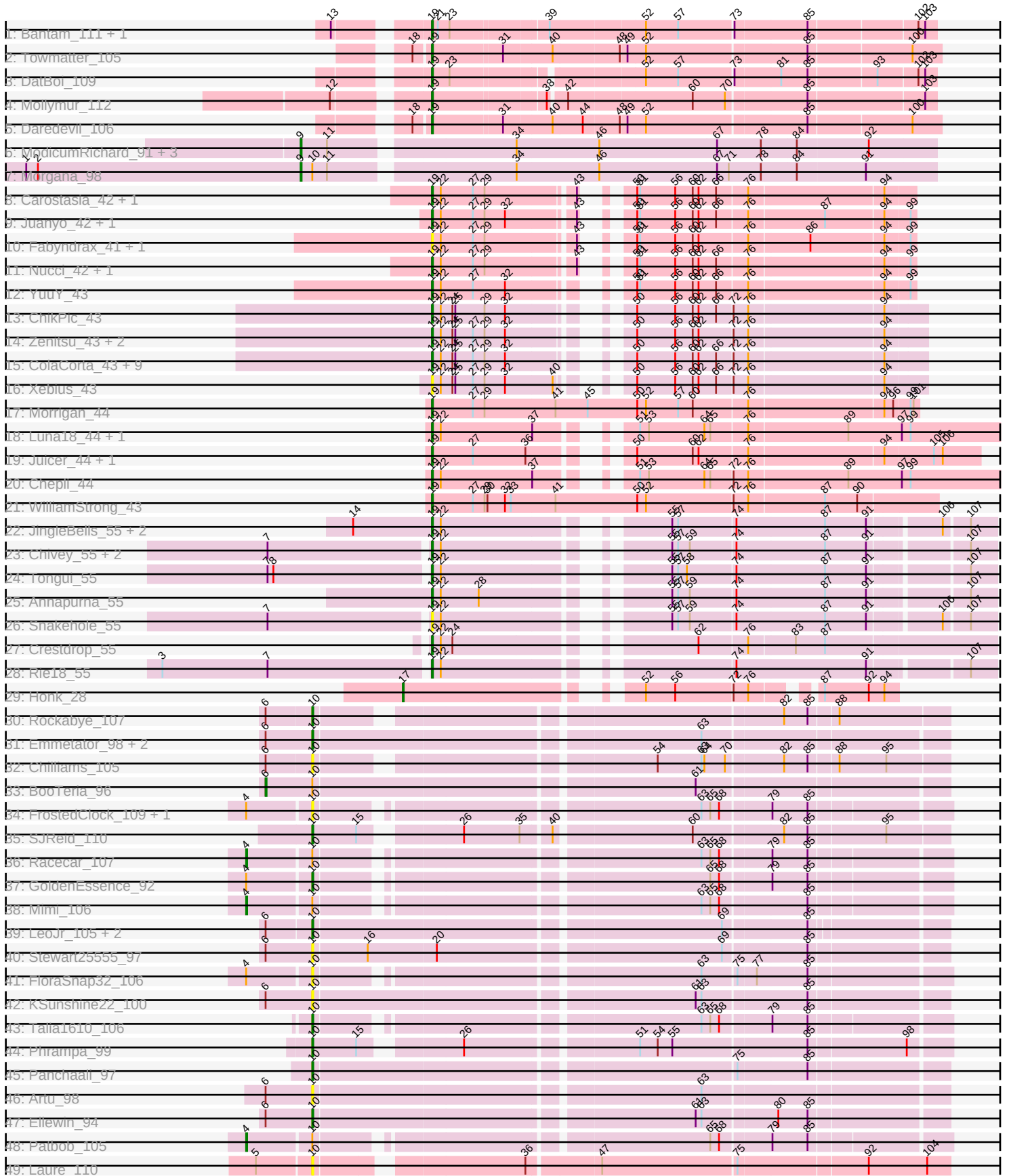


Pham 330757



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 330757 Report

This analysis was run 09/05/26 on database version 662.

Pham number 330757 has 79 members, 17 are drafts.

Phages represented in each track:

