181, Stop: 49047, Start Num: 26

Candidate Starts for Colin_84:
(11, 49277), (Start: 23 @49193 has 51 MA's), (Start: 26 @49181 has 32 MA's),

Gene: Cookiedough_85 Start: 46803, Stop: 46660, Start Num: 23
Candidate Starts for Cookiedough_85:
(15, 46842), (Start: 23 @46803 has 51 MA's), (Start: 26 @46791 has 32 MA's),

Gene: DBQu4n_85 Start: 48081, Stop: 47953, Start Num: 26
Candidate Starts for DBQu4n_85:
(7, 48255), (Start: 24 @48090 has 11 MA's), (Start: 26 @48081 has 32 MA's), (32, 48003),

Gene: DaVinci_83 Start: 45538, Stop: 45407, Start Num: 26
Candidate Starts for DaVinci_83:
(15, 45589), (Start: 23 @45550 has 51 MA's), (Start: 26 @45538 has 32 MA's),

Gene: DarthPhader_85 Start: 49743, Stop: 49600, Start Num: 23
Candidate Starts for DarthPhader_85:
(Start: 23 @49743 has 51 MA's), (Start: 26 @49734 has 32 MA's),

Gene: Dorothea_85 Start: 46796, Stop: 46653, Start Num: 23
Candidate Starts for Dorothea_85:
(15, 46835), (Start: 23 @46796 has 51 MA's), (Start: 26 @46784 has 32 MA's),

Gene: Duplo_86 Start: 48147, Stop: 48010, Start Num: 24
Candidate Starts for Duplo_86:
(7, 48312), (Start: 24 @48147 has 11 MA's), (Start: 26 @48138 has 32 MA's), (32, 48060),

Gene: EagleEye_86 Start: 47944, Stop: 47807, Start Num: 24
Candidate Starts for EagleEye_86:
(Start: 24 @47944 has 11 MA's), (Start: 26 @47935 has 32 MA's),

Gene: Ebony_87 Start: 47664, Stop: 47536, Start Num: 26
Candidate Starts for Ebony_87:
(Start: 23 @47676 has 51 MA's), (Start: 26 @47664 has 32 MA's), (32, 47586),

Gene: EricB_83 Start: 45693, Stop: 45550, Start Num: 23
Candidate Starts for EricB_83:
(15, 45732), (Start: 23 @45693 has 51 MA's), (Start: 26 @45681 has 32 MA's),

Gene: Et2Brutus_88 Start: 47941, Stop: 47813, Start Num: 26
Candidate Starts for Et2Brutus_88:
(Start: 23 @47953 has 51 MA's), (Start: 26 @47941 has 32 MA's), (32, 47863),

Gene: Fibonacci_88 Start: 47959, Stop: 47819, Start Num: 23
Candidate Starts for Fibonacci_88:
(Start: 23 @47959 has 51 MA's), (Start: 26 @47947 has 32 MA's), (32, 47869),

Gene: Flaverint_89 Start: 48103, Stop: 47963, Start Num: 23
Candidate Starts for Flaverint_89:
(Start: 23 @48103 has 51 MA's), (Start: 26 @48091 has 32 MA's), (32, 48013),

Gene: FlyCatcher_83 Start: 50768, Stop: 50619, Start Num: 20
Candidate Starts for FlyCatcher_83:

(Start: 20 @50768 has 1 MA's), (29, 50726),

Gene: Garak_88 Start: 46620, Stop: 46489, Start Num: 26
Candidate Starts for Garak_88:
(15, 46671), (Start: 23 @46632 has 51 MA's), (Start: 26 @46620 has 32 MA's),

Gene: GaugeLDP_79 Start: 47615, Stop: 47487, Start Num: 26
Candidate Starts for GaugeLDP_79:
(Start: 23 @47627 has 51 MA's), (Start: 26 @47615 has 32 MA's),

