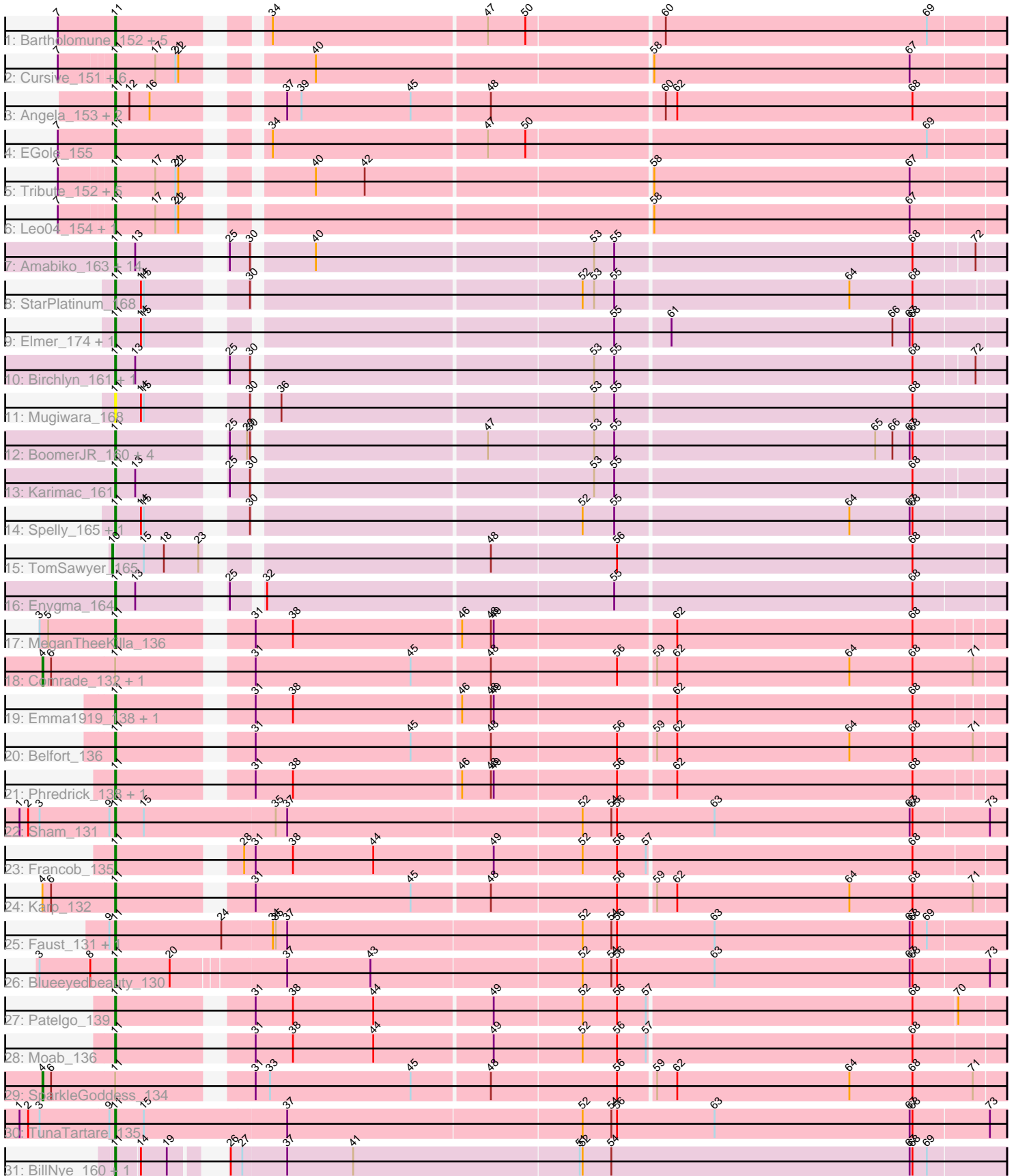


Pham 159154



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 159154 Report

This analysis was run 04/28/24 on database version 559.

Pham number 159154 has 76 members, 12 are drafts.

