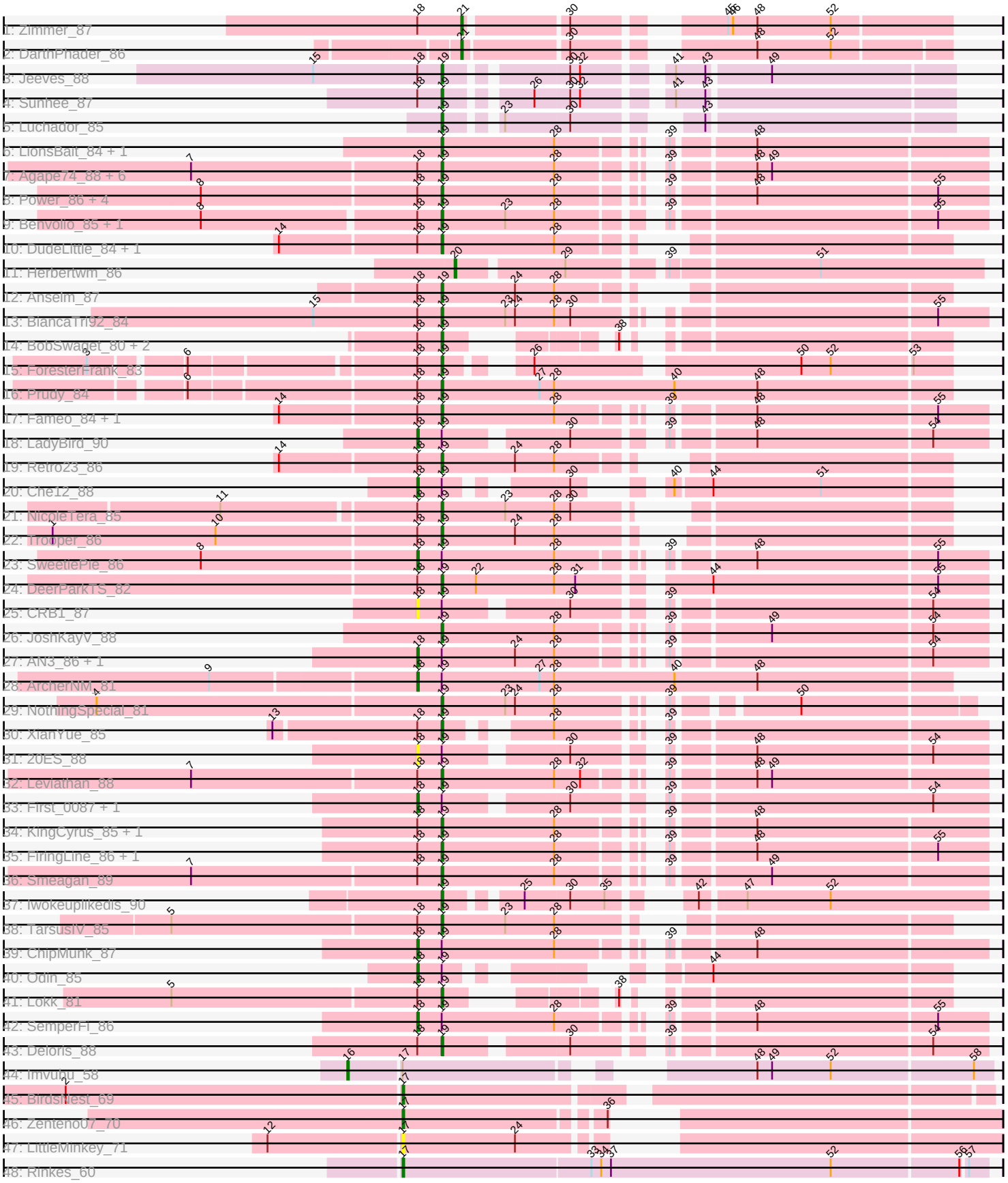
Pham 347589


1: Zimmer_87
2: DarthPhader_86
3: Jeeves_88
4: Sunnee_87
5: Luchador_85
6: LionsBait_84 + 1
7: Agape74_88 + 6
8: Power_86 + 4
9: Benvolio_85 + 1
10: DudeLittle_84 + 1
11: Herbertwm_86
12: Anselm_87
13: BiancaTri92_84
14: BobSwaget_80 + 2
15: ForesterFrank_83
16: Prudy_84
17: Fameo_84 + 1
18: LadyBird_90
19: Retro23_86
20: Che12_88
21: NicoleTera_85
22: Trooper_86
23: SweetiePie_86
24: DeerParkTS_82
25: CRB1_87
26: JoshKayV_88
27: AN3_86 + 1
28: ArcherNM_81
29: NothingSpecial_81
30: XianYue_85
31: 20ES_88
32: Leviathan_88
33: First_0087 + 1
34: KingCyrus_85 + 1
35: FiringLine_86 + 1
36: Smeagan_89
37: Iwokeuplikedis_90
38: TarsusIV_85
39: ChipMunk_87
40: Odin_85
41: Lokk_81
42: SemperFI_86
43: Delons_88
44: Imvubu_58
45: Birdsnest_69
46: Zenteno07_70
47: LittleMinkey_71
48: Rinkes_60

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 347589 Report

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

Pham number 347589 has 68 members, 4 are drafts.

Phages represented in each track:
- Track 1 : Zimmer_87
- Track 2 : DarthPhader_86
- Track 3 : Jeeves_88
- Track 4 : Sunhee_87
- Track 5 : Luchador_85
- Track 6 : LionsBait_84, HippoHollow_84
- Track 7 : Agape74_88, LilTurb_87, Dignity_88, Jerm_88, AbbyPaige_88, Whabigail7_85, Turbido_87
- Track 8 : Power_86, Crucio_86, Georgie2_88, SnapTap_86, QueenB2_83
- Track 9 : Benvolio_85, Echild_89
- Track 10 : DudeLittle_84, Dalmatian_86
- Track 11 : Herbertwm_86
- Track 12 : Anselm_87
- Track 13 : BiancaTri92_84
- Track 14 : BobSwaget_80, Miko_81, Rachaly_83
- Track 15 : ForesterFrank_83
- Track 16 : Prudy_84
- Track 17 : Fameo_84, Heffalump_83
