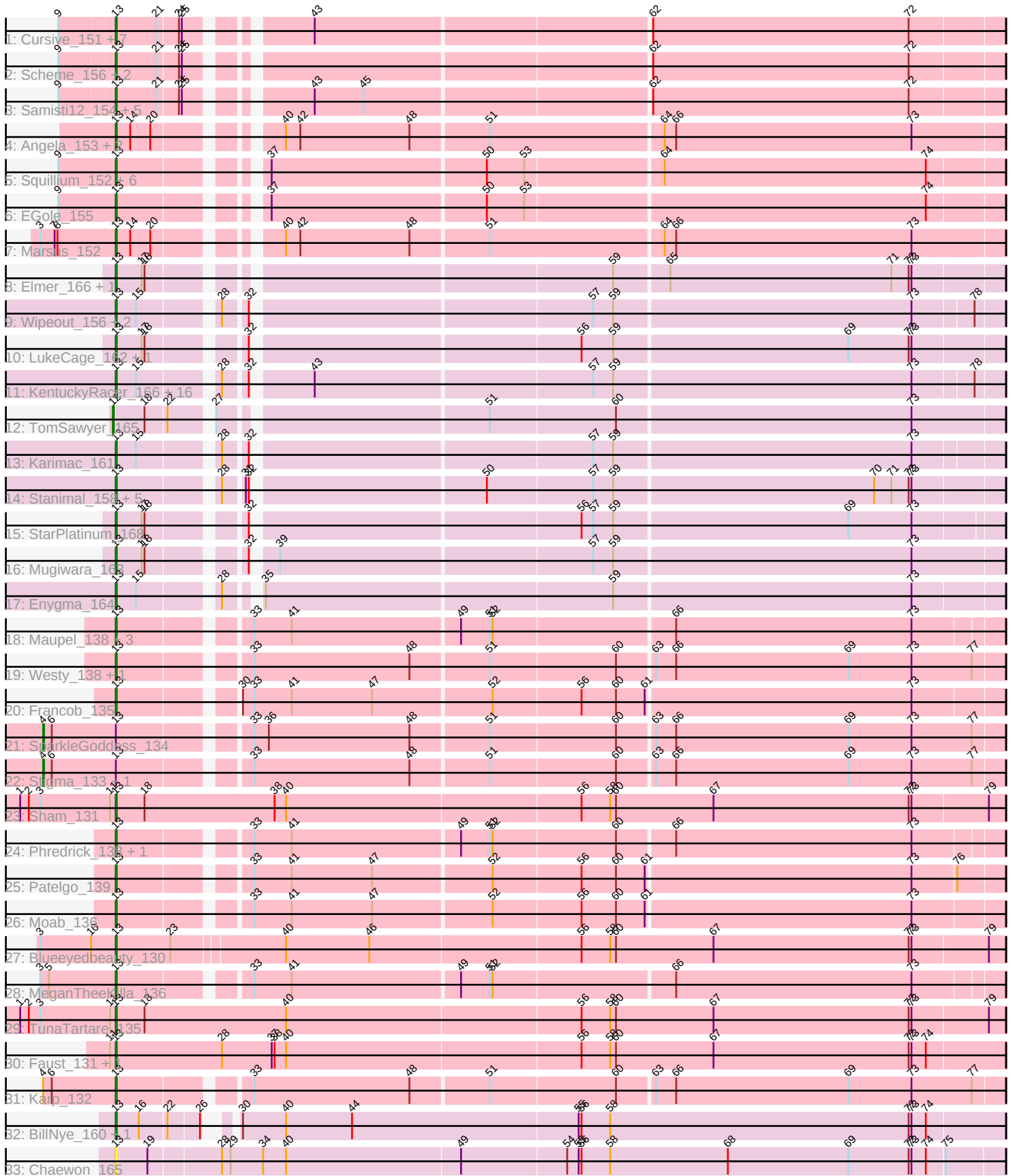


Pham 263015



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 263015 Report

This analysis was run 02/07/26 on database version 634.

Pham number 263015 has 88 members, 6 are drafts.

Phages represented in each track:

- Track 1 : Cursive_151, BlueOtter_152, Lululemon_152, Coogler_152, Cross_153, PacManQ_152, HangryHippo_152, Watermoore_152
- Track 2 : Scheme_156, Pepperwood_152, Leo04_154
- Track 3 : Samisti12_154, Teutsch_152, Larnav_153, Tribute_152, Sushi23_152, Peebs_150
- Track 4 : Angela_153, LilMartin_151, MulchMansion_153
- Track 5 : Squillium_152, Liandry_152, Bartholomune_152, Paradiddles_148, PinkiePie_149, NootNoot_149, Shuckle_151
- Track 6 : EGole_155
- Track 7 : Marsus_152
- Track 8 : Elmer_166, Wofford_157
- Track 9 : Wipeout_156, Brizzy_160, Birchlyn_161
- Track 10 : LukeCage_162, Spelly_165
- Track 11 : KentuckyRacer_166, Jollison_162, Battuta_162, Rikishi_163, MindFlayer_157, Quarant19_163, CeilingFan_164, IchabodCrane_157, Spilled_167, PumpkinSpice_165, JimJam_168, Amabiko_163, Starbow_160, Bordeaux_161, Gibbi_170, SaftySpitoon_163, AcciDwight_171
- Track 12 : TomSawyer_165
- Track 13 : Karimac_161
- Track 14 : Stanimal_158, Yaboi_161, Genie2_160, Sollertia_160, AngryGiraffe_157, BoomerJR_160
- Track 15 : StarPlatinum_168
- Track 16 : Mugiwara_163
- Track 17 : Enygma_164
- Track 18 : Maupel_138, Emma1919_138, DeluluLabubu_142, Gilson_138
- Track 19 : Westy_138, Belfort_136
- Track 20 : Francob_135
- Track 21 : SparkleGoddess_134
- Track 22 : Stigma_133, Comrade_132
- Track 23 : Sham_131
- Track 24 : Phredrick_138, Kenrey_141
- Track 25 : Patelgo_139
- Track 26 : Moab_136
- Track 27 : Blueeyedbeauty_130
- Track 28 : MeganTheeKilla_136
- Track 29 : TunaTartare_135
- Track 30 : Faust_131, SeresaTree_132

- Track 31 : Karp_132
- Track 32 : BillNye_160, Circinus_161
- Track 33 : Chaewon_165

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

The start number called the most often in the published annotations is 13, it was called in 78 of the 82 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- AcciDwight_171, Amabiko_163, Angela_153, AngryGiraffe_157, Bartholomune_152, Battuta_162, Belfort_136, BillNye_160, Birchlyn_161, BlueOtter_152, Blueeyedbeauty_130, BoomerJR_160, Bordeaux_161, Brizzy_160, CeilingFan_164, Chaewon_165, Circinus_161, Coogler_152, Cross_153, Cursive_151, DeluluLabubu_142, EGole_155, Elmer_166, Emma1919_138, Enygma_164, Faust_131, Francob_135, Genie2_160, Gibbi_170, Gilson_138, HangryHippo_152, IchabodCrane_157, JimJam_168, Jollison_162, Karimac_161, Karp_132, Kenrey_141, KentuckyRacer_166, Larnav_153, Leo04_154, Liandry_152, LilMartin_151, LukeCage_162, Lululemon_152, Marsus_152, Maupel_138, MeganTheeKilla_136, MindFlayer_157, Moab_136, Mugiwara_163, MulchMansion_153, NootNoot_149, PacManQ_152, Paradiddles_148, Patelgo_139, Peebs_150, Pepperwood_152, Phredrick_138, PinkiePie_149, PumpkinSpice_165, Quarant19_163, Rikishi_163, SaltySpittoon_163, Samisti12_154, Scheme_156, SeresaTree_132, Sham_131, Shuckle_151, Sollertia_160, Spelly_165, Spilled_167, Squillium_152, Stanimal_158, StarPlatinum_168, Starbow_160, Sushi23_152, Teutsch_152, Tribute_152, TunaTartare_135, Watermoore_152, Westy_138, 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 88 (4.5%) of genes in pham
- Manual Annotations of this start: 3 of 82
- Called 75.0% of time when present
- Phage (with cluster) where this start called: Comrade_132 (BK1), SparkleGoddess_134 (BK1), Stigma_133 (BK1),

Start 12:

- Found in 1 of 88 (1.1%) of genes in pham
- Manual Annotations of this start: 1 of 82
- Called 100.0% of time when present
- Phage (with cluster) where this start called: TomSawyer_165 (BE2),

Start 13:

- Found in 87 of 88 (98.9%) of genes in pham
- Manual Annotations of this start: 78 of 82
- Called 96.6% of time when present
- Phage (with cluster) where this start called: AcciDwight_171 (BE2), Amabiko_163 (BE2), Angela_153 (BE1), AngryGiraffe_157 (BE2), Bartholomune_152 (BE1), Battuta_162 (BE2), Belfort_136 (BK1), BillNye_160 (BK2), Birchlyn_161 (BE2), BlueOtter_152 (BE1), Blueeyedbeauty_130 (BK1), BoomerJR_160 (BE2), Bordeaux_161 (BE2), Brizzy_160 (BE2), CeilingFan_164 (BE2), Chaewon_165 (BK2), Circinus_161 (BK2), Coogler_152 (BE1), Cross_153 (BE1), Cursive_151 (BE1), DeluluLabubu_142 (BK1), EGole_155 (BE1), Elmer_166 (BE2), Emma1919_138 (BK1), Enygma_164 (BE2), Faust_131 (BK1), Francob_135 (BK1), Genie2_160 (BE2), Gibbi_170 (BE2), Gilson_138 (BK1), HangryHippo_152 (BE1), IchabodCrane_157 (BE2), JimJam_168 (BE2), Jollison_162 (BE2), Karimac_161 (BE2), Karp_132 (BK1), Kenrey_141 (BK1), KentuckyRacer_166 (BE2), Larnav_153 (BE1), Leo04_154 (BE1), Liandry_152 (BE1), LilMartin_151 (BE1), LukeCage_162 (BE2), Lululemon_152 (BE1), Marsus_152 (BE1), Maupel_138 (BK1), MeganTheeKilla_136 (BK1), MindFlayer_157 (BE2), Moab_136 (BK1), Mugiwara_163 (BE2), MulchMansion_153 (BE1), NootNoot_149 (BE1), PacManQ_152 (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), Rikishi_163 (BE2), SaltySpittoon_163 (BE2), Samisti12_154 (BE1), Scheme_156 (BE1), SeresaTree_132 (BK1), Sham_131 (BK1), Shuckle_151 (BE1), 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), Westy_138 (BK1), 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 13 was manually annotated 29 times for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 12 was manually annotated 1 time for cluster BE2.
- Start number 13 was manually annotated 32 times for cluster BE2.