Phages represented in each track:

- Track 1 : Bartholomune_152, Squillium_152, NootNoot_149, Paradiddles_148, PinkiePie_149, Liandry_152
- Track 2 : Cursive_151, BlueOtter_155, HangryHippo_155, Cross_153, Lululemon_154, Watermoore_152, PacManQ_154
- Track 3 : Angela_153, MulchMansion_153, LilMartin_151
- Track 4 : EGole_155
- Track 5 : Tribute_152, Sushi23_152, Teutsch_152, Samisti12_154, Larnav_160, Peebs_150
- Track 6 : Leo04_154, Pepperwood_152
- Track 7 : Amabiko_163, Starbow_160, JimJam_168, CeilingFan_171, Bordeaux_161, Jollison_168, Quaran19_163, Battuta_162, IchabodCrane_157, SaltySpitoon_163, Spilled_167, KentuckyRacer_171, Gibbi_170, PumpkinSpice_165, MindFlayer_157
- Track 8 : StarPlatinum_168
- Track 9 : Elmer_174, Wofford_157
- Track 10 : Birchlyn_161, Wipeout_156
- Track 11 : Mugiwara_168
- Track 12 : BoomerJR_160, Sollertia_160, Stanimal_158, Genie2_160, Yaboi_161
- Track 13 : Karimac_161
- Track 14 : Spelly_165, LukeCage_162
- Track 15 : TomSawyer_165
- Track 16 : Enygma_164
- Track 17 : MeganTheeKilla_136
- Track 18 : Comrade_132, Stigma_133
- Track 19 : Emma1919_138, Gilson_138
- Track 20 : Belfort_136
- Track 21 : Phredrick_138, Kenrey_141
- Track 22 : Sham_131
- Track 23 : Francob_135
- Track 24 : Karp_132
- Track 25 : Faust_131, SeresaTree_132
- Track 26 : Blueeyedbeauty_130
- Track 27 : Patelgo_139
- Track 28 : Moab_136
- Track 29 : SparkleGoddess_134
- Track 30 : TunaTartare_135
- Track 31 : BillNye_160, Circinus_161

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

The start number called the most often in the published annotations is 11, it was called in 60 of the 64 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amabiko_163, Angela_153, Bartholomune_152, Battuta_162, Belfort_136, BillNye_160, Birchlyn_161, BlueOtter_155, Blueeyedbeauty_130, BoomerJR_160, Bordeaux_161, CeilingFan_171, Circinus_161, Cross_153, Cursive_151, EGole_155, Elmer_174, Emma1919_138, Enygma_164, Faust_131, Francob_135, Genie2_160, Gibbi_170, Gilson_138, HangryHippo_155, IchabodCrane_157, JimJam_168, Jollison_168, Karimac_161, Karp_132, Kenrey_141, KentuckyRacer_171, Larnav_160, Leo04_154, Liandry_152, LilMartin_151, LukeCage_162, Lululemon_154, MeganTheeKilla_136, MindFlayer_157, Moab_136, Mugiwara_168, MulchMansion_153, NootNoot_149, PacManQ_154, Paradiddles_148, Patelgo_139, Peebs_150, Pepperwood_152, Phredrick_138, PinkiePie_149, PumpkinSpice_165, Quarant19_163, SaltySpittoon_163, Samisti12_154, SeresaTree_132, Sham_131, Sollertia_160, Spelly_165, Spilled_167, Squillium_152, Stanimal_158, StarPlatinum_168, Starbow_160, Sushi23_152, Teutsch_152, Tribute_152, TunaTartare_135, Watermoore_152, Wipeout_156, Wofford_157, Yaboi_161,

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

- Comrade_132, SparkleGoddess_134, Stigma_133,

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

- TomSawyer_165,

Summary by start number:

Start 4:

- Found in 4 of 76 (5.3%) of genes in pham
- Manual Annotations of this start: 3 of 64
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Comrade_132 (BK1), SparkleGoddess_134 (BK1), Stigma_133 (BK1),

Start 10:

- Found in 1 of 76 (1.3%) 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: TomSawyer_165 (BE2),

Start 11:

- Found in 75 of 76 (98.7%) of genes in pham
- Manual Annotations of this start: 60 of 64
- Called 96.0% of time when present
- Phage (with cluster) where this start called: Amabiko_163 (BE2), Angela_153 (BE1), Bartholomune_152 (BE1), Battuta_162 (BE2), Belfort_136 (BK1), BillNye_160 (BK2), Birchlyn_161 (BE2), BlueOtter_155 (BE1), Blueeyedbeauty_130 (BK1),