Gene: Gilberta_86 Start: 46979, Stop: 46839, Start Num: 23
Candidate Starts for Gilberta_86:
(Start: 23 @46979 has 51 MA's), (Start: 26 @46967 has 32 MA's), (32, 46889),

Gene: Gladiator_83 Start: 46355, Stop: 46212, Start Num: 23
Candidate Starts for Gladiator_83:
(15, 46394), (Start: 23 @46355 has 51 MA's), (Start: 26 @46343 has 32 MA's),

Gene: Gruunaga_86 Start: 46310, Stop: 46167, Start Num: 23
Candidate Starts for Gruunaga_86:
(15, 46349), (Start: 23 @46310 has 51 MA's), (Start: 26 @46298 has 32 MA's),

Gene: Hammer_87 Start: 46017, Stop: 45874, Start Num: 23
Candidate Starts for Hammer_87:
(15, 46056), (Start: 23 @46017 has 51 MA's), (Start: 26 @46005 has 32 MA's),

Gene: Helmet_88 Start: 46632, Stop: 46489, Start Num: 23
Candidate Starts for Helmet_88:
(15, 46671), (Start: 23 @46632 has 51 MA's), (Start: 26 @46620 has 32 MA's),

Gene: Hexamo_86 Start: 46185, Stop: 46042, Start Num: 23
Candidate Starts for Hexamo_86:
(15, 46224), (Start: 23 @46185 has 51 MA's), (Start: 26 @46173 has 32 MA's),

Gene: Hoot_80 Start: 44010, Stop: 43867, Start Num: 23
Candidate Starts for Hoot_80:
(15, 44049), (Start: 23 @44010 has 51 MA's), (Start: 26 @43998 has 32 MA's),

Gene: Hutc2_85 Start: 46843, Stop: 46703, Start Num: 23
Candidate Starts for Hutc2_85:
(Start: 23 @46843 has 51 MA's), (Start: 26 @46831 has 32 MA's), (32, 46753),

Gene: Indra_90 Start: 46633, Stop: 46490, Start Num: 23
Candidate Starts for Indra_90:
(15, 46672), (Start: 23 @46633 has 51 MA's), (Start: 26 @46621 has 32 MA's),

Gene: Insomnia_88 Start: 48125, Stop: 47997, Start Num: 26
Candidate Starts for Insomnia_88:
(Start: 23 @48137 has 51 MA's), (Start: 26 @48125 has 32 MA's), (32, 48047),

Gene: Isiphiwo_81 Start: 45709, Stop: 45578, Start Num: 26
Candidate Starts for Isiphiwo_81:
(15, 45760), (Start: 23 @45721 has 51 MA's), (Start: 26 @45709 has 32 MA's),

Gene: Jabith_88 Start: 48151, Stop: 48011, Start Num: 23
Candidate Starts for Jabith_88:
(Start: 23 @48151 has 51 MA's), (Start: 26 @48139 has 32 MA's), (32, 48061),

Gene: JewelBug_77 Start: 44488, Stop: 44333, Start Num: 23
Candidate Starts for JewelBug_77:
(15, 44527), (Start: 23 @44488 has 51 MA's), (Start: 26 @44476 has 32 MA's),

Gene: Jordennis_83 Start: 46392, Stop: 46249, Start Num: 23
Candidate Starts for Jordennis_83:
(15, 46431), (Start: 23 @46392 has 51 MA's), (Start: 26 @46380 has 32 MA's),

Gene: Joselito_86 Start: 47845, Stop: 47717, Start Num: 26
Candidate Starts for Joselito_86:
(Start: 23 @47857 has 51 MA's), (Start: 26 @47845 has 32 MA's), (32, 47767),

Gene: Jsquared_89 Start: 47958, Stop: 47821, Start Num: 24
Candidate Starts for Jsquared_89:
(Start: 24 @47958 has 11 MA's), (Start: 26 @47949 has 32 MA's), (30, 47919), (32, 47871),

Gene: Kazan_86 Start: 46165, Stop: 46022, Start Num: 23
Candidate Starts for Kazan_86:
(15, 46204), (Start: 23 @46165 has 51 MA's), (Start: 26 @46153 has 32 MA's),