Info for manual annotations of cluster BK1:

- Start number 4 was manually annotated 3 times for cluster BK1.
- Start number 13 was manually annotated 15 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 13 was manually annotated 2 times for cluster BK2.

Gene Information:

Gene: AcciDwight_171 Start: 90169, Stop: 91035, Start Num: 13

Candidate Starts for AcciDwight_171:

(Start: 13 @90169 has 78 MA's), (15, 90190), (28, 90262), (32, 90283), (43, 90337), (57, 90619), (59, 90640), (73, 90946), (78, 91006),

Gene: Amabiko_163 Start: 89405, Stop: 90271, Start Num: 13

Candidate Starts for Amabiko_163:

(Start: 13 @89405 has 78 MA's), (15, 89426), (28, 89498), (32, 89519), (43, 89573), (57, 89855), (59, 89876), (73, 90182), (78, 90242),

Gene: Angela_153 Start: 88640, Stop: 89515, Start Num: 13

Candidate Starts for Angela_153:

(Start: 13 @88640 has 78 MA's), (14, 88655), (20, 88676), (40, 88778), (42, 88793), (48, 88907), (51, 88985), (64, 89162), (66, 89174), (73, 89420),

Gene: AngryGiraffe_157 Start: 89383, Stop: 90252, Start Num: 13

Candidate Starts for AngryGiraffe_157:

(Start: 13 @89383 has 78 MA's), (28, 89476), (31, 89494), (32, 89497), (50, 89725), (57, 89833), (59, 89854), (70, 90121), (71, 90139), (72, 90157), (73, 90160),

Gene: Bartholomune_152 Start: 88365, Stop: 89234, Start Num: 13

Candidate Starts for Bartholomune_152:

(9, 88305), (Start: 13 @88365 has 78 MA's), (37, 88488), (50, 88707), (53, 88746), (64, 88884), (74, 89157),

Gene: Battuta_162 Start: 89378, Stop: 90244, Start Num: 13

Candidate Starts for Battuta_162:

(Start: 13 @89378 has 78 MA's), (15, 89399), (28, 89471), (32, 89492), (43, 89546), (57, 89828), (59, 89849), (73, 90155), (78, 90215),

Gene: Belfort_136 Start: 79194, Stop: 80081, Start Num: 13

Candidate Starts for Belfort_136:

(Start: 13 @79194 has 78 MA's), (33, 79314), (48, 79476), (51, 79554), (60, 79683), (63, 79719), (66, 79740), (69, 79920), (73, 79986), (77, 80049),

Gene: BillNye_160 Start: 91189, Stop: 92073, Start Num: 13

Candidate Starts for BillNye_160:

(Start: 13 @91189 has 78 MA's), (16, 91213), (22, 91240), (26, 91270), (30, 91282), (40, 91327), (44, 91396), (55, 91630), (56, 91633), (58, 91663), (72, 91975), (73, 91978), (74, 91993),

Gene: Birchlyn_161 Start: 87037, Stop: 87903, Start Num: 13

Candidate Starts for Birchlyn_161:

(Start: 13 @87037 has 78 MA's), (15, 87058), (28, 87130), (32, 87151), (57, 87487), (59, 87508), (73, 87814), (78, 87874),

Gene: BlueOtter_152 Start: 90426, Stop: 91295, Start Num: 13

Candidate Starts for BlueOtter_152:

(9, 90372), (Start: 13 @90426 has 78 MA's), (21, 90468), (24, 90489), (25, 90492), (43, 90594), (62, 90933), (72, 91200),

Gene: Blueeyedbeauty_130 Start: 76379, Stop: 77290, Start Num: 13

Candidate Starts for Blueeyedbeauty_130:

(3, 76304), (10, 76355), (Start: 13 @76379 has 78 MA's), (23, 76436), (40, 76547), (46, 76634), (56, 76850), (58, 76880), (60, 76886), (67, 76988), (72, 77192), (73, 77195), (79, 77273),