BoomerJR_160 (BE2), Bordeaux_161 (BE2), CeilingFan_171 (BE2), Circinus_161 (BK2), Cross_153 (BE1), Cursive_151 (BE1), EGole_155 (BE1), Elmer_174 (BE2), Emma1919_138 (BK1), Enygma_164 (BE2), Faust_131 (BK1), Francob_135 (BK1), Genie2_160 (BE2), Gibbi_170 (BE2), Gilson_138 (BK1), HangryHippo_155 (BE1), IchabodCrane_157 (BE2), JimJam_168 (BE2), Jollison_168 (BE2), Karimac_161 (BE2), Karp_132 (BK1), Kenrey_141 (BK1), KentuckyRacer_171 (BE2), Larnav_160 (BE1), Leo04_154 (BE1), Liandry_152 (BE1), LilMartin_151 (BE1), LukeCage_162 (BE2), Lululemon_154 (BE1), MeganTheeKilla_136 (BK1), MindFlayer_157 (BE2), Moab_136 (BK1), Mugiwara_168 (BE2), MulchMansion_153 (BE1), NootNoot_149 (BE1), PacManQ_154 (BE1), Paradiddles_148 (BE1), Patelgo_139 (BK1), Peebs_150 (BE1), Pepperwood_152 (BE1), Phredrick_138 (BK1), PinkiePie_149 (BE1), PumpkinSpice_165 (BE2), Quarant19_163 (BE2), SaltySpittoon_163 (BE2), Samisti12_154 (BE1), SeresaTree_132 (BK1), Sham_131 (BK1), Sollertia_160 (BE2), Spelly_165 (BE2), Spilled_167 (BE2), Squillium_152 (BE1), Stanimal_158 (BE2), StarPlatinum_168 (BE2), Starbow_160 (BE2), Sushi23_152 (BE1), Teutsch_152 (BE1), Tribute_152 (BE1), TunaTartare_135 (BK1), Watermoore_152 (BE1), Wipeout_156 (BE2), Wofford_157 (BE2), Yaboi_161 (BE2),

Summary by clusters:

There are 4 clusters represented in this pham: BE2, BE1, BK1, BK2,

Info for manual annotations of cluster BE1:

- Start number 11 was manually annotated 20 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 10 was manually annotated 1 time for cluster BE2.
- Start number 11 was manually annotated 24 times for cluster BE2.

Info for manual annotations of cluster BK1:

- Start number 4 was manually annotated 3 times for cluster BK1.
- Start number 11 was manually annotated 14 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 11 was manually annotated 2 times for cluster BK2.

Gene Information:

Gene: Amabiko_163 Start: 89405, Stop: 90271, Start Num: 11

Candidate Starts for Amabiko_163:

(Start: 11 @89405 has 60 MA's), (13, 89426), (25, 89498), (30, 89519), (40, 89573), (53, 89855), (55, 89876), (68, 90182), (72, 90242),

Gene: Angela_153 Start: 88640, Stop: 89515, Start Num: 11

Candidate Starts for Angela_153:

(Start: 11 @88640 has 60 MA's), (12, 88655), (16, 88676), (37, 88778), (39, 88793), (45, 88907), (48, 88985), (60, 89162), (62, 89174), (68, 89420),

Gene: Bartholomune_152 Start: 88365, Stop: 89234, Start Num: 11

Candidate Starts for Bartholomune_152:

(7, 88305), (Start: 11 @88365 has 60 MA's), (34, 88488), (47, 88707), (50, 88746), (60, 88884), (69, 89157),

Gene: Battuta_162 Start: 89378, Stop: 90244, Start Num: 11

Candidate Starts for Battuta_162:

(Start: 11 @89378 has 60 MA's), (13, 89399), (25, 89471), (30, 89492), (40, 89546), (53, 89828), (55, 89849), (68, 90155), (72, 90215),

Gene: Belfort_136 Start: 79194, Stop: 80081, Start Num: 11

Candidate Starts for Belfort_136:

(Start: 11 @79194 has 60 MA's), (31, 79314), (45, 79476), (48, 79554), (56, 79683), (59, 79719), (62, 79740), (64, 79920), (68, 79986), (71, 80049),

Gene: BillNye_160 Start: 91189, Stop: 92073, Start Num: 11

Candidate Starts for BillNye_160:

(Start: 11 @91189 has 60 MA's), (14, 91213), (19, 91240), (26, 91270), (27, 91282), (37, 91327), (41, 91396), (51, 91630), (52, 91633), (54, 91663), (67, 91975), (68, 91978), (69, 91993),

Gene: Birchlyn_161 Start: 87037, Stop: 87903, Start Num: 11

Candidate Starts for Birchlyn_161:

(Start: 11 @87037 has 60 MA's), (13, 87058), (25, 87130), (30, 87151), (53, 87487), (55, 87508), (68, 87814), (72, 87874),