Gene: Kerberos_85 Start: 48101, Stop: 47973, Start Num: 26
Candidate Starts for Kerberos_85:
(7, 48275), (Start: 24 @48110 has 11 MA's), (Start: 26 @48101 has 32 MA's), (32, 48023),

Gene: Kimona_82 Start: 46840, Stop: 46682, Start Num: 18
Candidate Starts for Kimona_82:
(Start: 18 @46840 has 1 MA's),

Gene: Kipper29_85 Start: 46168, Stop: 46025, Start Num: 23
Candidate Starts for Kipper29_85:
(15, 46207), (Start: 23 @46168 has 51 MA's), (Start: 26 @46156 has 32 MA's),

Gene: Koduck_85 Start: 47288, Stop: 47160, Start Num: 26
Candidate Starts for Koduck_85:
(5, 47483), (12, 47387), (Start: 24 @47297 has 11 MA's), (Start: 26 @47288 has 32 MA's), (30, 47258),
(32, 47210),

Gene: Koko_88 Start: 47022, Stop: 46879, Start Num: 23
Candidate Starts for Koko_88:
(15, 47061), (Start: 23 @47022 has 51 MA's), (Start: 26 @47010 has 32 MA's),

Gene: L5_78 Start: 47188, Stop: 47051, Start Num: 24
Candidate Starts for L5_78:
(5, 47374), (Start: 24 @47188 has 11 MA's), (Start: 26 @47179 has 32 MA's), (30, 47149), (32, 47101),

Gene: Lilbunny_86 Start: 46264, Stop: 46121, Start Num: 23
Candidate Starts for Lilbunny_86:
(15, 46303), (Start: 23 @46264 has 51 MA's), (Start: 26 @46252 has 32 MA's),

Gene: Lucivia_89 Start: 48124, Stop: 47996, Start Num: 26
Candidate Starts for Lucivia_89:
(Start: 23 @48136 has 51 MA's), (Start: 26 @48124 has 32 MA's), (32, 48046),

Gene: Lucyedi_85 Start: 48143, Stop: 48006, Start Num: 24
Candidate Starts for Lucyedi_85:
(Start: 24 @48143 has 11 MA's), (Start: 26 @48134 has 32 MA's), (32, 48056),

Gene: MaCh_88 Start: 48100, Stop: 47960, Start Num: 23
Candidate Starts for MaCh_88:
(Start: 23 @48100 has 51 MA's), (Start: 26 @48088 has 32 MA's), (32, 48010),

Gene: Mabel_88 Start: 48101, Stop: 47961, Start Num: 23
Candidate Starts for Mabel_88:
(Start: 23 @48101 has 51 MA's), (Start: 26 @48089 has 32 MA's), (32, 48011),

Gene: MajorMajor_82 Start: 46007, Stop: 45870, Start Num: 24
Candidate Starts for MajorMajor_82:
(Start: 24 @46007 has 11 MA's), (Start: 26 @45998 has 32 MA's), (30, 45968), (32, 45920),

Gene: Marchesa_84 Start: 47349, Stop: 47203, Start Num: 25
Candidate Starts for Marchesa_84:
(3, 47601), (6, 47532), (14, 47427), (17, 47400), (19, 47376), (25, 47349),

Gene: McFly_85 Start: 46492, Stop: 46361, Start Num: 26
Candidate Starts for McFly_85:
(15, 46543), (Start: 23 @46504 has 51 MA's), (Start: 26 @46492 has 32 MA's),

Gene: Mulciber_87 Start: 47956, Stop: 47816, Start Num: 23
Candidate Starts for Mulciber_87:
(Start: 23 @47956 has 51 MA's), (Start: 26 @47944 has 32 MA's), (32, 47866),

Gene: Munch_87 Start: 48093, Stop: 47965, Start Num: 26
Candidate Starts for Munch_87:
(Start: 23 @48105 has 51 MA's), (Start: 26 @48093 has 32 MA's), (32, 48015),