Gene: BoomerJR_160 Start: 89798, Stop: 90667, Start Num: 13

Candidate Starts for BoomerJR_160:

(Start: 13 @89798 has 78 MA's), (28, 89891), (31, 89909), (32, 89912), (50, 90140), (57, 90248), (59, 90269), (70, 90536), (71, 90554), (72, 90572), (73, 90575),

Gene: Bordeaux_161 Start: 89885, Stop: 90751, Start Num: 13

Candidate Starts for Bordeaux_161:

(Start: 13 @89885 has 78 MA's), (15, 89906), (28, 89978), (32, 89999), (43, 90053), (57, 90335), (59, 90356), (73, 90662), (78, 90722),

Gene: Brizzy_160 Start: 89186, Stop: 90052, Start Num: 13

Candidate Starts for Brizzy_160:

(Start: 13 @89186 has 78 MA's), (15, 89207), (28, 89279), (32, 89300), (57, 89636), (59, 89657), (73, 89963), (78, 90023),

Gene: CeilingFan_164 Start: 89911, Stop: 90777, Start Num: 13

Candidate Starts for CeilingFan_164:

(Start: 13 @89911 has 78 MA's), (15, 89932), (28, 90004), (32, 90025), (43, 90079), (57, 90361), (59, 90382), (73, 90688), (78, 90748),

Gene: Chaewon_165 Start: 91270, Stop: 92181, Start Num: 13

Candidate Starts for Chaewon_165:

(Start: 13 @91270 has 78 MA's), (19, 91303), (28, 91375), (29, 91384), (34, 91417), (40, 91441), (49, 91621), (54, 91729), (55, 91741), (56, 91744), (58, 91774), (68, 91897), (69, 92023), (72, 92086), (73, 92089), (74, 92104), (75, 92122),

Gene: Circinus_161 Start: 91155, Stop: 92039, Start Num: 13

Candidate Starts for Circinus_161:

(Start: 13 @91155 has 78 MA's), (16, 91179), (22, 91206), (26, 91236), (30, 91248), (40, 91293), (44, 91362), (55, 91596), (56, 91599), (58, 91629), (72, 91941), (73, 91944), (74, 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: 13 @78513 has 78 MA's), (33, 78633), (48, 78795), (51, 78873), (60, 79002), (63, 79038), (66, 79059), (69, 79239), (73, 79305), (77, 79368),

Gene: Coogler_152 Start: 90451, Stop: 91320, Start Num: 13

Candidate Starts for Coogler_152:

(9, 90397), (Start: 13 @90451 has 78 MA's), (21, 90493), (24, 90514), (25, 90517), (43, 90619), (62, 90958), (72, 91225),

Gene: Cross_153 Start: 90427, Stop: 91296, Start Num: 13

Candidate Starts for Cross_153:

(9, 90373), (Start: 13 @90427 has 78 MA's), (21, 90469), (24, 90490), (25, 90493), (43, 90595), (62, 90934), (72, 91201),

Gene: Cursive_151 Start: 88636, Stop: 89505, Start Num: 13

Candidate Starts for Cursive_151:

(9, 88582), (Start: 13 @88636 has 78 MA's), (21, 88678), (24, 88699), (25, 88702), (43, 88804), (62, 89143), (72, 89410),

Gene: DeluluLabubu_142 Start: 79966, Stop: 80847, Start Num: 13

Candidate Starts for DeluluLabubu_142:

(Start: 13 @79966 has 78 MA's), (33, 80086), (41, 80125), (49, 80296), (51, 80326), (52, 80329), (66, 80512), (73, 80758),

Gene: EGole_155 Start: 91705, Stop: 92574, Start Num: 13

Candidate Starts for EGole_155:

(9, 91645), (Start: 13 @91705 has 78 MA's), (37, 91828), (50, 92047), (53, 92086), (74, 92497),

Gene: Elmer_166 Start: 92742, Stop: 93611, Start Num: 13

Candidate Starts for Elmer_166:

(Start: 13 @92742 has 78 MA's), (17, 92769), (18, 92772), (59, 93213), (65, 93267), (71, 93498), (72, 93516), (73, 93519),

Gene: Emma1919_138 Start: 78385, Stop: 79266, Start Num: 13

Candidate Starts for Emma1919_138:

(Start: 13 @78385 has 78 MA's), (33, 78505), (41, 78544), (49, 78715), (51, 78745), (52, 78748), (66, 78931), (73, 79177),

Gene: Enygma_164 Start: 91572, Stop: 92441, Start Num: 13

Candidate Starts for Enygma_164:

(Start: 13 @91572 has 78 MA's), (15, 91593), (28, 91665), (35, 91689), (59, 92043), (73, 92349),

Gene: Faust_131 Start: 79319, Stop: 80239, Start Num: 13

Candidate Starts for Faust_131:

(11, 79313), (Start: 13 @79319 has 78 MA's), (28, 79430), (37, 79481), (38, 79484), (40, 79496), (56, 79799), (58, 79829), (60, 79835), (67, 79937), (72, 80141), (73, 80144), (74, 80159),

Gene: Francob_135 Start: 78579, Stop: 79463, Start Num: 13

Candidate Starts for Francob_135:

(Start: 13 @78579 has 78 MA's), (30, 78687), (33, 78699), (41, 78738), (47, 78822), (52, 78942), (56, 79032), (60, 79068), (61, 79098), (73, 79371),

Gene: Genie2_160 Start: 89912, Stop: 90781, Start Num: 13

Candidate Starts for Genie2_160:

(Start: 13 @89912 has 78 MA's), (28, 90005), (31, 90023), (32, 90026), (50, 90254), (57, 90362), (59, 90383), (70, 90650), (71, 90668), (72, 90686), (73, 90689),

Gene: Gibbi_170 Start: 89975, Stop: 90841, Start Num: 13

Candidate Starts for Gibbi_170:

(Start: 13 @89975 has 78 MA's), (15, 89996), (28, 90068), (32, 90089), (43, 90143), (57, 90425), (59, 90446), (73, 90752), (78, 90812),

Gene: Gilson_138 Start: 78347, Stop: 79228, Start Num: 13

Candidate Starts for Gilson_138:

(Start: 13 @78347 has 78 MA's), (33, 78467), (41, 78506), (49, 78677), (51, 78707), (52, 78710), (66, 78893), (73, 79139),

Gene: HangryHippo_152 Start: 90426, Stop: 91295, Start Num: 13

Candidate Starts for HangryHippo_152:

(9, 90372), (Start: 13 @90426 has 78 MA's), (21, 90468), (24, 90489), (25, 90492), (43, 90594), (62, 90933), (72, 91200),

Gene: IchabodCrane_157 Start: 89106, Stop: 89972, Start Num: 13

Candidate Starts for IchabodCrane_157:

(Start: 13 @89106 has 78 MA's), (15, 89127), (28, 89199), (32, 89220), (43, 89274), (57, 89556), (59, 89577), (73, 89883), (78, 89943),

Gene: JimJam_168 Start: 90741, Stop: 91607, Start Num: 13

Candidate Starts for JimJam_168:

(Start: 13 @90741 has 78 MA's), (15, 90762), (28, 90834), (32, 90855), (43, 90909), (57, 91191), (59, 91212), (73, 91518), (78, 91578),

Gene: Jollison_162 Start: 89819, Stop: 90685, Start Num: 13

Candidate Starts for Jollison_162:

(Start: 13 @89819 has 78 MA's), (15, 89840), (28, 89912), (32, 89933), (43, 89987), (57, 90269), (59, 90290), (73, 90596), (78, 90656),

Gene: Karimac_161 Start: 89643, Stop: 90509, Start Num: 13

Candidate Starts for Karimac_161:

(Start: 13 @89643 has 78 MA's), (15, 89664), (28, 89736), (32, 89757), (57, 90093), (59, 90114), (73, 90420),

Gene: Karp_132 Start: 78621, Stop: 79508, Start Num: 13

Candidate Starts for Karp_132:

(Start: 4 @78546 has 3 MA's), (6, 78555), (Start: 13 @78621 has 78 MA's), (33, 78741), (48, 78903), (51, 78981), (60, 79110), (63, 79146), (66, 79167), (69, 79347), (73, 79413), (77, 79476),

Gene: Kenrey_141 Start: 79879, Stop: 80760, Start Num: 13

Candidate Starts for Kenrey_141:

(Start: 13 @79879 has 78 MA's), (33, 79999), (41, 80038), (49, 80209), (51, 80239), (52, 80242), (60, 80368), (66, 80425), (73, 80671),

Gene: KentuckyRacer_166 Start: 90756, Stop: 91622, Start Num: 13

Candidate Starts for KentuckyRacer_166:

(Start: 13 @90756 has 78 MA's), (15, 90777), (28, 90849), (32, 90870), (43, 90924), (57, 91206), (59, 91227), (73, 91533), (78, 91593),

Gene: Larnav_153 Start: 90401, Stop: 91270, Start Num: 13

Candidate Starts for Larnav_153:

(9, 90347), (Start: 13 @90401 has 78 MA's), (21, 90443), (24, 90464), (25, 90467), (43, 90569), (45, 90620), (62, 90908), (72, 91175),

Gene: Leo04_154 Start: 90926, Stop: 91795, Start Num: 13

Candidate Starts for Leo04_154:

(9, 90872), (Start: 13 @90926 has 78 MA's), (21, 90968), (24, 90989), (25, 90992), (62, 91433), (72, 91700),

Gene: Liandry_152 Start: 89108, Stop: 89977, Start Num: 13

Candidate Starts for Liandry_152:

(9, 89048), (Start: 13 @89108 has 78 MA's), (37, 89231), (50, 89450), (53, 89489), (64, 89627), (74, 89900),

Gene: LilMartin_151 Start: 88285, Stop: 89160, Start Num: 13

Candidate Starts for LilMartin_151:

(Start: 13 @88285 has 78 MA's), (14, 88300), (20, 88321), (40, 88423), (42, 88438), (48, 88552), (51, 88630), (64, 88807), (66, 88819), (73, 89065),

Gene: LukeCage_162 Start: 90692, Stop: 91561, Start Num: 13

Candidate Starts for LukeCage_162:

(Start: 13 @90692 has 78 MA's), (17, 90719), (18, 90722), (32, 90806), (56, 91130), (59, 91163), (69, 91403), (72, 91466), (73, 91469),

Gene: Lululemon_152 Start: 89807, Stop: 90676, Start Num: 13

Candidate Starts for Lululemon_152:

(9, 89753), (Start: 13 @89807 has 78 MA's), (21, 89849), (24, 89870), (25, 89873), (43, 89975), (62, 90314), (72, 90581),

Gene: Marsus_152 Start: 88604, Stop: 89479, Start Num: 13

Candidate Starts for Marsus_152:

(3, 88526), (7, 88541), (8, 88544), (Start: 13 @88604 has 78 MA's), (14, 88619), (20, 88640), (40, 88742), (42, 88757), (48, 88871), (51, 88949), (64, 89126), (66, 89138), (73, 89384),

Gene: Maupel_138 Start: 78347, Stop: 79228, Start Num: 13

Candidate Starts for Maupel_138:

(Start: 13 @78347 has 78 MA's), (33, 78467), (41, 78506), (49, 78677), (51, 78707), (52, 78710), (66, 78893), (73, 79139),

Gene: MeganTheeKilla_136 Start: 78428, Stop: 79309, Start Num: 13

Candidate Starts for MeganTheeKilla_136:

(3, 78350), (5, 78359), (Start: 13 @78428 has 78 MA's), (33, 78548), (41, 78587), (49, 78758), (51, 78788), (52, 78791), (66, 78974), (73, 79220),

Gene: MindFlayer_157 Start: 89013, Stop: 89879, Start Num: 13

Candidate Starts for MindFlayer_157:

(Start: 13 @89013 has 78 MA's), (15, 89034), (28, 89106), (32, 89127), (43, 89181), (57, 89463), (59, 89484), (73, 89790), (78, 89850),

Gene: Moab_136 Start: 80717, Stop: 81601, Start Num: 13

Candidate Starts for Moab_136:

(Start: 13 @80717 has 78 MA's), (33, 80837), (41, 80876), (47, 80960), (52, 81080), (56, 81170), (60, 81206), (61, 81236), (73, 81509),

Gene: Mugiwara_163 Start: 90296, Stop: 91168, Start Num: 13

Candidate Starts for Mugiwara_163:

(Start: 13 @90296 has 78 MA's), (17, 90323), (18, 90326), (32, 90410), (39, 90428), (57, 90746), (59, 90767), (73, 91073),

Gene: MulchMansion_153 Start: 88902, Stop: 89777, Start Num: 13

Candidate Starts for MulchMansion_153:

(Start: 13 @88902 has 78 MA's), (14, 88917), (20, 88938), (40, 89040), (42, 89055), (48, 89169), (51, 89247), (64, 89424), (66, 89436), (73, 89682),

Gene: NootNoot_149 Start: 88007, Stop: 88876, Start Num: 13

Candidate Starts for NootNoot_149:

(9, 87947), (Start: 13 @88007 has 78 MA's), (37, 88130), (50, 88349), (53, 88388), (64, 88526), (74, 88799),

Gene: PacManQ_152 Start: 89807, Stop: 90676, Start Num: 13

Candidate Starts for PacManQ_152:

(9, 89753), (Start: 13 @89807 has 78 MA's), (21, 89849), (24, 89870), (25, 89873), (43, 89975), (62, 90314), (72, 90581),

Gene: Paradiddles_148 Start: 90305, Stop: 91174, Start Num: 13

Candidate Starts for Paradiddles_148:

(9, 90245), (Start: 13 @90305 has 78 MA's), (37, 90428), (50, 90647), (53, 90686), (64, 90824), (74, 91097),

Gene: Patelgo_139 Start: 81409, Stop: 82293, Start Num: 13

Candidate Starts for Patelgo_139:

(Start: 13 @81409 has 78 MA's), (33, 81529), (41, 81568), (47, 81652), (52, 81772), (56, 81862), (60, 81898), (61, 81928), (73, 82201), (76, 82246),

Gene: Peebs_150 Start: 90105, Stop: 90974, Start Num: 13

Candidate Starts for Peebs_150:

(9, 90051), (Start: 13 @90105 has 78 MA's), (21, 90147), (24, 90168), (25, 90171), (43, 90273), (45, 90324), (62, 90612), (72, 90879),