- Track 18 : LadyBird_90
- Track 19 : Retro23_86
- Track 20 : Che12_88
- Track 21 : NicoleTera_85
- Track 22 : Trooper_86
- Track 23 : SweetiePie_86
- Track 24 : DeerParkTS_82
- Track 25 : CRB1_87
- Track 26 : JoshKayV_88
- Track 27 : AN3_86, VA6_86
- Track 28 : ArcherNM_81
- Track 29 : NothingSpecial_81
- Track 30 : XianYue_85
- Track 31 : 20ES_88
- Track 32 : Leviathan_88
- Track 33 : First_0087, BengiVuitton_88
- Track 34 : KingCyrus_85, EvilGenius_86
- Track 35 : FiringLine_86, QueenBeesly_86
- Track 36 : Smeagan_89

• Track 37 : Iwokeuplikedis_90
• Track 38 : TarsusIV_85
• Track 39 : ChipMunk_87
• Track 40 : Odin_85
• Track 41 : Lokk_81
• Track 42 : SemperFi_86
• Track 43 : Deloris_88
• Track 44 : Imvubu_58
• Track 45 : BirdsNest_69
• Track 46 : Zenteno07_70
• Track 47 : LittleMinkey_71
• Track 48 : Rinkes_60

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

The start number called the most often in the published annotations is 19, it was called in 47 of the 64 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• AbbyPaige_88, Agape74_88, Anselm_87, Benvolio_85, BiancaTri92_84, BobSwaget_80, Crucio_86, Dalmatian_86, DeerParkTS_82, Deloris_88, Dignity_88, DudeLittle_84, Echild_89, EvilGenius_86, Fameo_84, FiringLine_86, ForesterFrank_83, Georgie2_88, Heffalump_83, HippoHollow_84, Iwokeuplikedis_90, Jeeves_88, Jerm_88, JoshKayV_88, KingCyrus_85, Leviathan_88, LilTurb_87, LionsBait_84, Lokk_81, Luchador_85, Miko_81, NicoleTera_85, NothingSpecial_81, Power_86, Prudy_84, QueenB2_83, QueenBeesly_86, Rachaly_83, Retro23_86, Smeagan_89, SnapTap_86, Sunhee_87, TarsusIV_85, Trooper_86, Turbido_87, Whabigail7_85, XianYue_85,