Gene: Neeharika16_84 Start: 46254, Stop: 46111, Start Num: 23
Candidate Starts for Neeharika16_84:
(15, 46293), (Start: 23 @46254 has 51 MA's), (Start: 26 @46242 has 32 MA's),

Gene: Newrala_84 Start: 46600, Stop: 46457, Start Num: 23
Candidate Starts for Newrala_84:
(15, 46639), (Start: 23 @46600 has 51 MA's), (Start: 26 @46588 has 32 MA's),

Gene: OKCentral2016_80 Start: 46884, Stop: 46744, Start Num: 21
Candidate Starts for OKCentral2016_80:
(4, 47082), (9, 46974), (17, 46914), (19, 46890), (Start: 21 @46884 has 1 MA's), (32, 46794),

Gene: Odin_84 Start: 47817, Stop: 47680, Start Num: 24
Candidate Starts for Odin_84:
(Start: 24 @47817 has 11 MA's), (Start: 26 @47808 has 32 MA's), (30, 47778), (32, 47730),

Gene: Orange_88 Start: 47655, Stop: 47515, Start Num: 23
Candidate Starts for Orange_88:
(Start: 23 @47655 has 51 MA's), (Start: 26 @47643 has 32 MA's), (32, 47565),

Gene: Petersenfast_82 Start: 46524, Stop: 46396, Start Num: 26
Candidate Starts for Petersenfast_82:
(Start: 23 @46536 has 51 MA's), (Start: 26 @46524 has 32 MA's), (32, 46446),

Gene: Phlei_71 Start: 45865, Stop: 45713, Start Num: 22
Candidate Starts for Phlei_71:
(22, 45865), (Start: 26 @45844 has 32 MA's), (28, 45832), (33, 45721),

Gene: Pmask_84 Start: 46789, Stop: 46658, Start Num: 26
Candidate Starts for Pmask_84:
(15, 46840), (Start: 23 @46801 has 51 MA's), (Start: 26 @46789 has 32 MA's),

Gene: Pomar16_85 Start: 48174, Stop: 48046, Start Num: 26
Candidate Starts for Pomar16_85:
(7, 48348), (Start: 24 @48183 has 11 MA's), (Start: 26 @48174 has 32 MA's), (32, 48096),

Gene: Priamo_86 Start: 46033, Stop: 45902, Start Num: 26
Candidate Starts for Priamo_86:
(15, 46084), (Start: 23 @46045 has 51 MA's), (Start: 26 @46033 has 32 MA's),

Gene: Pupper_190 Start: 134729, Stop: 134872, Start Num: 23
Candidate Starts for Pupper_190:
(Start: 23 @134729 has 51 MA's),

Gene: Quokka_87 Start: 47716, Stop: 47579, Start Num: 24
Candidate Starts for Quokka_87:
(Start: 24 @47716 has 11 MA's), (Start: 26 @47707 has 32 MA's), (30, 47677), (32, 47629),

Gene: Refuge_87 Start: 50587, Stop: 50444, Start Num: 23
Candidate Starts for Refuge_87:
(Start: 23 @50587 has 51 MA's), (Start: 26 @50578 has 32 MA's),

Gene: Rifter_87 Start: 45812, Stop: 45669, Start Num: 23
Candidate Starts for Rifter_87:
(15, 45851), (Start: 23 @45812 has 51 MA's), (Start: 26 @45800 has 32 MA's),

Gene: Roksolana_87 Start: 46528, Stop: 46385, Start Num: 23
Candidate Starts for Roksolana_87:
(15, 46567), (Start: 23 @46528 has 51 MA's), (Start: 26 @46516 has 32 MA's),

Gene: Ronaldo_142 Start: 66482, Stop: 66613, Start Num: 27
Candidate Starts for Ronaldo_142:
(Start: 27 @66482 has 3 MA's), (30, 66512),