Gene: Pepperwood_152 Start: 90246, Stop: 91115, Start Num: 13

Candidate Starts for Pepperwood_152:

(9, 90192), (Start: 13 @90246 has 78 MA's), (21, 90288), (24, 90309), (25, 90312), (62, 90753), (72, 91020),

Gene: Phredrick_138 Start: 78191, Stop: 79072, Start Num: 13

Candidate Starts for Phredrick_138:

(Start: 13 @78191 has 78 MA's), (33, 78311), (41, 78350), (49, 78521), (51, 78551), (52, 78554), (60, 78680), (66, 78737), (73, 78983),

Gene: PinkiePie_149 Start: 89108, Stop: 89977, Start Num: 13

Candidate Starts for PinkiePie_149:

(9, 89048), (Start: 13 @89108 has 78 MA's), (37, 89231), (50, 89450), (53, 89489), (64, 89627), (74, 89900),

Gene: PumpkinSpice_165 Start: 90425, Stop: 91291, Start Num: 13

Candidate Starts for PumpkinSpice_165:

(Start: 13 @90425 has 78 MA's), (15, 90446), (28, 90518), (32, 90539), (43, 90593), (57, 90875), (59, 90896), (73, 91202), (78, 91262),

Gene: Quaran19_163 Start: 89395, Stop: 90261, Start Num: 13

Candidate Starts for Quaran19_163:

(Start: 13 @89395 has 78 MA's), (15, 89416), (28, 89488), (32, 89509), (43, 89563), (57, 89845), (59, 89866), (73, 90172), (78, 90232),

Gene: Rikishi_163 Start: 89769, Stop: 90635, Start Num: 13

Candidate Starts for Rikishi_163:

(Start: 13 @89769 has 78 MA's), (15, 89790), (28, 89862), (32, 89883), (43, 89937), (57, 90219), (59, 90240), (73, 90546), (78, 90606),

Gene: SaltySpitoon_163 Start: 89408, Stop: 90274, Start Num: 13

Candidate Starts for SaltySpitoon_163:

(Start: 13 @89408 has 78 MA's), (15, 89429), (28, 89501), (32, 89522), (43, 89576), (57, 89858), (59, 89879), (73, 90185), (78, 90245),

Gene: Samisti12_154 Start: 91489, Stop: 92358, Start Num: 13

Candidate Starts for Samisti12_154:

(9, 91435), (Start: 13 @91489 has 78 MA's), (21, 91531), (24, 91552), (25, 91555), (43, 91657), (45, 91708), (62, 91996), (72, 92263),

Gene: Scheme_156 Start: 91669, Stop: 92538, Start Num: 13

Candidate Starts for Scheme_156:

(9, 91615), (Start: 13 @91669 has 78 MA's), (21, 91711), (24, 91732), (25, 91735), (62, 92176), (72, 92443),

Gene: SeresaTree_132 Start: 78701, Stop: 79621, Start Num: 13

Candidate Starts for SeresaTree_132:

(11, 78695), (Start: 13 @78701 has 78 MA's), (28, 78812), (37, 78863), (38, 78866), (40, 78878), (56, 79181), (58, 79211), (60, 79217), (67, 79319), (72, 79523), (73, 79526), (74, 79541),

Gene: Sham_131 Start: 79253, Stop: 80173, Start Num: 13

Candidate Starts for Sham_131:

(1, 79154), (2, 79163), (3, 79175), (11, 79247), (Start: 13 @79253 has 78 MA's), (18, 79283), (38, 79418), (40, 79430), (56, 79733), (58, 79763), (60, 79769), (67, 79871), (72, 80075), (73, 80078), (79, 80156),

Gene: Shuckle_151 Start: 89630, Stop: 90499, Start Num: 13

Candidate Starts for Shuckle_151:

(9, 89570), (Start: 13 @89630 has 78 MA's), (37, 89753), (50, 89972), (53, 90011), (64, 90149), (74, 90422),

Gene: Sollertia_160 Start: 89912, Stop: 90781, Start Num: 13

Candidate Starts for Sollertia_160:

(Start: 13 @89912 has 78 MA's), (28, 90005), (31, 90023), (32, 90026), (50, 90254), (57, 90362), (59, 90383), (70, 90650), (71, 90668), (72, 90686), (73, 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: 13 @78813 has 78 MA's), (33, 78933), (36, 78948), (48, 79095), (51, 79173), (60, 79302), (63, 79338), (66, 79359), (69, 79539), (73, 79605), (77, 79668),

Gene: Spelly_165 Start: 89357, Stop: 90226, Start Num: 13

Candidate Starts for Spelly_165:

(Start: 13 @89357 has 78 MA's), (17, 89384), (18, 89387), (32, 89471), (56, 89795), (59, 89828), (69, 90068), (72, 90131), (73, 90134),

Gene: Spilled_167 Start: 89936, Stop: 90802, Start Num: 13

Candidate Starts for Spilled_167:

(Start: 13 @89936 has 78 MA's), (15, 89957), (28, 90029), (32, 90050), (43, 90104), (57, 90386), (59, 90407), (73, 90713), (78, 90773),

Gene: Squillium_152 Start: 89110, Stop: 89979, Start Num: 13

Candidate Starts for Squillium_152:

(9, 89050), (Start: 13 @89110 has 78 MA's), (37, 89233), (50, 89452), (53, 89491), (64, 89629), (74, 89902),

Gene: Stanimal_158 Start: 89801, Stop: 90670, Start Num: 13

Candidate Starts for Stanimal_158:

(Start: 13 @89801 has 78 MA's), (28, 89894), (31, 89912), (32, 89915), (50, 90143), (57, 90251), (59, 90272), (70, 90539), (71, 90557), (72, 90575), (73, 90578),

Gene: StarPlatinum_168 Start: 91879, Stop: 92745, Start Num: 13

Candidate Starts for StarPlatinum_168:

(Start: 13 @91879 has 78 MA's), (17, 91906), (18, 91909), (32, 91993), (56, 92317), (57, 92329), (59, 92350), (69, 92590), (73, 92656),

Gene: Starbow_160 Start: 89381, Stop: 90247, Start Num: 13

Candidate Starts for Starbow_160:

(Start: 13 @89381 has 78 MA's), (15, 89402), (28, 89474), (32, 89495), (43, 89549), (57, 89831), (59, 89852), (73, 90158), (78, 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: 13 @78958 has 78 MA's), (33, 79078), (48, 79240), (51, 79318), (60, 79447), (63, 79483), (66, 79504), (69, 79684), (73, 79750), (77, 79813),

Gene: Sushi23_152 Start: 90462, Stop: 91331, Start Num: 13

Candidate Starts for Sushi23_152:

(9, 90408), (Start: 13 @90462 has 78 MA's), (21, 90504), (24, 90525), (25, 90528), (43, 90630), (45, 90681), (62, 90969), (72, 91236),

Gene: Deutsch_152 Start: 90785, Stop: 91654, Start Num: 13

Candidate Starts for Deutsch_152:

(9, 90731), (Start: 13 @90785 has 78 MA's), (21, 90827), (24, 90848), (25, 90851), (43, 90953), (45, 91004), (62, 91292), (72, 91559),

Gene: TomSawyer_165 Start: 90399, Stop: 91271, Start Num: 12

Candidate Starts for TomSawyer_165:

(Start: 12 @90399 has 1 MA's), (18, 90429), (22, 90450), (27, 90486), (51, 90744), (60, 90873), (73, 91176),

Gene: Tribute_152 Start: 90632, Stop: 91501, Start Num: 13

Candidate Starts for Tribute_152:

(9, 90578), (Start: 13 @90632 has 78 MA's), (21, 90674), (24, 90695), (25, 90698), (43, 90800), (45, 90851), (62, 91139), (72, 91406),

Gene: TunaTartare_135 Start: 81618, Stop: 82538, Start Num: 13

Candidate Starts for TunaTartare_135:

(1, 81519), (2, 81528), (3, 81540), (11, 81612), (Start: 13 @81618 has 78 MA's), (18, 81648), (40, 81795), (56, 82098), (58, 82128), (60, 82134), (67, 82236), (72, 82440), (73, 82443), (79, 82521),

Gene: Watermoore_152 Start: 90998, Stop: 91867, Start Num: 13

Candidate Starts for Watermoore_152:

(9, 90944), (Start: 13 @90998 has 78 MA's), (21, 91040), (24, 91061), (25, 91064), (43, 91166), (62, 91505), (72, 91772),

Gene: Westy_138 Start: 79847, Stop: 80734, Start Num: 13

Candidate Starts for Westy_138:

(Start: 13 @79847 has 78 MA's), (33, 79967), (48, 80129), (51, 80207), (60, 80336), (63, 80372), (66, 80393), (69, 80573), (73, 80639), (77, 80702),

Gene: Wipeout_156 Start: 90208, Stop: 91074, Start Num: 13

Candidate Starts for Wipeout_156:

(Start: 13 @90208 has 78 MA's), (15, 90229), (28, 90301), (32, 90322), (57, 90658), (59, 90679), (73, 90985), (78, 91045),

Gene: Wofford_157 Start: 91902, Stop: 92771, Start Num: 13

Candidate Starts for Wofford_157:

(Start: 13 @91902 has 78 MA's), (17, 91929), (18, 91932), (59, 92373), (65, 92427), (71, 92658), (72, 92676), (73, 92679),

Gene: Yaboi_161 Start: 89375, Stop: 90244, Start Num: 13

Candidate Starts for Yaboi_161:

(Start: 13 @89375 has 78 MA's), (28, 89468), (31, 89486), (32, 89489), (50, 89717), (57, 89825), (59, 89846), (70, 90113), (71, 90131), (72, 90149), (73, 90152),