Genes that have the "Most Annotated" start but do not call it:
• 20ES_88, AN3_86, ArcherNM_81, BengiVuitton_88, CRB1_87, Che12_88, ChipMunk_87, First_0087, LadyBird_90, Odin_85, SemperFi_86, SweetiePie_86, VA6_86,

Genes that do not have the "Most Annotated" start:
• BirdsNest_69, DarthPhader_86, Herbertwm_86, Imvubu_58, LittleMinkey_71, Rinkes_60, Zenteno07_70, Zimmer_87,

Summary by start number:

Start 16:
• Found in 1 of 68 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Imvubu_58 (B10),

Start 17:
• Found in 5 of 68 (7.4%) of genes in pham
• Manual Annotations of this start: 3 of 64
• Called 80.0% of time when present

• Phage (with cluster) where this start called: BirdsNest_69 (B13), LittleMinkey_71 (B13), Rinkes_60 (B9), Zenteno07_70 (B13),

Start 18:
• Found in 55 of 68 (80.9%) of genes in pham
• Manual Annotations of this start: 10 of 64
• Called 23.6% of time when present
• Phage (with cluster) where this start called: 20ES_88 (A2), AN3_86 (A2), ArcherNM_81 (A2), BengiVuitton_88 (A2), CRB1_87 (A2), Che12_88 (A2), ChipMunk_87 (A2), First_0087 (A2), LadyBird_90 (A2), Odin_85 (A2), SemperFi_86 (A2), SweetiePie_86 (A2), VA6_86 (A2),

Start 19:
• Found in 60 of 68 (88.2%) of genes in pham
• Manual Annotations of this start: 47 of 64
• Called 78.3% of time when present
• Phage (with cluster) where this start called: AbbyPaige_88 (A2), Agape74_88 (A2), Anselm_87 (A2), Benvolio_85 (A2), BiancaTri92_84 (A2), BobSwaget_80 (A2), Crucio_86 (A2), Dalmatian_86 (A2), DeerParkTS_82 (A2), Deloris_88 (A2), Dignity_88 (A2), DudeLittle_84 (A2), Echild_89 (A2), EvilGenius_86 (A2), Fameo_84 (A2), FiringLine_86 (A2), ForesterFrank_83 (A2), Georgie2_88 (A2), Heffalump_83 (A2), HippoHollow_84 (A2), Iwokeuplikedis_90 (A2), Jeeves_88 (A14), Jerm_88 (A2), JoshKayV_88 (A2), KingCyrus_85 (A2), Leviathan_88 (A2), LilTurb_87 (A2), LionsBait_84 (A2), Lokk_81 (A2), Luchador_85 (A14), Miko_81 (A2), NicoleTera_85 (A2), NothingSpecial_81 (A2), Power_86 (A2), Prudy_84 (A2), QueenB2_83 (A2), QueenBeesly_86 (A2), Rachaly_83 (A2), Retro23_86 (A2), Smeagan_89 (A2), SnapTap_86 (A2), Sunhee_87 (A14), TarsusIV_85 (A2), Trooper_86 (A2), Turbido_87 (A2), Whabigail7_85 (A2), XianYue_85 (A2),

Start 20:
• Found in 1 of 68 (1.5%) of genes in pham
• Manual Annotations of this start: 1 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: Herbertwm_86 (A2),

Start 21:
• Found in 2 of 68 (2.9%) of genes in pham
• Manual Annotations of this start: 2 of 64
• Called 100.0% of time when present
• Phage (with cluster) where this start called: DarthPhader_86 (A12), Zimmer_87 (A12),

Summary by clusters:

There are 6 clusters represented in this pham: A14, A12, A2, B13, B10, B9,

Info for manual annotations of cluster A12:
•Start number 21 was manually annotated 2 times for cluster A12.