- Track 1 : Bantam_111, SpeedDemon_1130
- Track 2 : Towmatter_105
- Track 3 : DatBoi_109
- Track 4 : Mollymur_112
- Track 5 : Daredevil_106
- Track 6 : Modicum_Richard_91, Aleemily_90, Cafasso_91, ObLaDi_91
- Track 7 : Morgana_98
- Track 8 : Carostasia_42, Quartz_43
- Track 9 : Juanyo_42, MiniVolent_41
- Track 10 : Fabyndrax_41, Cidela_41
- Track 11 : Nucci_42, Mandalorian_42
- Track 12 : YuuY_43
- Track 13 : ChikPic_43
- Track 14 : Zenitsu_43, Sansa_42, MCubed_43
- Track 15 : ColaCorta_43, Orpington_44, Finny_44, Phanita_44, PSirce_43, Andromedas_43, Glamour_43, Shamu_44, Eleri_43, Saratos_43
- Track 16 : Xebius_43
- Track 17 : Morrigan_44
- Track 18 : Luna18_44, KatChan_44
- Track 19 : Juicer_44, Jemerald_44
- Track 20 : Chepli_44
- Track 21 : WilliamStrong_43
- Track 22 : JingleBells_55, DannyDe_55, FreddieHg_55
- Track 23 : Chivey_55, Hiddenleaf_55, SilentWarrior_55
- Track 24 : Tongui_55
- Track 25 : Annapurna_55
- Track 26 : Snakehole_55
- Track 27 : Crestdrop_55
- Track 28 : Rie18_55
- Track 29 : Honk_28
- Track 30 : Rockabye_107
- Track 31 : Emmetator_98, WaddleDee_93, DunneganBoMo_95
- Track 32 : Chilliams_105
- Track 33 : BooTeria_96
- Track 34 : FrostedClock_109, Bloom_110
- Track 35 : SJReid_110
- Track 36 : Racecar_107

- Track 37 : GoldenEssence_92
- Track 38 : Mimi_106
- Track 39 : LeoJr_105, ReginaGlobina_105, Atuin_100
- Track 40 : Stewart25555_97
- Track 41 : FloraSnap32_106
- Track 42 : KSunshine22_100
- Track 43 : Talia1610_106
- Track 44 : Phrampa_99
- Track 45 : Panchaali_97
- Track 46 : Artu_98
- Track 47 : Ellewin_94
- Track 48 : Patbob_105
- Track 49 : Laure_110

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 42 of the 62 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Andromedas_43, Annapurna_55, Bantam_111, Carostasia_42, Chepli_44, ChikPic_43, Chivey_55, Cidela_41, ColaCorta_43, Crestdrop_55, DannyDe_55, Daredevil_106, DatBoi_109, Eleri_43, Fabyndrax_41, Finny_44, FreddieHg_55, Glamour_43, Hiddenleaf_55, Jemerald_44, JingleBells_55, Juanyo_42, Juicer_44, KatChan_44, Luna18_44, MCubed_43, Mandalorian_42, MiniVolent_41, Mollymur_112, Morrigan_44, Nucci_42, Orpington_44, PSirce_43, Phanita_44, Quartz_43, Rie18_55, Sansa_42, Saratos_43, Shamu_44, SilentWarrior_55, Snakehole_55, SpeedDemon_1130, Tongui_55, Towmatter_105, WilliamStrong_43, Xebius_43, YuuY_43, Zenitsu_43,

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

-

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

- Aleemily_90, Artu_98, Atuin_100, Bloom_110, BooTeria_96, Cafasso_91, Chilliams_105, DunneganBoMo_95, Ellewin_94, Emmetator_98, FloraSnap32_106, FrostedClock_109, GoldenEssence_92, Honk_28, KSunshine22_100, Laure_110, LeoJr_105, Mimi_106, ModicumRichard_91, Morgana_98, ObLaDi_91, Panchaali_97, Patbob_105, Phrampa_99, Racecar_107, ReginaGlobina_105, Rockabye_107, SJReid_110, Stewart25555_97, Talia1610_106, WaddleDee_93,

Summary by start number:

Start 4:

- Found in 7 of 79 (8.9%) of genes in pham
- Manual Annotations of this start: 3 of 62
- Called 42.9% of time when present
- Phage (with cluster) where this start called: Mimi_106 (FC), Patbob_105 (FC), Racecar_107 (FC),

Start 6:

- Found in 13 of 79 (16.5%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 7.7% of time when present
- Phage (with cluster) where this start called: BooTeria_96 (FC),

Start 9:

- Found in 5 of 79 (6.3%) of genes in pham
- Manual Annotations of this start: 5 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Aleemily_90 (DZ), Cafasso_91 (DZ), ModicumRichard_91 (DZ), Morgana_98 (DZ), ObLaDi_91 (DZ),

Start 10:

- Found in 26 of 79 (32.9%) of genes in pham
- Manual Annotations of this start: 10 of 62
- Called 80.8% of time when present
- Phage (with cluster) where this start called: Artu_98 (FC), Atuin_100 (FC), Bloom_110 (FC), Chilliams_105 (FC), DunneganBoMo_95 (FC), Ellewin_94 (FC), Emmetator_98 (FC), FloraSnap32_106 (FC), FrostedClock_109 (FC), GoldenEssence_92 (FC), KSunshine22_100 (FC), Laure_110 (UNK), LeoJr_105 (FC), Panchaali_97 (FC), Phrampa_99 (FC), ReginaGlobina_105 (FC), Rockabye_107 (FC), SJReid_110 (FC), Stewart25555_97 (FC), Talia1610_106 (FC), WaddleDee_93 (FC),

Start 17:

- Found in 1 of 79 (1.3%) of genes in pham
- Manual Annotations of this start: 1 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Honk_28 (EH),

Start 19:

- Found in 48 of 79 (60.8%) of genes in pham
- Manual Annotations of this start: 42 of 62
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Andromedas_43 (EA2), Annapurna_55 (EF), Bantam_111 (DL), Carostasia_42 (EA10), Chepli_44 (EA6), ChikPic_43 (EA2), Chivey_55 (EF), Cidela_41 (EA10), ColaCorta_43 (EA2), Crestdrop_55 (EF), DannyDe_55 (EF), Daredevil_106 (DL), DatBoi_109 (DL), Eleri_43 (EA2), Fabyndrax_41 (EA10), Finny_44 (EA2), FreddieHg_55 (EF), Glamour_43 (EA2), Hiddenleaf_55 (EF), Jemerald_44 (EA6), JingleBells_55 (EF), Juanyo_42 (EA10), Juicer_44 (EA6), KatChan_44 (EA6), Luna18_44 (EA6), MCubed_43 (EA2), Mandalorian_42 (EA10), MiniVolent_41 (EA10), Mollymur_112 (DL), Morrigan_44 (EA6), Nucci_42 (EA10), Orpington_44 (EA2), PSirce_43 (EA2), Phanita_44 (EA2), Quartz_43 (EA10), Rie18_55 (EF), Sansa_42 (EA2), Saratos_43 (EA2), Shamu_44 (EA2), SilentWarrior_55 (EF), Snakehole_55 (EF), SpeedDemon_1130 (DL), Tongui_55 (EF), Towmatter_105 (DL), WilliamStrong_43 (EA6), Xebius_43 (EA2), YuuY_43 (EA10), Zenitsu_43 (EA2),

Summary by clusters:

There are 9 clusters represented in this pham: DL, UNK, EA10, EF, EH, FC, DZ, EA2, EA6,

Info for manual annotations of cluster DL:

- Start number 19 was manually annotated 6 times for cluster DL.

Info for manual annotations of cluster DZ:

- Start number 9 was manually annotated 5 times for cluster DZ.

Info for manual annotations of cluster EA10:

- Start number 19 was manually annotated 6 times for cluster EA10.

Info for manual annotations of cluster EA2:

- Start number 19 was manually annotated 13 times for cluster EA2.

Info for manual annotations of cluster EA6:

- Start number 19 was manually annotated 7 times for cluster EA6.

Info for manual annotations of cluster EF:

- Start number 19 was manually annotated 10 times for cluster EF.

Info for manual annotations of cluster EH:

- Start number 17 was manually annotated 1 time for cluster EH.

Info for manual annotations of cluster FC:

- Start number 4 was manually annotated 3 times for cluster FC.
- Start number 6 was manually annotated 1 time for cluster FC.
- Start number 10 was manually annotated 10 times for cluster FC.

Gene Information:

Gene: Aleemily_90 Start: 53699, Stop: 54325, Start Num: 9

Candidate Starts for Aleemily_90:

(Start: 9 @53699 has 5 MA's), (11, 53726), (34, 53900), (46, 53984), (67, 54104), (78, 54149), (84, 54185), (92, 54257),

Gene: Andromedas_43 Start: 31962, Stop: 31519, Start Num: 19

Candidate Starts for Andromedas_43:

(Start: 19 @31962 has 42 MA's), (22, 31953), (24, 31941), (25, 31938), (27, 31920), (29, 31908), (32, 31887), (50, 31803), (56, 31764), (60, 31746), (62, 31740), (66, 31722), (72, 31707), (76, 31692), (94, 31560),

Gene: Annapurna_55 Start: 39067, Stop: 39576, Start Num: 19

Candidate Starts for Annapurna_55:

(Start: 19 @39067 has 42 MA's), (22, 39076), (28, 39115), (55, 39265), (57, 39271), (59, 39283), (74, 39328), (87, 39418), (91, 39460), (107, 39550),

Gene: Artu_98 Start: 82489, Stop: 83100, Start Num: 10

Candidate Starts for Artu_98:

(Start: 6 @82441 has 1 MA's), (Start: 10 @82489 has 10 MA's), (63, 82864),

Gene: Atuin_100 Start: 85986, Stop: 86594, Start Num: 10

Candidate Starts for Atuin_100:

(Start: 6 @85941 has 1 MA's), (Start: 10 @85986 has 10 MA's), (69, 86382), (85, 86463),

Gene: Bantam_111 Start: 70960, Stop: 71445, Start Num: 19

Candidate Starts for Bantam_111:

(13, 70882), (Start: 19 @70960 has 42 MA's), (21, 70966), (23, 70978), (39, 71071), (52, 71164), (57, 71197), (73, 71251), (85, 71323), (102, 71428), (103, 71434),

Gene: Bloom_110 Start: 86089, Stop: 86679, Start Num: 10

Candidate Starts for Bloom_110:

(Start: 4 @86026 has 3 MA's), (Start: 10 @86089 has 10 MA's), (63, 86443), (65, 86452), (68, 86461), (79, 86509), (85, 86545),

Gene: BooTeria_96 Start: 82554, Stop: 83213, Start Num: 6

Candidate Starts for BooTeria_96:

(Start: 6 @82554 has 1 MA's), (Start: 10 @82602 has 10 MA's), (61, 82971),

Gene: Cafasso_91 Start: 53851, Stop: 54477, Start Num: 9

Candidate Starts for Cafasso_91:

(Start: 9 @53851 has 5 MA's), (11, 53878), (34, 54052), (46, 54136), (67, 54256), (78, 54301), (84, 54337), (92, 54409),

Gene: Carostasia_42 Start: 31495, Stop: 31064, Start Num: 19

Candidate Starts for Carostasia_42:

(Start: 19 @31495 has 42 MA's), (22, 31486), (27, 31453), (29, 31441), (43, 31357), (50, 31336), (51, 31333), (56, 31297), (60, 31279), (62, 31273), (66, 31255), (76, 31225), (94, 31093),

Gene: Chepli_44 Start: 31401, Stop: 30856, Start Num: 19

Candidate Starts for Chepli_44:

(Start: 19 @31401 has 42 MA's), (22, 31392), (37, 31299), (51, 31236), (53, 31227), (64, 31170), (65, 31164), (72, 31143), (76, 31128), (89, 31029), (97, 30975), (99, 30966),

Gene: ChikPic_43 Start: 31816, Stop: 31373, Start Num: 19

Candidate Starts for ChikPic_43:

(Start: 19 @31816 has 42 MA's), (22, 31807), (24, 31795), (25, 31792), (29, 31762), (32, 31741), (50, 31657), (56, 31618), (60, 31600), (62, 31594), (66, 31576), (72, 31561), (76, 31546), (94, 31414),

Gene: Chilliams_105 Start: 78852, Stop: 79442, Start Num: 10

Candidate Starts for Chilliams_105:

(Start: 6 @78807 has 1 MA's), (Start: 10 @78852 has 10 MA's), (54, 79158), (63, 79203), (64, 79206), (70, 79227), (82, 79281), (85, 79305), (88, 79332), (95, 79380),

Gene: Chivey_55 Start: 39021, Stop: 39530, Start Num: 19

Candidate Starts for Chivey_55:

(7, 38862), (Start: 19 @39021 has 42 MA's), (22, 39030), (55, 39219), (57, 39225), (59, 39237), (74, 39282), (87, 39372), (91, 39414), (107, 39504),

Gene: Cidela_41 Start: 32538, Stop: 32107, Start Num: 19

Candidate Starts for Cidela_41:

(Start: 19 @32538 has 42 MA's), (22, 32529), (27, 32496), (29, 32484), (43, 32400), (50, 32379), (51, 32376), (56, 32340), (60, 32322), (62, 32316), (76, 32268), (86, 32208), (94, 32136), (99, 32112),

Gene: ColaCorta_43 Start: 31962, Stop: 31519, Start Num: 19

Candidate Starts for ColaCorta_43:

(Start: 19 @31962 has 42 MA's), (22, 31953), (24, 31941), (25, 31938), (27, 31920), (29, 31908), (32, 31887), (50, 31803), (56, 31764), (60, 31746), (62, 31740), (66, 31722), (72, 31707), (76, 31692), (94, 31560),

Gene: Crestdrop_55 Start: 39188, Stop: 39706, Start Num: 19

Candidate Starts for Crestdrop_55:

(Start: 19 @39188 has 42 MA's), (22, 39197), (24, 39209), (62, 39413), (76, 39461), (83, 39506), (87, 39536),

Gene: DannyDe_55 Start: 39022, Stop: 39531, Start Num: 19

Candidate Starts for DannyDe_55:

(14, 38941), (Start: 19 @39022 has 42 MA's), (22, 39031), (55, 39220), (57, 39226), (74, 39283), (87, 39373), (91, 39415), (106, 39481), (107, 39505),

Gene: Daredevil_106 Start: 67803, Stop: 68300, Start Num: 19

Candidate Starts for Daredevil_106:

(18, 67788), (Start: 19 @67803 has 42 MA's), (31, 67872), (40, 67920), (44, 67950), (48, 67986), (49, 67992), (52, 68010), (85, 68169), (100, 68271),

Gene: DatBoi_109 Start: 70430, Stop: 70906, Start Num: 19

Candidate Starts for DatBoi_109:

(Start: 19 @70430 has 42 MA's), (23, 70448), (52, 70625), (57, 70658), (73, 70712), (81, 70757), (85, 70784), (93, 70850), (102, 70889), (103, 70895),

Gene: DunneganBoMo_95 Start: 81871, Stop: 82482, Start Num: 10

Candidate Starts for DunneganBoMo_95:

(Start: 6 @81823 has 1 MA's), (Start: 10 @81871 has 10 MA's), (63, 82246),

Gene: Eleri_43 Start: 31806, Stop: 31363, Start Num: 19

Candidate Starts for Eleri_43:

(Start: 19 @31806 has 42 MA's), (22, 31797), (24, 31785), (25, 31782), (27, 31764), (29, 31752), (32, 31731), (50, 31647), (56, 31608), (60, 31590), (62, 31584), (66, 31566), (72, 31551), (76, 31536), (94, 31404),

Gene: Ellewin_94 Start: 81282, Stop: 81893, Start Num: 10

Candidate Starts for Ellewin_94:

(Start: 6 @81234 has 1 MA's), (Start: 10 @81282 has 10 MA's), (61, 81651), (63, 81657), (80, 81729), (85, 81759),

Gene: Emmetator_98 Start: 81826, Stop: 82437, Start Num: 10

Candidate Starts for Emmetator_98:

(Start: 6 @81778 has 1 MA's), (Start: 10 @81826 has 10 MA's), (63, 82201),

Gene: Fabyndrax_41 Start: 32550, Stop: 32119, Start Num: 19

Candidate Starts for Fabyndrax_41:

(Start: 19 @32550 has 42 MA's), (22, 32541), (27, 32508), (29, 32496), (43, 32412), (50, 32391), (51, 32388), (56, 32352), (60, 32334), (62, 32328), (76, 32280), (86, 32220), (94, 32148), (99, 32124),

Gene: Finny_44 Start: 31800, Stop: 31357, Start Num: 19

Candidate Starts for Finny_44:

(Start: 19 @31800 has 42 MA's), (22, 31791), (24, 31779), (25, 31776), (27, 31758), (29, 31746), (32, 31725), (50, 31641), (56, 31602), (60, 31584), (62, 31578), (66, 31560), (72, 31545), (76, 31530), (94,

31398),

Gene: FloraSnap32_106 Start: 84986, Stop: 85579, Start Num: 10

Candidate Starts for FloraSnap32_106:

(Start: 4 @84923 has 3 MA's), (Start: 10 @84986 has 10 MA's), (63, 85340), (75, 85373), (77, 85391), (85, 85442),

Gene: FreddieHg_55 Start: 39038, Stop: 39547, Start Num: 19

Candidate Starts for FreddieHg_55:

(14, 38957), (Start: 19 @39038 has 42 MA's), (22, 39047), (55, 39236), (57, 39242), (74, 39299), (87, 39389), (91, 39431), (106, 39497), (107, 39521),

Gene: FrostedClock_109 Start: 86286, Stop: 86876, Start Num: 10

Candidate Starts for FrostedClock_109:

(Start: 4 @86223 has 3 MA's), (Start: 10 @86286 has 10 MA's), (63, 86640), (65, 86649), (68, 86658), (79, 86706), (85, 86742),

Gene: Glamour_43 Start: 31954, Stop: 31511, Start Num: 19

Candidate Starts for Glamour_43:

(Start: 19 @31954 has 42 MA's), (22, 31945), (24, 31933), (25, 31930), (27, 31912), (29, 31900), (32, 31879), (50, 31795), (56, 31756), (60, 31738), (62, 31732), (66, 31714), (72, 31699), (76, 31684), (94, 31552),

Gene: GoldenEssence_92 Start: 79881, Stop: 80471, Start Num: 10

Candidate Starts for GoldenEssence_92:

(Start: 4 @79818 has 3 MA's), (Start: 10 @79881 has 10 MA's), (65, 80244), (68, 80253), (79, 80301), (85, 80337),

Gene: Hiddenleaf_55 Start: 39021, Stop: 39530, Start Num: 19

Candidate Starts for Hiddenleaf_55:

(7, 38862), (Start: 19 @39021 has 42 MA's), (22, 39030), (55, 39219), (57, 39225), (59, 39237), (74, 39282), (87, 39372), (91, 39414), (107, 39504),

Gene: Honk_28 Start: 20768, Stop: 21193, Start Num: 17

Candidate Starts for Honk_28:

(Start: 17 @20768 has 1 MA's), (52, 20966), (56, 20996), (72, 21053), (76, 21068), (87, 21119), (92, 21164), (94, 21179),

Gene: Jemerald_44 Start: 32468, Stop: 31968, Start Num: 19

Candidate Starts for Jemerald_44:

(Start: 19 @32468 has 42 MA's), (27, 32426), (36, 32372), (50, 32306), (60, 32249), (62, 32243), (76, 32195), (94, 32063), (105, 32015), (106, 32006),

Gene: JingleBells_55 Start: 39130, Stop: 39639, Start Num: 19

Candidate Starts for JingleBells_55:

(14, 39049), (Start: 19 @39130 has 42 MA's), (22, 39139), (55, 39328), (57, 39334), (74, 39391), (87, 39481), (91, 39523), (106, 39589), (107, 39613),

Gene: Juanyo_42 Start: 31426, Stop: 30995, Start Num: 19

Candidate Starts for Juanyo_42:

(Start: 19 @31426 has 42 MA's), (22, 31417), (27, 31384), (29, 31372), (32, 31351), (43, 31288), (50, 31267), (51, 31264), (56, 31228), (60, 31210), (62, 31204), (66, 31186), (76, 31156), (87, 31081), (94, 31024), (99, 31000),