Gene: SCentae_189 Start: 134921, Stop: 135064, Start Num: 23
Candidate Starts for SCentae_189:
(Start: 23 @134921 has 51 MA's),

Gene: Salz_84 Start: 46753, Stop: 46625, Start Num: 26

Candidate Starts for Salz_84:
(Start: 23 @46765 has 51 MA's), (Start: 26 @46753 has 32 MA's), (32, 46675),

Gene: Serenity_88 Start: 47747, Stop: 47619, Start Num: 26
Candidate Starts for Serenity_88:
(Start: 24 @47756 has 11 MA's), (Start: 26 @47747 has 32 MA's), (30, 47717), (32, 47669),

Gene: Sham4_85 Start: 46851, Stop: 46711, Start Num: 23
Candidate Starts for Sham4_85:
(Start: 23 @46851 has 51 MA's), (Start: 26 @46839 has 32 MA's), (32, 46761),

Gene: Sheen_80 Start: 50105, Stop: 49956, Start Num: 20
Candidate Starts for Sheen_80:
(Start: 20 @50105 has 1 MA's), (29, 50063),

Gene: Skog_22 Start: 10918, Stop: 11064, Start Num: 23
Candidate Starts for Skog_22:
(1, 10645), (2, 10654), (Start: 23 @10918 has 51 MA's),

Gene: SmellyB_85 Start: 46159, Stop: 46016, Start Num: 23
Candidate Starts for SmellyB_85:
(15, 46198), (Start: 23 @46159 has 51 MA's), (Start: 26 @46147 has 32 MA's),

Gene: Snape_88 Start: 47644, Stop: 47504, Start Num: 23
Candidate Starts for Snape_88:
(Start: 23 @47644 has 51 MA's), (Start: 26 @47632 has 32 MA's), (32, 47554),

Gene: StarStuff_85 Start: 48145, Stop: 48008, Start Num: 24
Candidate Starts for StarStuff_85:
(7, 48310), (Start: 24 @48145 has 11 MA's), (Start: 26 @48136 has 32 MA's), (32, 48058),

Gene: Steamy_84 Start: 49557, Stop: 49414, Start Num: 23
Candidate Starts for Steamy_84:
(10, 49653), (13, 49623), (16, 49596), (Start: 23 @49557 has 51 MA's), (Start: 26 @49548 has 32 MA's),

Gene: SuperAwesome_85 Start: 46840, Stop: 46697, Start Num: 23
Candidate Starts for SuperAwesome_85:
(15, 46879), (Start: 23 @46840 has 51 MA's), (Start: 26 @46828 has 32 MA's),

Gene: SuperCallie99_81 Start: 46210, Stop: 46079, Start Num: 26
Candidate Starts for SuperCallie99_81:
(15, 46261), (Start: 23 @46222 has 51 MA's), (Start: 26 @46210 has 32 MA's),

Gene: Superchunk_85 Start: 47335, Stop: 47207, Start Num: 26
Candidate Starts for Superchunk_85:
(Start: 24 @47344 has 11 MA's), (Start: 26 @47335 has 32 MA's), (30, 47305), (32, 47257),

Gene: Temprado_88 Start: 46620, Stop: 46489, Start Num: 26
Candidate Starts for Temprado_88:
(15, 46671), (Start: 23 @46632 has 51 MA's), (Start: 26 @46620 has 32 MA's),

Gene: Timothy_88 Start: 47609, Stop: 47481, Start Num: 26

Candidate Starts for Timothy_88:
(Start: 23 @47621 has 51 MA's), (Start: 26 @47609 has 32 MA's), (32, 47531),

Gene: TinyTimmy_86 Start: 47350, Stop: 47210, Start Num: 23
Candidate Starts for TinyTimmy_86:
(Start: 23 @47350 has 51 MA's), (Start: 26 @47338 has 32 MA's), (32, 47260),