Info for manual annotations of cluster A14:
•Start number 19 was manually annotated 3 times for cluster A14.

Info for manual annotations of cluster A2:

•Start number 18 was manually annotated 10 times for cluster A2.
•Start number 19 was manually annotated 44 times for cluster A2.
•Start number 20 was manually annotated 1 time for cluster A2.

Info for manual annotations of cluster B10:
•Start number 16 was manually annotated 1 time for cluster B10.

Info for manual annotations of cluster B13:
•Start number 17 was manually annotated 2 times for cluster B13.

Info for manual annotations of cluster B9:
•Start number 17 was manually annotated 1 time for cluster B9.

Gene Information:

Gene: 20ES_88 Start: 48926, Stop: 48621, Start Num: 18
Candidate Starts for 20ES_88:
(Start: 18 @48926 has 10 MA's), (Start: 19 @48911 has 47 MA's), (30, 48845), (39, 48803), (48, 48758), (54, 48653),

Gene: AN3_86 Start: 47190, Stop: 46879, Start Num: 18
Candidate Starts for AN3_86:
(Start: 18 @47190 has 10 MA's), (Start: 19 @47175 has 47 MA's), (24, 47130), (28, 47106), (39, 47061), (54, 46911),

Gene: AbbyPaige_88 Start: 49174, Stop: 48878, Start Num: 19
Candidate Starts for AbbyPaige_88:
(7, 49324), (Start: 18 @49189 has 10 MA's), (Start: 19 @49174 has 47 MA's), (28, 49105), (39, 49060), (48, 49015), (49, 49006),

Gene: Agape74_88 Start: 49150, Stop: 48854, Start Num: 19
Candidate Starts for Agape74_88:
(7, 49300), (Start: 18 @49165 has 10 MA's), (Start: 19 @49150 has 47 MA's), (28, 49081), (39, 49036), (48, 48991), (49, 48982),

Gene: Anselm_87 Start: 49020, Stop: 48757, Start Num: 19
Candidate Starts for Anselm_87:
(Start: 18 @49035 has 10 MA's), (Start: 19 @49020 has 47 MA's), (24, 48975), (28, 48951),

Gene: ArcherNM_81 Start: 48470, Stop: 48147, Start Num: 18
Candidate Starts for ArcherNM_81:
(9, 48590), (Start: 18 @48470 has 10 MA's), (Start: 19 @48455 has 47 MA's), (27, 48395), (28, 48386), (40, 48314), (48, 48263),

Gene: BengiVuitton_88 Start: 49031, Stop: 48726, Start Num: 18
Candidate Starts for BengiVuitton_88:
(Start: 18 @49031 has 10 MA's), (Start: 19 @49016 has 47 MA's), (30, 48950), (39, 48908), (54, 48758),

Gene: Benvolio_85 Start: 48794, Stop: 48495, Start Num: 19
Candidate Starts for Benvolio_85:

(8, 48935), (Start: 18 @48809 has 10 MA's), (Start: 19 @48794 has 47 MA's), (23, 48755), (28, 48725), (39, 48677), (55, 48524),

Gene: BiancaTri92_84 Start: 48631, Stop: 48332, Start Num: 19
Candidate Starts for BiancaTri92_84:
(15, 48709), (Start: 18 @48646 has 10 MA's), (Start: 19 @48631 has 47 MA's), (23, 48592), (24, 48586), (28, 48562), (30, 48553), (55, 48361),

Gene: BirdsNest_69 Start: 56932, Stop: 56600, Start Num: 17
Candidate Starts for BirdsNest_69:
(2, 57136), (Start: 17 @56932 has 3 MA's),

Gene: BobSwaget_80 Start: 46489, Stop: 46259, Start Num: 19
Candidate Starts for BobSwaget_80:
(Start: 18 @46504 has 10 MA's), (Start: 19 @46489 has 47 MA's), (38, 46426),