Gene: BlueOtter_155 Start: 90426, Stop: 91295, Start Num: 11

Candidate Starts for BlueOtter_155:

(7, 90372), (Start: 11 @90426 has 60 MA's), (17, 90468), (21, 90489), (22, 90492), (40, 90594), (58, 90933), (67, 91200),

Gene: Blueeyedbeauty_130 Start: 76379, Stop: 77290, Start Num: 11

Candidate Starts for Blueeyedbeauty_130:

(3, 76304), (8, 76355), (Start: 11 @76379 has 60 MA's), (20, 76436), (37, 76547), (43, 76634), (52, 76850), (54, 76880), (56, 76886), (63, 76988), (67, 77192), (68, 77195), (73, 77273),

Gene: BoomerJR_160 Start: 89798, Stop: 90667, Start Num: 11

Candidate Starts for BoomerJR_160:

(Start: 11 @89798 has 60 MA's), (25, 89891), (29, 89909), (30, 89912), (47, 90140), (53, 90248), (55, 90269), (65, 90536), (66, 90554), (67, 90572), (68, 90575),

Gene: Bordeaux_161 Start: 89885, Stop: 90751, Start Num: 11

Candidate Starts for Bordeaux_161:

(Start: 11 @89885 has 60 MA's), (13, 89906), (25, 89978), (30, 89999), (40, 90053), (53, 90335), (55, 90356), (68, 90662), (72, 90722),

Gene: CeilingFan_171 Start: 89911, Stop: 90777, Start Num: 11

Candidate Starts for CeilingFan_171:

(Start: 11 @89911 has 60 MA's), (13, 89932), (25, 90004), (30, 90025), (40, 90079), (53, 90361), (55, 90382), (68, 90688), (72, 90748),

Gene: Circinus_161 Start: 91155, Stop: 92039, Start Num: 11

Candidate Starts for Circinus_161:

(Start: 11 @91155 has 60 MA's), (14, 91179), (19, 91206), (26, 91236), (27, 91248), (37, 91293), (41, 91362), (51, 91596), (52, 91599), (54, 91629), (67, 91941), (68, 91944), (69, 91959),

Gene: Comrade_132 Start: 78438, Stop: 79400, Start Num: 4

Candidate Starts for Comrade_132:

(Start: 4 @78438 has 3 MA's), (6, 78447), (Start: 11 @78513 has 60 MA's), (31, 78633), (45, 78795), (48, 78873), (56, 79002), (59, 79038), (62, 79059), (64, 79239), (68, 79305), (71, 79368),

Gene: Cross_153 Start: 90427, Stop: 91296, Start Num: 11

Candidate Starts for Cross_153:

(7, 90373), (Start: 11 @90427 has 60 MA's), (17, 90469), (21, 90490), (22, 90493), (40, 90595), (58, 90934), (67, 91201),

Gene: Cursive_151 Start: 88636, Stop: 89505, Start Num: 11

Candidate Starts for Cursive_151:

(7, 88582), (Start: 11 @88636 has 60 MA's), (17, 88678), (21, 88699), (22, 88702), (40, 88804), (58, 89143), (67, 89410),

Gene: EGole_155 Start: 91705, Stop: 92574, Start Num: 11

Candidate Starts for EGole_155:

(7, 91645), (Start: 11 @91705 has 60 MA's), (34, 91828), (47, 92047), (50, 92086), (69, 92497),

Gene: Elmer_174 Start: 92742, Stop: 93611, Start Num: 11

Candidate Starts for Elmer_174:

(Start: 11 @92742 has 60 MA's), (14, 92769), (15, 92772), (55, 93213), (61, 93267), (66, 93498), (67, 93516), (68, 93519),

Gene: Emma1919_138 Start: 78385, Stop: 79266, Start Num: 11

Candidate Starts for Emma1919_138:

(Start: 11 @78385 has 60 MA's), (31, 78505), (38, 78544), (46, 78715), (48, 78745), (49, 78748), (62, 78931), (68, 79177),

Gene: Enygma_164 Start: 91572, Stop: 92441, Start Num: 11

Candidate Starts for Enygma_164:

(Start: 11 @91572 has 60 MA's), (13, 91593), (25, 91665), (32, 91689), (55, 92043), (68, 92349),

Gene: Faust_131 Start: 79319, Stop: 80239, Start Num: 11

Candidate Starts for Faust_131:

(9, 79313), (Start: 11 @79319 has 60 MA's), (24, 79430), (34, 79481), (35, 79484), (37, 79496), (52, 79799), (54, 79829), (56, 79835), (63, 79937), (67, 80141), (68, 80144), (69, 80159),