Gene: TipsytheTRex_84 Start: 47758, Stop: 47621, Start Num: 24
Candidate Starts for TipsytheTRex_84:
(Start: 24 @47758 has 11 MA's), (Start: 26 @47749 has 32 MA's), (30, 47719), (32, 47671),

Gene: Tomathan_85 Start: 48214, Stop: 48086, Start Num: 26
Candidate Starts for Tomathan_85:
(7, 48388), (Start: 24 @48223 has 11 MA's), (Start: 26 @48214 has 32 MA's), (32, 48136),

Gene: ToneTone_84 Start: 46180, Stop: 46049, Start Num: 26
Candidate Starts for ToneTone_84:
(15, 46231), (Start: 23 @46192 has 51 MA's), (Start: 26 @46180 has 32 MA's),

Gene: Toro_81 Start: 50768, Stop: 50619, Start Num: 20
Candidate Starts for Toro_81:
(Start: 20 @50768 has 1 MA's), (29, 50726),

Gene: Travvers_85 Start: 48140, Stop: 48003, Start Num: 24
Candidate Starts for Travvers_85:
(7, 48305), (Start: 24 @48140 has 11 MA's), (Start: 26 @48131 has 32 MA's), (32, 48053),

Gene: Trixie_85 Start: 49116, Stop: 48976, Start Num: 23
Candidate Starts for Trixie_85:
(Start: 23 @49116 has 51 MA's), (Start: 26 @49104 has 32 MA's), (32, 49026),

Gene: Tucker_87 Start: 46383, Stop: 46252, Start Num: 26
Candidate Starts for Tucker_87:
(15, 46434), (Start: 23 @46395 has 51 MA's), (Start: 26 @46383 has 32 MA's),

Gene: VC3_83 Start: 47045, Stop: 46908, Start Num: 24
Candidate Starts for VC3_83:
(7, 47204), (Start: 24 @47045 has 11 MA's), (Start: 26 @47036 has 32 MA's), (32, 46958),

Gene: VohminGhazi_85 Start: 46160, Stop: 46017, Start Num: 23
Candidate Starts for VohminGhazi_85:
(15, 46199), (Start: 23 @46160 has 51 MA's), (Start: 26 @46148 has 32 MA's),

Gene: Volt_145 Start: 66646, Stop: 66777, Start Num: 27
Candidate Starts for Volt_145:
(Start: 27 @66646 has 3 MA's), (30, 66676),

Gene: Wiks_86 Start: 46263, Stop: 46120, Start Num: 23
Candidate Starts for Wiks_86:
(15, 46302), (Start: 23 @46263 has 51 MA's), (Start: 26 @46251 has 32 MA's),

Gene: WunderPhul_87 Start: 46261, Stop: 46118, Start Num: 23
Candidate Starts for WunderPhul_87:

(15, 46300), (Start: 23 @46261 has 51 MA's), (Start: 26 @46249 has 32 MA's),

Gene: Yokurt_86 Start: 46251, Stop: 46120, Start Num: 26
Candidate Starts for Yokurt_86:
(15, 46302), (Start: 23 @46263 has 51 MA's), (Start: 26 @46251 has 32 MA's),

Gene: Zaka_87 Start: 46251, Stop: 46120, Start Num: 26
Candidate Starts for Zaka_87:
(15, 46302), (Start: 23 @46263 has 51 MA's), (Start: 26 @46251 has 32 MA's),

Gene: Ziko_144 Start: 66950, Stop: 67081, Start Num: 27
Candidate Starts for Ziko_144:
(Start: 27 @66950 has 3 MA's), (30, 66980),

Gene: Zimmer_86 Start: 50022, Stop: 49876, Start Num: 23
Candidate Starts for Zimmer_86:
(13, 50088), (Start: 23 @50022 has 51 MA's), (Start: 26 @50010 has 32 MA's), (28, 49995),

Gene: Zulu_88 Start: 46641, Stop: 46498, Start Num: 23
Candidate Starts for Zulu_88:
(15, 46680), (Start: 23 @46641 has 51 MA's), (Start: 26 @46629 has 32 MA's),