Gene: CRB1_87 Start: 49179, Stop: 48874, Start Num: 18
Candidate Starts for CRB1_87:
(Start: 18 @49179 has 10 MA's), (Start: 19 @49164 has 47 MA's), (30, 49098), (39, 49056), (54, 48906),

Gene: Che12_88 Start: 47719, Stop: 47462, Start Num: 18
Candidate Starts for Che12_88:
(Start: 18 @47719 has 10 MA's), (Start: 19 @47704 has 47 MA's), (30, 47650), (40, 47626), (44, 47605), (51, 47539),

Gene: ChipMunk_87 Start: 50092, Stop: 49781, Start Num: 18
Candidate Starts for ChipMunk_87:
(Start: 18 @50092 has 10 MA's), (Start: 19 @50077 has 47 MA's), (28, 50008), (39, 49963), (48, 49918),

Gene: Crucio_86 Start: 49024, Stop: 48728, Start Num: 19
Candidate Starts for Crucio_86:
(8, 49168), (Start: 18 @49039 has 10 MA's), (Start: 19 @49024 has 47 MA's), (28, 48955), (39, 48910), (48, 48865), (55, 48757),

Gene: Dalmatian_86 Start: 48805, Stop: 48542, Start Num: 19
Candidate Starts for Dalmatian_86:
(14, 48901), (Start: 18 @48820 has 10 MA's), (Start: 19 @48805 has 47 MA's), (28, 48736),

Gene: DarthPhader_86 Start: 50000, Stop: 49740, Start Num: 21
Candidate Starts for DarthPhader_86:
(Start: 21 @50000 has 2 MA's), (30, 49940), (48, 49853), (52, 49808),

Gene: DeerParkTS_82 Start: 47533, Stop: 47222, Start Num: 19
Candidate Starts for DeerParkTS_82:
(Start: 18 @47548 has 10 MA's), (Start: 19 @47533 has 47 MA's), (22, 47512), (28, 47464), (31, 47452), (44, 47386), (55, 47251),

Gene: Deloris_88 Start: 48709, Stop: 48419, Start Num: 19
Candidate Starts for Deloris_88:
(Start: 18 @48724 has 10 MA's), (Start: 19 @48709 has 47 MA's), (30, 48643), (39, 48601), (54, 48451),

Gene: Dignity_88 Start: 49257, Stop: 48961, Start Num: 19
Candidate Starts for Dignity_88:
(7, 49407), (Start: 18 @49272 has 10 MA's), (Start: 19 @49257 has 47 MA's), (28, 49188), (39, 49143), (48, 49098), (49, 49089),

Gene: DudeLittle_84 Start: 48523, Stop: 48260, Start Num: 19
Candidate Starts for DudeLittle_84:
(14, 48619), (Start: 18 @48538 has 10 MA's), (Start: 19 @48523 has 47 MA's), (28, 48454),

Gene: Echild_89 Start: 48818, Stop: 48519, Start Num: 19
Candidate Starts for Echild_89:
(8, 48959), (Start: 18 @48833 has 10 MA's), (Start: 19 @48818 has 47 MA's), (23, 48779), (28, 48749), (39, 48701), (55, 48548),

Gene: EvilGenius_86 Start: 50078, Stop: 49782, Start Num: 19
Candidate Starts for EvilGenius_86:
(Start: 18 @50093 has 10 MA's), (Start: 19 @50078 has 47 MA's), (28, 50009), (39, 49964), (48, 49919),

Gene: Fameo_84 Start: 48576, Stop: 48280, Start Num: 19
Candidate Starts for Fameo_84:
(14, 48672), (Start: 18 @48591 has 10 MA's), (Start: 19 @48576 has 47 MA's), (28, 48507), (39, 48462), (48, 48417), (55, 48309),

Gene: FiringLine_86 Start: 48964, Stop: 48668, Start Num: 19
Candidate Starts for FiringLine_86:
(Start: 18 @48979 has 10 MA's), (Start: 19 @48964 has 47 MA's), (28, 48895), (39, 48850), (48, 48805), (55, 48697),