Gene: Francob_135 Start: 78579, Stop: 79463, Start Num: 11

Candidate Starts for Francob_135:

(Start: 11 @78579 has 60 MA's), (28, 78687), (31, 78699), (38, 78738), (44, 78822), (49, 78942), (52, 79032), (56, 79068), (57, 79098), (68, 79371),

Gene: Genie2_160 Start: 89912, Stop: 90781, Start Num: 11

Candidate Starts for Genie2_160:

(Start: 11 @89912 has 60 MA's), (25, 90005), (29, 90023), (30, 90026), (47, 90254), (53, 90362), (55, 90383), (65, 90650), (66, 90668), (67, 90686), (68, 90689),

Gene: Gibbi_170 Start: 89975, Stop: 90841, Start Num: 11

Candidate Starts for Gibbi_170:

(Start: 11 @89975 has 60 MA's), (13, 89996), (25, 90068), (30, 90089), (40, 90143), (53, 90425), (55, 90446), (68, 90752), (72, 90812),

Gene: Gilson_138 Start: 78347, Stop: 79228, Start Num: 11

Candidate Starts for Gilson_138:

(Start: 11 @78347 has 60 MA's), (31, 78467), (38, 78506), (46, 78677), (48, 78707), (49, 78710), (62, 78893), (68, 79139),

Gene: HangryHippo_155 Start: 90426, Stop: 91295, Start Num: 11

Candidate Starts for HangryHippo_155:

(7, 90372), (Start: 11 @90426 has 60 MA's), (17, 90468), (21, 90489), (22, 90492), (40, 90594), (58, 90933), (67, 91200),

Gene: IchabodCrane_157 Start: 89106, Stop: 89972, Start Num: 11

Candidate Starts for IchabodCrane_157:

(Start: 11 @89106 has 60 MA's), (13, 89127), (25, 89199), (30, 89220), (40, 89274), (53, 89556), (55, 89577), (68, 89883), (72, 89943),

Gene: JimJam_168 Start: 90741, Stop: 91607, Start Num: 11

Candidate Starts for JimJam_168:

(Start: 11 @90741 has 60 MA's), (13, 90762), (25, 90834), (30, 90855), (40, 90909), (53, 91191), (55, 91212), (68, 91518), (72, 91578),

Gene: Jollison_168 Start: 89819, Stop: 90685, Start Num: 11

Candidate Starts for Jollison_168:

(Start: 11 @89819 has 60 MA's), (13, 89840), (25, 89912), (30, 89933), (40, 89987), (53, 90269), (55, 90290), (68, 90596), (72, 90656),

Gene: Karimac_161 Start: 89643, Stop: 90509, Start Num: 11

Candidate Starts for Karimac_161:

(Start: 11 @89643 has 60 MA's), (13, 89664), (25, 89736), (30, 89757), (53, 90093), (55, 90114), (68, 90420),

Gene: Karp_132 Start: 78621, Stop: 79508, Start Num: 11

Candidate Starts for Karp_132:

(Start: 4 @78546 has 3 MA's), (6, 78555), (Start: 11 @78621 has 60 MA's), (31, 78741), (45, 78903), (48, 78981), (56, 79110), (59, 79146), (62, 79167), (64, 79347), (68, 79413), (71, 79476),

Gene: Kenrey_141 Start: 79879, Stop: 80760, Start Num: 11

Candidate Starts for Kenrey_141:

(Start: 11 @79879 has 60 MA's), (31, 79999), (38, 80038), (46, 80209), (48, 80239), (49, 80242), (56, 80368), (62, 80425), (68, 80671),

Gene: KentuckyRacer_171 Start: 90756, Stop: 91622, Start Num: 11

Candidate Starts for KentuckyRacer_171:

(Start: 11 @90756 has 60 MA's), (13, 90777), (25, 90849), (30, 90870), (40, 90924), (53, 91206), (55, 91227), (68, 91533), (72, 91593),

Gene: Larnav_160 Start: 90401, Stop: 91270, Start Num: 11

Candidate Starts for Larnav_160:

(7, 90347), (Start: 11 @90401 has 60 MA's), (17, 90443), (21, 90464), (22, 90467), (40, 90569), (42, 90620), (58, 90908), (67, 91175),

Gene: Leo04_154 Start: 90926, Stop: 91795, Start Num: 11

Candidate Starts for Leo04_154:

(7, 90872), (Start: 11 @90926 has 60 MA's), (17, 90968), (21, 90989), (22, 90992), (58, 91433), (67, 91700),