Gene: Juicer_44 Start: 32468, Stop: 31968, Start Num: 19

Candidate Starts for Juicer_44:

(Start: 19 @32468 has 42 MA's), (27, 32426), (36, 32372), (50, 32306), (60, 32249), (62, 32243), (76, 32195), (94, 32063), (105, 32015), (106, 32006),

Gene: KSunshine22_100 Start: 82883, Stop: 83494, Start Num: 10

Candidate Starts for KSunshine22_100:

(Start: 6 @82835 has 1 MA's), (Start: 10 @82883 has 10 MA's), (61, 83252), (63, 83258), (85, 83360),

Gene: KatChan_44 Start: 31413, Stop: 30868, Start Num: 19

Candidate Starts for KatChan_44:

(Start: 19 @31413 has 42 MA's), (22, 31404), (37, 31311), (51, 31248), (53, 31239), (64, 31182), (65, 31176), (76, 31140), (89, 31041), (97, 30987), (99, 30978),

Gene: Laure_110 Start: 78788, Stop: 79390, Start Num: 10

Candidate Starts for Laure_110:

(5, 78734), (Start: 10 @78788 has 10 MA's), (36, 78977), (47, 79046), (75, 79181), (92, 79307), (104, 79367),

Gene: LeoJr_105 Start: 86221, Stop: 86829, Start Num: 10

Candidate Starts for LeoJr_105:

(Start: 6 @86176 has 1 MA's), (Start: 10 @86221 has 10 MA's), (69, 86617), (85, 86698),

Gene: Luna18_44 Start: 31413, Stop: 30868, Start Num: 19

Candidate Starts for Luna18_44:

(Start: 19 @31413 has 42 MA's), (22, 31404), (37, 31311), (51, 31248), (53, 31239), (64, 31182), (65, 31176), (76, 31140), (89, 31041), (97, 30987), (99, 30978),

Gene: MCubed_43 Start: 31831, Stop: 31388, Start Num: 19

Candidate Starts for MCubed_43:

(Start: 19 @31831 has 42 MA's), (22, 31822), (24, 31810), (25, 31807), (27, 31789), (29, 31777), (32, 31756), (50, 31672), (56, 31633), (60, 31615), (62, 31609), (72, 31576), (76, 31561), (94, 31429),

Gene: Mandalorian_42 Start: 31505, Stop: 31074, Start Num: 19

Candidate Starts for Mandalorian_42:

(Start: 19 @31505 has 42 MA's), (22, 31496), (27, 31463), (29, 31451), (43, 31367), (50, 31346), (51, 31343), (56, 31307), (60, 31289), (62, 31283), (66, 31265), (76, 31235), (94, 31103), (99, 31079),

Gene: Mimi_106 Start: 85373, Stop: 86026, Start Num: 4

Candidate Starts for Mimi_106:

(Start: 4 @85373 has 3 MA's), (Start: 10 @85436 has 10 MA's), (63, 85790), (65, 85799), (68, 85808), (85, 85892),

Gene: MiniVolent_41 Start: 31388, Stop: 30957, Start Num: 19

Candidate Starts for MiniVolent_41:

(Start: 19 @31388 has 42 MA's), (22, 31379), (27, 31346), (29, 31334), (32, 31313), (43, 31250), (50, 31229), (51, 31226), (56, 31190), (60, 31172), (62, 31166), (66, 31148), (76, 31118), (87, 31043), (94, 30986), (99, 30962),

Gene: ModicumRichard_91 Start: 53919, Stop: 54545, Start Num: 9

Candidate Starts for ModicumRichard_91:

(Start: 9 @53919 has 5 MA's), (11, 53946), (34, 54120), (46, 54204), (67, 54324), (78, 54369), (84, 54405), (92, 54477),

Gene: Mollymur_112 Start: 71742, Stop: 72224, Start Num: 19

Candidate Starts for Mollymur_112:

(12, 71661), (Start: 19 @71742 has 42 MA's), (38, 71850), (42, 71865), (60, 71988), (70, 72021), (85, 72099), (103, 72213),

Gene: Morgana_98 Start: 56101, Stop: 56727, Start Num: 9

Candidate Starts for Morgana_98:

(1, 55819), (2, 55831), (Start: 9 @56101 has 5 MA's), (Start: 10 @56113 has 10 MA's), (11, 56128), (34, 56302), (46, 56386), (67, 56506), (71, 56518), (78, 56551), (84, 56587), (91, 56656),

Gene: Morrigan_44 Start: 31356, Stop: 30871, Start Num: 19

Candidate Starts for Morrigan_44:

(Start: 19 @31356 has 42 MA's), (27, 31314), (29, 31302), (41, 31230), (45, 31197), (50, 31146), (52, 31137), (57, 31104), (60, 31089), (76, 31035), (94, 30903), (96, 30894), (99, 30879), (101, 30876),

Gene: Nucci_42 Start: 31488, Stop: 31057, Start Num: 19

Candidate Starts for Nucci_42:

(Start: 19 @31488 has 42 MA's), (22, 31479), (27, 31446), (29, 31434), (43, 31350), (50, 31329), (51, 31326), (56, 31290), (60, 31272), (62, 31266), (66, 31248), (76, 31218), (94, 31086), (99, 31062),

Gene: ObLaDi_91 Start: 53945, Stop: 54571, Start Num: 9

Candidate Starts for ObLaDi_91:

(Start: 9 @53945 has 5 MA's), (11, 53972), (34, 54146), (46, 54230), (67, 54350), (78, 54395), (84, 54431), (92, 54503),

Gene: Orpington_44 Start: 31970, Stop: 31527, Start Num: 19

Candidate Starts for Orpington_44:

(Start: 19 @31970 has 42 MA's), (22, 31961), (24, 31949), (25, 31946), (27, 31928), (29, 31916), (32, 31895), (50, 31811), (56, 31772), (60, 31754), (62, 31748), (66, 31730), (72, 31715), (76, 31700), (94, 31568),

Gene: PSirce_43 Start: 31961, Stop: 31518, Start Num: 19

Candidate Starts for PSirce_43:

(Start: 19 @31961 has 42 MA's), (22, 31952), (24, 31940), (25, 31937), (27, 31919), (29, 31907), (32, 31886), (50, 31802), (56, 31763), (60, 31745), (62, 31739), (66, 31721), (72, 31706), (76, 31691), (94, 31559),

Gene: Panchaali_97 Start: 82860, Stop: 83471, Start Num: 10

Candidate Starts for Panchaali_97:

(Start: 10 @82860 has 10 MA's), (75, 83268), (85, 83337),

Gene: Patbob_105 Start: 86108, Stop: 86761, Start Num: 4

Candidate Starts for Patbob_105:

(Start: 4 @86108 has 3 MA's), (Start: 10 @86171 has 10 MA's), (65, 86534), (68, 86543), (79, 86591), (85, 86627),

Gene: Phanita_44 Start: 31743, Stop: 31300, Start Num: 19

Candidate Starts for Phanita_44:

(Start: 19 @31743 has 42 MA's), (22, 31734), (24, 31722), (25, 31719), (27, 31701), (29, 31689), (32, 31668), (50, 31584), (56, 31545), (60, 31527), (62, 31521), (66, 31503), (72, 31488), (76, 31473), (94,

31341),

Gene: Phrampa_99 Start: 87574, Stop: 88167, Start Num: 10

Candidate Starts for Phrampa_99:

(Start: 10 @87574 has 10 MA's), (15, 87619), (26, 87703), (51, 87865), (54, 87883), (55, 87898), (85, 88030), (98, 88126),

Gene: Quartz_43 Start: 31618, Stop: 31187, Start Num: 19

Candidate Starts for Quartz_43:

(Start: 19 @31618 has 42 MA's), (22, 31609), (27, 31576), (29, 31564), (43, 31480), (50, 31459), (51, 31456), (56, 31420), (60, 31402), (62, 31396), (66, 31378), (76, 31348), (94, 31216),

Gene: Racecar_107 Start: 86026, Stop: 86679, Start Num: 4

Candidate Starts for Racecar_107:

(Start: 4 @86026 has 3 MA's), (Start: 10 @86089 has 10 MA's), (63, 86443), (65, 86452), (68, 86461), (79, 86509), (85, 86545),

Gene: ReginaGlobina_105 Start: 85786, Stop: 86394, Start Num: 10

Candidate Starts for ReginaGlobina_105:

(Start: 6 @85741 has 1 MA's), (Start: 10 @85786 has 10 MA's), (69, 86182), (85, 86263),

Gene: Rie18_55 Start: 39472, Stop: 39981, Start Num: 19

Candidate Starts for Rie18_55:

(3, 39205), (7, 39313), (Start: 19 @39472 has 42 MA's), (22, 39481), (74, 39733), (91, 39865), (107, 39955),

Gene: Rockabye_107 Start: 79290, Stop: 79880, Start Num: 10

Candidate Starts for Rockabye_107:

(Start: 6 @79245 has 1 MA's), (Start: 10 @79290 has 10 MA's), (82, 79719), (85, 79743), (88, 79770),

Gene: SJReid_110 Start: 78336, Stop: 78929, Start Num: 10

Candidate Starts for SJReid_110:

(Start: 10 @78336 has 10 MA's), (15, 78381), (26, 78465), (35, 78522), (40, 78549), (60, 78681), (82, 78768), (85, 78792), (95, 78867),

Gene: Sansa_42 Start: 32036, Stop: 31593, Start Num: 19

Candidate Starts for Sansa_42:

(Start: 19 @32036 has 42 MA's), (22, 32027), (24, 32015), (25, 32012), (27, 31994), (29, 31982), (32, 31961), (50, 31877), (56, 31838), (60, 31820), (62, 31814), (72, 31781), (76, 31766), (94, 31634),

Gene: Saratos_43 Start: 31791, Stop: 31348, Start Num: 19

Candidate Starts for Saratos_43:

(Start: 19 @31791 has 42 MA's), (22, 31782), (24, 31770), (25, 31767), (27, 31749), (29, 31737), (32, 31716), (50, 31632), (56, 31593), (60, 31575), (62, 31569), (66, 31551), (72, 31536), (76, 31521), (94, 31389),

Gene: Shamu_44 Start: 31970, Stop: 31527, Start Num: 19

Candidate Starts for Shamu_44:

(Start: 19 @31970 has 42 MA's), (22, 31961), (24, 31949), (25, 31946), (27, 31928), (29, 31916), (32, 31895), (50, 31811), (56, 31772), (60, 31754), (62, 31748), (66, 31730), (72, 31715), (76, 31700), (94, 31568),

Gene: SilentWarrior_55 Start: 38991, Stop: 39500, Start Num: 19

Candidate Starts for SilentWarrior_55:

(7, 38832), (Start: 19 @38991 has 42 MA's), (22, 39000), (55, 39189), (57, 39195), (59, 39207), (74, 39252), (87, 39342), (91, 39384), (107, 39474),

Gene: Snakehole_55 Start: 38999, Stop: 39508, Start Num: 19

Candidate Starts for Snakehole_55:

(7, 38840), (Start: 19 @38999 has 42 MA's), (22, 39008), (55, 39197), (57, 39203), (59, 39215), (74, 39260), (87, 39350), (91, 39392), (106, 39458), (107, 39482),

Gene: SpeedDemon_1130 Start: 73480, Stop: 73965, Start Num: 19

Candidate Starts for SpeedDemon_1130:

(13, 73402), (Start: 19 @73480 has 42 MA's), (21, 73486), (23, 73498), (39, 73591), (52, 73684), (57, 73717), (73, 73771), (85, 73843), (102, 73948), (103, 73954),

Gene: Stewart25555_97 Start: 82605, Stop: 83216, Start Num: 10

Candidate Starts for Stewart25555_97:

(Start: 6 @82557 has 1 MA's), (Start: 10 @82605 has 10 MA's), (16, 82659), (20, 82728), (69, 83001), (85, 83082),

Gene: Talia1610_106 Start: 85455, Stop: 86045, Start Num: 10

Candidate Starts for Talia1610_106:

(Start: 10 @85455 has 10 MA's), (63, 85809), (65, 85818), (68, 85827), (79, 85875), (85, 85911),

Gene: Tongui_55 Start: 39387, Stop: 39896, Start Num: 19

Candidate Starts for Tongui_55:

(7, 39228), (8, 39234), (Start: 19 @39387 has 42 MA's), (22, 39396), (55, 39585), (57, 39591), (58, 39600), (74, 39648), (87, 39738), (91, 39780), (107, 39870),

Gene: Towmatter_105 Start: 67885, Stop: 68382, Start Num: 19

Candidate Starts for Towmatter_105:

(18, 67870), (Start: 19 @67885 has 42 MA's), (31, 67954), (40, 68002), (48, 68068), (49, 68074), (52, 68092), (85, 68251), (100, 68353),

Gene: WaddleDee_93 Start: 81057, Stop: 81668, Start Num: 10

Candidate Starts for WaddleDee_93:

(Start: 6 @81009 has 1 MA's), (Start: 10 @81057 has 10 MA's), (63, 81432),

Gene: WilliamStrong_43 Start: 31938, Stop: 31432, Start Num: 19

Candidate Starts for WilliamStrong_43:

(Start: 19 @31938 has 42 MA's), (27, 31896), (29, 31884), (30, 31881), (32, 31863), (33, 31857), (41, 31812), (50, 31728), (52, 31719), (72, 31632), (76, 31617), (87, 31542), (90, 31509),

Gene: Xebius_43 Start: 31794, Stop: 31351, Start Num: 19

Candidate Starts for Xebius_43:

(Start: 19 @31794 has 42 MA's), (22, 31785), (24, 31773), (25, 31770), (27, 31752), (29, 31740), (32, 31719), (40, 31671), (50, 31635), (56, 31596), (60, 31578), (62, 31572), (66, 31554), (72, 31539), (76, 31524), (94, 31392),

Gene: YuuY_43 Start: 32085, Stop: 31654, Start Num: 19

Candidate Starts for YuuY_43:

(Start: 19 @32085 has 42 MA's), (22, 32076), (27, 32043), (32, 32010), (50, 31926), (51, 31923), (56, 31887), (60, 31869), (62, 31863), (66, 31845), (76, 31815), (94, 31683), (99, 31659),

Gene: Zenitsu_43 Start: 31836, Stop: 31393, Start Num: 19

Candidate Starts for Zenitsu_43:

(Start: 19 @31836 has 42 MA's), (22, 31827), (24, 31815), (25, 31812), (27, 31794), (29, 31782), (32, 31761), (50, 31677), (56, 31638), (60, 31620), (62, 31614), (72, 31581), (76, 31566), (94, 31434),