Gene: First_0087 Start: 48829, Stop: 48521, Start Num: 18
Candidate Starts for First_0087:
(Start: 18 @48829 has 10 MA's), (Start: 19 @48814 has 47 MA's), (30, 48748), (39, 48706), (54, 48553),

Gene: ForesterFrank_83 Start: 48650, Stop: 48381, Start Num: 19
Candidate Starts for ForesterFrank_83:
(3, 48845), (6, 48794), (Start: 18 @48665 has 10 MA's), (Start: 19 @48650 has 47 MA's), (26, 48617), (50, 48470), (52, 48452), (53, 48404),

Gene: Georgie2_88 Start: 49168, Stop: 48872, Start Num: 19
Candidate Starts for Georgie2_88:
(8, 49312), (Start: 18 @49183 has 10 MA's), (Start: 19 @49168 has 47 MA's), (28, 49099), (39, 49054), (48, 49009), (55, 48901),

Gene: Heffalump_83 Start: 49044, Stop: 48748, Start Num: 19
Candidate Starts for Heffalump_83:
(14, 49140), (Start: 18 @49059 has 10 MA's), (Start: 19 @49044 has 47 MA's), (28, 48975), (39, 48930), (48, 48885), (55, 48777),

Gene: Herbertwm_86 Start: 49248, Stop: 48952, Start Num: 20
Candidate Starts for Herbertwm_86:
(Start: 20 @49248 has 1 MA's), (29, 49188), (39, 49137), (51, 49050),

Gene: HippoHollow_84 Start: 49676, Stop: 49380, Start Num: 19
Candidate Starts for HippoHollow_84:
(Start: 19 @49676 has 47 MA's), (28, 49607), (39, 49562), (48, 49517),

Gene: Imvubu_58 Start: 54802, Stop: 54467, Start Num: 16
Candidate Starts for Imvubu_58:
(Start: 16 @54802 has 1 MA's), (Start: 17 @54772 has 3 MA's), (48, 54607), (49, 54598), (52, 54562), (58, 54478),

Gene: Iwokeuplikedis_90 Start: 49128, Stop: 48847, Start Num: 19
Candidate Starts for Iwokeuplikedis_90:
(Start: 19 @49128 has 47 MA's), (25, 49092), (30, 49065), (35, 49044), (42, 49017), (47, 48993), (52, 48942),

Gene: Jeeves_88 Start: 47130, Stop: 46858, Start Num: 19
Candidate Starts for Jeeves_88:
(15, 47208), (Start: 18 @47145 has 10 MA's), (Start: 19 @47130 has 47 MA's), (30, 47067), (32, 47061), (41, 47019), (43, 47001), (49, 46965),

Gene: Jerm_88 Start: 49225, Stop: 48929, Start Num: 19
Candidate Starts for Jerm_88:
(7, 49375), (Start: 18 @49240 has 10 MA's), (Start: 19 @49225 has 47 MA's), (28, 49156), (39, 49111), (48, 49066), (49, 49057),

Gene: JoshKayV_88 Start: 49393, Stop: 49097, Start Num: 19
Candidate Starts for JoshKayV_88:
(Start: 19 @49393 has 47 MA's), (28, 49324), (39, 49279), (49, 49225), (54, 49129),

Gene: KingCyrus_85 Start: 50091, Stop: 49795, Start Num: 19
Candidate Starts for KingCyrus_85:
(Start: 18 @50106 has 10 MA's), (Start: 19 @50091 has 47 MA's), (28, 50022), (39, 49977), (48, 49932),

Gene: LadyBird_90 Start: 49324, Stop: 49019, Start Num: 18
Candidate Starts for LadyBird_90:
(Start: 18 @49324 has 10 MA's), (Start: 19 @49309 has 47 MA's), (30, 49243), (39, 49201), (48, 49156), (54, 49051),

Gene: Leviathan_88 Start: 49306, Stop: 49010, Start Num: 19
Candidate Starts for Leviathan_88:
(7, 49456), (Start: 18 @49321 has 10 MA's), (Start: 19 @49306 has 47 MA's), (28, 49237), (32, 49222), (39, 49192), (48, 49147), (49, 49138),