Gene: Liandry_152 Start: 89108, Stop: 89977, Start Num: 11

Candidate Starts for Liandry_152:

(7, 89048), (Start: 11 @89108 has 60 MA's), (34, 89231), (47, 89450), (50, 89489), (60, 89627), (69, 89900),

Gene: LilMartin_151 Start: 88285, Stop: 89160, Start Num: 11

Candidate Starts for LilMartin_151:

(Start: 11 @88285 has 60 MA's), (12, 88300), (16, 88321), (37, 88423), (39, 88438), (45, 88552), (48, 88630), (60, 88807), (62, 88819), (68, 89065),

Gene: LukeCage_162 Start: 90692, Stop: 91561, Start Num: 11

Candidate Starts for LukeCage_162:

(Start: 11 @90692 has 60 MA's), (14, 90719), (15, 90722), (30, 90806), (52, 91130), (55, 91163), (64, 91403), (67, 91466), (68, 91469),

Gene: Lululemon_154 Start: 89807, Stop: 90676, Start Num: 11

Candidate Starts for Lululemon_154:

(7, 89753), (Start: 11 @89807 has 60 MA's), (17, 89849), (21, 89870), (22, 89873), (40, 89975), (58, 90314), (67, 90581),

Gene: MeganTheeKilla_136 Start: 78428, Stop: 79309, Start Num: 11

Candidate Starts for MeganTheeKilla_136:

(3, 78350), (5, 78359), (Start: 11 @78428 has 60 MA's), (31, 78548), (38, 78587), (46, 78758), (48, 78788), (49, 78791), (62, 78974), (68, 79220),

Gene: MindFlayer_157 Start: 89013, Stop: 89879, Start Num: 11

Candidate Starts for MindFlayer_157:

(Start: 11 @89013 has 60 MA's), (13, 89034), (25, 89106), (30, 89127), (40, 89181), (53, 89463), (55, 89484), (68, 89790), (72, 89850),

Gene: Moab_136 Start: 80717, Stop: 81601, Start Num: 11

Candidate Starts for Moab_136:

(Start: 11 @80717 has 60 MA's), (31, 80837), (38, 80876), (44, 80960), (49, 81080), (52, 81170), (56, 81206), (57, 81236), (68, 81509),

Gene: Mugiwara_168 Start: 90296, Stop: 91168, Start Num: 11

Candidate Starts for Mugiwara_168:

(Start: 11 @90296 has 60 MA's), (14, 90323), (15, 90326), (30, 90410), (36, 90428), (53, 90746), (55, 90767), (68, 91073),

Gene: MulchMansion_153 Start: 88902, Stop: 89777, Start Num: 11

Candidate Starts for MulchMansion_153:

(Start: 11 @88902 has 60 MA's), (12, 88917), (16, 88938), (37, 89040), (39, 89055), (45, 89169), (48, 89247), (60, 89424), (62, 89436), (68, 89682),

Gene: NootNoot_149 Start: 88007, Stop: 88876, Start Num: 11

Candidate Starts for NootNoot_149:

(7, 87947), (Start: 11 @88007 has 60 MA's), (34, 88130), (47, 88349), (50, 88388), (60, 88526), (69, 88799),

Gene: PacManQ_154 Start: 89807, Stop: 90676, Start Num: 11

Candidate Starts for PacManQ_154:

(7, 89753), (Start: 11 @89807 has 60 MA's), (17, 89849), (21, 89870), (22, 89873), (40, 89975), (58, 90314), (67, 90581),

Gene: Paradiddles_148 Start: 90305, Stop: 91174, Start Num: 11

Candidate Starts for Paradiddles_148:

(7, 90245), (Start: 11 @90305 has 60 MA's), (34, 90428), (47, 90647), (50, 90686), (60, 90824), (69, 91097),

Gene: Patelgo_139 Start: 81409, Stop: 82293, Start Num: 11

Candidate Starts for Patelgo_139:

(Start: 11 @81409 has 60 MA's), (31, 81529), (38, 81568), (44, 81652), (49, 81772), (52, 81862), (56, 81898), (57, 81928), (68, 82201), (70, 82246),

Gene: Peebs_150 Start: 90105, Stop: 90974, Start Num: 11

Candidate Starts for Peebs_150:

(7, 90051), (Start: 11 @90105 has 60 MA's), (17, 90147), (21, 90168), (22, 90171), (40, 90273), (42, 90324), (58, 90612), (67, 90879),