Gene: LilTurb_87 Start: 49102, Stop: 48806, Start Num: 19
Candidate Starts for LilTurb_87:
(7, 49252), (Start: 18 @49117 has 10 MA's), (Start: 19 @49102 has 47 MA's), (28, 49033), (39, 48988), (48, 48943), (49, 48934),

Gene: LionsBait_84 Start: 49616, Stop: 49320, Start Num: 19
Candidate Starts for LionsBait_84:
(Start: 19 @49616 has 47 MA's), (28, 49547), (39, 49502), (48, 49457),

Gene: LittleMinkey_71 Start: 56857, Stop: 56546, Start Num: 17
Candidate Starts for LittleMinkey_71:
(12, 56935), (Start: 17 @56857 has 3 MA's), (24, 56788),

Gene: Lokk_81 Start: 47110, Stop: 46880, Start Num: 19
Candidate Starts for Lokk_81:
(5, 47272), (Start: 18 @47125 has 10 MA's), (Start: 19 @47110 has 47 MA's), (38, 47047),

Gene: Luchador_85 Start: 48225, Stop: 47965, Start Num: 19
Candidate Starts for Luchador_85:
(Start: 19 @48225 has 47 MA's), (23, 48201), (30, 48162), (43, 48108),

Gene: Miko_81 Start: 47875, Stop: 47645, Start Num: 19
Candidate Starts for Miko_81:
(Start: 18 @47890 has 10 MA's), (Start: 19 @47875 has 47 MA's), (38, 47812),

Gene: NicoleTera_85 Start: 48705, Stop: 48442, Start Num: 19
Candidate Starts for NicoleTera_85:
(11, 48834), (Start: 18 @48720 has 10 MA's), (Start: 19 @48705 has 47 MA's), (23, 48666), (28, 48636), (30, 48627),

Gene: NothingSpecial_81 Start: 48512, Stop: 48231, Start Num: 19
Candidate Starts for NothingSpecial_81:
(4, 48719), (Start: 19 @48512 has 47 MA's), (23, 48473), (24, 48467), (28, 48443), (39, 48395), (50, 48332),

Gene: Odin_85 Start: 48071, Stop: 47814, Start Num: 18
Candidate Starts for Odin_85:
(Start: 18 @48071 has 10 MA's), (Start: 19 @48056 has 47 MA's), (44, 47957),

Gene: Power_86 Start: 49167, Stop: 48871, Start Num: 19
Candidate Starts for Power_86:
(8, 49311), (Start: 18 @49182 has 10 MA's), (Start: 19 @49167 has 47 MA's), (28, 49098), (39, 49053), (48, 49008), (55, 48900),

Gene: Prudy_84 Start: 48955, Stop: 48647, Start Num: 19
Candidate Starts for Prudy_84:
(6, 49102), (Start: 18 @48970 has 10 MA's), (Start: 19 @48955 has 47 MA's), (27, 48895), (28, 48886), (40, 48814), (48, 48763),

Gene: QueenB2_83 Start: 48257, Stop: 47961, Start Num: 19
Candidate Starts for QueenB2_83:
(8, 48401), (Start: 18 @48272 has 10 MA's), (Start: 19 @48257 has 47 MA's), (28, 48188), (39, 48143), (48, 48098), (55, 47990),

Gene: QueenBeesly_86 Start: 48964, Stop: 48668, Start Num: 19
Candidate Starts for QueenBeesly_86:
(Start: 18 @48979 has 10 MA's), (Start: 19 @48964 has 47 MA's), (28, 48895), (39, 48850), (48, 48805), (55, 48697),

Gene: Rachaly_83 Start: 48018, Stop: 47788, Start Num: 19
Candidate Starts for Rachaly_83:
(Start: 18 @48033 has 10 MA's), (Start: 19 @48018 has 47 MA's), (38, 47955),

Gene: Retro23_86 Start: 48647, Stop: 48384, Start Num: 19
Candidate Starts for Retro23_86:
(14, 48743), (Start: 18 @48662 has 10 MA's), (Start: 19 @48647 has 47 MA's), (24, 48602), (28, 48578),

Gene: Rinkes_60 Start: 56279, Stop: 55929, Start Num: 17
Candidate Starts for Rinkes_60:
(Start: 17 @56279 has 3 MA's), (33, 56165), (34, 56159), (37, 56153), (52, 56018), (56, 55943), (57, 55940),

Gene: SemperFi_86 Start: 48867, Stop: 48556, Start Num: 18
Candidate Starts for SemperFi_86:
(Start: 18 @48867 has 10 MA's), (Start: 19 @48852 has 47 MA's), (28, 48783), (39, 48738), (48, 48693), (55, 48585),

Gene: Smeagan_89 Start: 49397, Stop: 49101, Start Num: 19
Candidate Starts for Smeagan_89:
(7, 49547), (Start: 18 @49412 has 10 MA's), (Start: 19 @49397 has 47 MA's), (28, 49328), (39, 49283), (49, 49229),

Gene: SnapTap_86 Start: 48823, Stop: 48527, Start Num: 19
Candidate Starts for SnapTap_86:
(8, 48967), (Start: 18 @48838 has 10 MA's), (Start: 19 @48823 has 47 MA's), (28, 48754), (39, 48709), (48, 48664), (55, 48556),

Gene: Sunhee_87 Start: 46599, Stop: 46327, Start Num: 19
Candidate Starts for Sunhee_87:
(Start: 18 @46614 has 10 MA's), (Start: 19 @46599 has 47 MA's), (26, 46557), (30, 46536), (32, 46530), (41, 46488), (43, 46470),

Gene: SweetiePie_86 Start: 48971, Stop: 48660, Start Num: 18
Candidate Starts for SweetiePie_86:
(8, 49100), (Start: 18 @48971 has 10 MA's), (Start: 19 @48956 has 47 MA's), (28, 48887), (39, 48842), (48, 48797), (55, 48689),

Gene: TarsusIV_85 Start: 48814, Stop: 48545, Start Num: 19
Candidate Starts for TarsusIV_85:
(5, 48976), (Start: 18 @48829 has 10 MA's), (Start: 19 @48814 has 47 MA's), (23, 48775), (28, 48745),

Gene: Trooper_86 Start: 48532, Stop: 48263, Start Num: 19
Candidate Starts for Trooper_86:
(1, 48766), (10, 48667), (Start: 18 @48547 has 10 MA's), (Start: 19 @48532 has 47 MA's), (24, 48487), (28, 48463),

Gene: Turbido_87 Start: 49118, Stop: 48822, Start Num: 19
Candidate Starts for Turbido_87:
(7, 49268), (Start: 18 @49133 has 10 MA's), (Start: 19 @49118 has 47 MA's), (28, 49049), (39, 49004), (48, 48959), (49, 48950),

Gene: VA6_86 Start: 48761, Stop: 48450, Start Num: 18
Candidate Starts for VA6_86:

(Start: 18 @48761 has 10 MA's), (Start: 19 @48746 has 47 MA's), (24, 48701), (28, 48677), (39, 48632), (54, 48482),

Gene: Whabigail7_85 Start: 49116, Stop: 48820, Start Num: 19
Candidate Starts for Whabigail7_85:
(7, 49266), (Start: 18 @49131 has 10 MA's), (Start: 19 @49116 has 47 MA's), (28, 49047), (39, 49002), (48, 48957), (49, 48948),

Gene: XianYue_85 Start: 48882, Stop: 48607, Start Num: 19
Candidate Starts for XianYue_85:
(13, 48981), (Start: 18 @48897 has 10 MA's), (Start: 19 @48882 has 47 MA's), (28, 48837), (39, 48789),

Gene: Zenteno07_70 Start: 57108, Stop: 56800, Start Num: 17
Candidate Starts for Zenteno07_70:
(Start: 17 @57108 has 3 MA's), (36, 56994),

Gene: Zimmer_87 Start: 50279, Stop: 50019, Start Num: 21
Candidate Starts for Zimmer_87:
(Start: 18 @50306 has 10 MA's), (Start: 21 @50279 has 2 MA's), (30, 50222), (45, 50153), (46, 50150), (48, 50135), (52, 50090),