Gene: Pepperwood_152 Start: 90246, Stop: 91115, Start Num: 11

Candidate Starts for Pepperwood_152:

(7, 90192), (Start: 11 @90246 has 60 MA's), (17, 90288), (21, 90309), (22, 90312), (58, 90753), (67, 91020),

Gene: Phredrick_138 Start: 78191, Stop: 79072, Start Num: 11

Candidate Starts for Phredrick_138:

(Start: 11 @78191 has 60 MA's), (31, 78311), (38, 78350), (46, 78521), (48, 78551), (49, 78554), (56, 78680), (62, 78737), (68, 78983),

Gene: PinkiePie_149 Start: 89108, Stop: 89977, Start Num: 11

Candidate Starts for PinkiePie_149:

(7, 89048), (Start: 11 @89108 has 60 MA's), (34, 89231), (47, 89450), (50, 89489), (60, 89627), (69, 89900),

Gene: PumpkinSpice_165 Start: 90425, Stop: 91291, Start Num: 11

Candidate Starts for PumpkinSpice_165:

(Start: 11 @90425 has 60 MA's), (13, 90446), (25, 90518), (30, 90539), (40, 90593), (53, 90875), (55, 90896), (68, 91202), (72, 91262),

Gene: Quaran19_163 Start: 89395, Stop: 90261, Start Num: 11

Candidate Starts for Quaran19_163:

(Start: 11 @89395 has 60 MA's), (13, 89416), (25, 89488), (30, 89509), (40, 89563), (53, 89845), (55, 89866), (68, 90172), (72, 90232),

Gene: SaltySpittoon_163 Start: 89408, Stop: 90274, Start Num: 11

Candidate Starts for SaltySpittoon_163:

(Start: 11 @89408 has 60 MA's), (13, 89429), (25, 89501), (30, 89522), (40, 89576), (53, 89858), (55, 89879), (68, 90185), (72, 90245),

Gene: Samisti12_154 Start: 91489, Stop: 92358, Start Num: 11

Candidate Starts for Samisti12_154:

(7, 91435), (Start: 11 @91489 has 60 MA's), (17, 91531), (21, 91552), (22, 91555), (40, 91657), (42, 91708), (58, 91996), (67, 92263),

Gene: SeresaTree_132 Start: 78701, Stop: 79621, Start Num: 11
Candidate Starts for SeresaTree_132:

(9, 78695), (Start: 11 @78701 has 60 MA's), (24, 78812), (34, 78863), (35, 78866), (37, 78878), (52, 79181), (54, 79211), (56, 79217), (63, 79319), (67, 79523), (68, 79526), (69, 79541),

Gene: Sham_131 Start: 79253, Stop: 80173, Start Num: 11
Candidate Starts for Sham_131:

(1, 79154), (2, 79163), (3, 79175), (9, 79247), (Start: 11 @79253 has 60 MA's), (15, 79283), (35, 79418), (37, 79430), (52, 79733), (54, 79763), (56, 79769), (63, 79871), (67, 80075), (68, 80078), (73, 80156),

Gene: Sollertia_160 Start: 89912, Stop: 90781, Start Num: 11
Candidate Starts for Sollertia_160:

(Start: 11 @89912 has 60 MA's), (25, 90005), (29, 90023), (30, 90026), (47, 90254), (53, 90362), (55, 90383), (65, 90650), (66, 90668), (67, 90686), (68, 90689),

Gene: SparkleGoddess_134 Start: 78738, Stop: 79700, Start Num: 4
Candidate Starts for SparkleGoddess_134:

(Start: 4 @78738 has 3 MA's), (6, 78747), (Start: 11 @78813 has 60 MA's), (31, 78933), (33, 78948), (45, 79095), (48, 79173), (56, 79302), (59, 79338), (62, 79359), (64, 79539), (68, 79605), (71, 79668),

Gene: Spelly_165 Start: 89357, Stop: 90226, Start Num: 11
Candidate Starts for Spelly_165:

(Start: 11 @89357 has 60 MA's), (14, 89384), (15, 89387), (30, 89471), (52, 89795), (55, 89828), (64, 90068), (67, 90131), (68, 90134),

Gene: Spilled_167 Start: 89936, Stop: 90802, Start Num: 11
Candidate Starts for Spilled_167:

(Start: 11 @89936 has 60 MA's), (13, 89957), (25, 90029), (30, 90050), (40, 90104), (53, 90386), (55, 90407), (68, 90713), (72, 90773),

Gene: Squillium_152 Start: 89110, Stop: 89979, Start Num: 11
Candidate Starts for Squillium_152:

(7, 89050), (Start: 11 @89110 has 60 MA's), (34, 89233), (47, 89452), (50, 89491), (60, 89629), (69, 89902),

Gene: Stanimal_158 Start: 89801, Stop: 90670, Start Num: 11
Candidate Starts for Stanimal_158:

(Start: 11 @89801 has 60 MA's), (25, 89894), (29, 89912), (30, 89915), (47, 90143), (53, 90251), (55, 90272), (65, 90539), (66, 90557), (67, 90575), (68, 90578),

Gene: StarPlatinum_168 Start: 91879, Stop: 92745, Start Num: 11
Candidate Starts for StarPlatinum_168:

(Start: 11 @91879 has 60 MA's), (14, 91906), (15, 91909), (30, 91993), (52, 92317), (53, 92329), (55, 92350), (64, 92590), (68, 92656),

Gene: Starbow_160 Start: 89381, Stop: 90247, Start Num: 11
Candidate Starts for Starbow_160:

(Start: 11 @89381 has 60 MA's), (13, 89402), (25, 89474), (30, 89495), (40, 89549), (53, 89831), (55, 89852), (68, 90158), (72, 90218),

Gene: Stigma_133 Start: 78883, Stop: 79845, Start Num: 4

Candidate Starts for Stigma_133:

(Start: 4 @78883 has 3 MA's), (6, 78892), (Start: 11 @78958 has 60 MA's), (31, 79078), (45, 79240), (48, 79318), (56, 79447), (59, 79483), (62, 79504), (64, 79684), (68, 79750), (71, 79813),

Gene: Sushi23_152 Start: 90462, Stop: 91331, Start Num: 11

Candidate Starts for Sushi23_152:

(7, 90408), (Start: 11 @90462 has 60 MA's), (17, 90504), (21, 90525), (22, 90528), (40, 90630), (42, 90681), (58, 90969), (67, 91236),

Gene: Teutsch_152 Start: 90785, Stop: 91654, Start Num: 11

Candidate Starts for Teutsch_152:

(7, 90731), (Start: 11 @90785 has 60 MA's), (17, 90827), (21, 90848), (22, 90851), (40, 90953), (42, 91004), (58, 91292), (67, 91559),

Gene: TomSawyer_165 Start: 90399, Stop: 91271, Start Num: 10

Candidate Starts for TomSawyer_165:

(Start: 10 @90399 has 1 MA's), (15, 90429), (18, 90450), (23, 90486), (48, 90744), (56, 90873), (68, 91176),

Gene: Tribute_152 Start: 90632, Stop: 91501, Start Num: 11

Candidate Starts for Tribute_152:

(7, 90578), (Start: 11 @90632 has 60 MA's), (17, 90674), (21, 90695), (22, 90698), (40, 90800), (42, 90851), (58, 91139), (67, 91406),

Gene: TunaTartare_135 Start: 81618, Stop: 82538, Start Num: 11

Candidate Starts for TunaTartare_135:

(1, 81519), (2, 81528), (3, 81540), (9, 81612), (Start: 11 @81618 has 60 MA's), (15, 81648), (37, 81795), (52, 82098), (54, 82128), (56, 82134), (63, 82236), (67, 82440), (68, 82443), (73, 82521),

Gene: Watermoore_152 Start: 90998, Stop: 91867, Start Num: 11

Candidate Starts for Watermoore_152:

(7, 90944), (Start: 11 @90998 has 60 MA's), (17, 91040), (21, 91061), (22, 91064), (40, 91166), (58, 91505), (67, 91772),

Gene: Wipeout_156 Start: 90208, Stop: 91074, Start Num: 11

Candidate Starts for Wipeout_156:

(Start: 11 @90208 has 60 MA's), (13, 90229), (25, 90301), (30, 90322), (53, 90658), (55, 90679), (68, 90985), (72, 91045),

Gene: Wofford_157 Start: 91902, Stop: 92771, Start Num: 11

Candidate Starts for Wofford_157:

(Start: 11 @91902 has 60 MA's), (14, 91929), (15, 91932), (55, 92373), (61, 92427), (66, 92658), (67, 92676), (68, 92679),

Gene: Yaboi_161 Start: 89375, Stop: 90244, Start Num: 11

Candidate Starts for Yaboi_161:

(Start: 11 @89375 has 60 MA's), (25, 89468), (29, 89486), (30, 89489), (47, 89717), (53, 89825), (55, 89846), (65, 90113), (66, 90131), (67, 90149), (68, 90152),