

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 308437 Report

This analysis was run 06/27/26 on database version 652.

Pham number 308437 has 89 members, 10 are drafts.

Phages represented in each track:

- Track 1 : Settecandela_210, Phrappuccino_185
- Track 2 : MulchMansion_186, Angela_185
- Track 3 : LilSaint_180
- Track 4 : Pepperwood_184
- Track 5 : Riptide_180, Anedea_187
- Track 6 : Leo04_186, WashU_187, Cross_184, Coogler_183, Scheme_188, Larnav_185, BlueOtter_184, Tribute_182, Watermoore_183, Lululemon_183, PacManQ_183, HangryHippo_184
- Track 7 : EGole_185
- Track 8 : Evy_176
- Track 9 : PynkPanther_195
- Track 10 : Targaryen_184
- Track 11 : Shuckle_182
- Track 12 : Teutsch_183
- Track 13 : Cursive_183
- Track 14 : Samisti12_187
- Track 15 : Daubenski_178
- Track 16 : WhereRU_184, Navo_180, Davielle_185, Braelyn_182, Persimmon_185
- Track 17 : ArianaSWT_192
- Track 18 : Jay2Jay_190
- Track 19 : Bartholomune_183, Squillium_186, PinkiePie_183, FreddyDRoo_186, Eliot67_184, Liandry_183
- Track 20 : Sushi23_185, Peebs_183
- Track 21 : Mildred21_192
- Track 22 : Marsus_185
- Track 23 : NootNoot_180, Paradiddles_177
- Track 24 : LilMartin_183
- Track 25 : Cadmus_179
- Track 26 : Warpy_187
- Track 27 : Bmoc_188
- Track 28 : Faust_239, Sham_229
- Track 29 : Beuffert_234
- Track 30 : Moab_245, Patelgo_244
- Track 31 : Limpid_232, Annadreamy_225
- Track 32 : TunaTartare_236
- Track 33 : Blueeyedbeauty_237
- Track 34 : SeresaTree_243

- Track 35 : Circinus_203, Wakanda_215
- Track 36 : Chaewon_205
- Track 37 : BillNye_203
- Track 38 : Muntaha_218
- Track 39 : Trina_251
- Track 40 : NiceHouse_245
- Track 41 : Dorin_236, Francesca_237
- Track 42 : Bachita_5
- Track 43 : PhinkBoden_5
- Track 44 : Yvonnestic_172, Cardigan_179
- Track 45 : JonJames_176
- Track 46 : Morkie_29
- Track 47 : Crater_34
- Track 48 : A3Wally_295, Dodo_290
- Track 49 : PauloDiaboli_295
- Track 50 : Erasmago_169
- Track 51 : Big4_161
- Track 52 : Zooman_148
- Track 53 : Cece_155
- Track 54 : Cece_154
- Track 55 : Pumpernickel_33, Pumpernickel_334
- Track 56 : PhaoMing_28

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

The start number called the most often in the published annotations is 14, it was called in 53 of the 79 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

• Anedea_187, Angela_185, Annadreamy_225, ArianaSWT_192, Bartholomune_183, Beuffert_234, BillNye_203, BlueOtter_184, Blueeyedbeauty_237, Bmoc_188, Braelyn_182, Cadmus_179, Cece_155, Chaewon_205, Circinus_203, Coogler_183, Cross_184, Cursive_183, Daubenski_178, Davielle_185, EGole_185, Eliot67_184, Evy_176, Faust_239, FreddyDRoo_186, HangryHippo_184, Larnav_185, Leo04_186, Liandry_183, LilMartin_183, LilSaint_180, Limpid_232, Lululemon_183, Marsus_185, Mildred21_192, MulchMansion_186, Muntaha_218, Navo_180, NootNoot_180, PacManQ_183, Paradiddles_177, Pepperwood_184, Persimmon_185, PinkiePie_183, PynkPanther_195, Riptide_180, Scheme_188, SeresaTree_243, Sham_229, Shuckle_182, Squillium_186, Targaryen_184, Teutsch_183, Tribute_182, Trina_251, TunaTartare_236, Wakanda_215, WashU_187, Watermoore_183, WhereRU_184,

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

• Jay2Jay_190, Peebs_183, Samisti12_187, Sushi23_185, Warpy_187,

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

• A3Wally_295, Bachita_5, Big4_161, Cardigan_179, Cece_154, Crater_34, Dodo_290, Dorin_236, Erasmago_169, Francesca_237, JonJames_176, Moab_245, Morkie_29, NiceHouse_245, Patelgo_244, PauloDiaboli_295, PhaoMing_28, PhinkBoden_5, Phrappuccino_185, Pumpernickel_33, Pumpernickel_334,

Settecandela_210, Yvonnetastic_172, Zooman_148,

Summary by start number:

Start 10:

- Found in 2 of 89 (2.2%) of genes in pham
- Manual Annotations of this start: 2 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Moab_245 (BK1), Patelgo_244 (BK1),

Start 12:

- Found in 39 of 89 (43.8%) of genes in pham
- Manual Annotations of this start: 3 of 79
- Called 7.7% of time when present
- Phage (with cluster) where this start called: Jay2Jay_190 (BE1), Samisti12_187 (BE1), Warpy_187 (BE1),

Start 13:

- Found in 5 of 89 (5.6%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 20.0% of time when present
- Phage (with cluster) where this start called: Bachita_5 (CQ1),

Start 14:

- Found in 65 of 89 (73.0%) of genes in pham
- Manual Annotations of this start: 53 of 79
- Called 92.3% of time when present
- Phage (with cluster) where this start called: Anedea_187 (BE1), Angela_185 (BE1), Annadreamy_225 (BK1), ArianaSWT_192 (BE1), Bartholomune_183 (BE1), Beuffert_234 (BK1), BillNye_203 (BK2), BlueOtter_184 (BE1), Blueeyedbeauty_237 (BK1), Bmoc_188 (BE1), Braelyn_182 (BE1), Cadmus_179 (BE1), Cece_155 (GD3), Chaewon_205 (BK2), Circinus_203 (BK2), Coogler_183 (BE1), Cross_184 (BE1), Cursive_183 (BE1), Daubenski_178 (BE1), Davielle_185 (BE1), EGole_185 (BE1), Eliot67_184 (BE1), Evy_176 (BE1), Faust_239 (BK1), FreddyDRoo_186 (BE1), HangryHippo_184 (BE1), Larnav_185 (BE1), Leo04_186 (BE1), Liandry_183 (BE1), LilMartin_183 (BE1), LilSaint_180 (BE1), Limpid_232 (BK1), Lululemon_183 (BE1), Marsus_185 (BE1), Mildred21_192 (BE1), MulchMansion_186 (BE1), Muntaha_218 (BK2), Navo_180 (BE1), NootNoot_180 (BE1), PacManQ_183 (BE1), Paradiddles_177 (BE1), Pepperwood_184 (BE1), Persimmon_185 (BE1), PinkiePie_183 (BE1), PynkPanther_195 (BE1), Riptide_180 (BE1), Scheme_188 (BE1), SeresaTree_243 (BK1), Sham_229 (BK1), Shuckle_182 (BE1), Squillium_186 (BE1), Targaryen_184 (BE1), Teutsch_183 (BE1), Tribute_182 (BE1), Trina_251 (CE), TunaTartare_236 (BK1), Wakanda_215 (BK2), WashU_187 (BE1), Watermoore_183 (BE1), WhereRU_184 (BE1),

Start 16:

- Found in 3 of 89 (3.4%) of genes in pham
- Manual Annotations of this start: 3 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Cece_154 (GD3), Dorin_236 (CG), Francesca_237 (CG),

Start 17:

- Found in 3 of 89 (3.4%) of genes in pham
- Manual Annotations of this start: 2 of 79
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Peebs_183 (BE1), Sushi23_185 (BE1),

Start 18:

- Found in 3 of 89 (3.4%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 33.3% of time when present
- Phage (with cluster) where this start called: Zooman_148 (GD2),

Start 19:

- Found in 3 of 89 (3.4%) of genes in pham
- Manual Annotations of this start: 3 of 79
- Called 100.0% of time when present
- Phage (with cluster) where this start called: A3Wally_295 (GD1), Dodo_290 (GD1), PauloDiaboli_295 (GD1),

Start 20:

- Found in 13 of 89 (14.6%) of genes in pham
- Manual Annotations of this start: 10 of 79
- Called 92.3% of time when present
- Phage (with cluster) where this start called: Cardigan_179 (DD), Crater_34 (DN3), JonJames_176 (DD), Morkie_29 (DH), NiceHouse_245 (CE), PhaoMing_28 (UNK), PhinkBoden_5 (CQ1), Phrappuccino_185 (AA), Pumpernickel_33 (GD4), Pumpernickel_334 (GD4), Settecandela_210 (AA), Yvonnetastic_172 (DD),

Start 22:

- Found in 4 of 89 (4.5%) of genes in pham
- Manual Annotations of this start: 1 of 79
- Called 50.0% of time when present
- Phage (with cluster) where this start called: Big4_161 (GD2), Erasmago_169 (GD2),

Summary by clusters:

There are 15 clusters represented in this pham: AA, GD1, GD2, UNK, GD4, BK2, DH, DD, CG, CE, GD3, BK1, DN3, CQ1, BE1,

Info for manual annotations of cluster AA:

- Start number 20 was manually annotated 2 times for cluster AA.

Info for manual annotations of cluster BE1:

- Start number 12 was manually annotated 3 times for cluster BE1.
- Start number 14 was manually annotated 40 times for cluster BE1.
- Start number 17 was manually annotated 2 times for cluster BE1.

Info for manual annotations of cluster BK1:

- Start number 10 was manually annotated 2 times for cluster BK1.
- Start number 14 was manually annotated 7 times for cluster BK1.

Info for manual annotations of cluster BK2:

- Start number 14 was manually annotated 4 times for cluster BK2.

Info for manual annotations of cluster CE:

- Start number 14 was manually annotated 1 time for cluster CE.
- Start number 20 was manually annotated 1 time for cluster CE.

Info for manual annotations of cluster CG:

- Start number 16 was manually annotated 2 times for cluster CG.

Info for manual annotations of cluster CQ1:

- Start number 13 was manually annotated 1 time for cluster CQ1.
- Start number 20 was manually annotated 1 time for cluster CQ1.

Info for manual annotations of cluster DD:

- Start number 20 was manually annotated 2 times for cluster DD.

Info for manual annotations of cluster DH:

- Start number 20 was manually annotated 1 time for cluster DH.

Info for manual annotations of cluster DN3:

- Start number 20 was manually annotated 1 time for cluster DN3.

Info for manual annotations of cluster GD1:

- Start number 19 was manually annotated 3 times for cluster GD1.

Info for manual annotations of cluster GD2:

- Start number 18 was manually annotated 1 time for cluster GD2.
- Start number 22 was manually annotated 1 time for cluster GD2.

Info for manual annotations of cluster GD3:

- Start number 14 was manually annotated 1 time for cluster GD3.
- Start number 16 was manually annotated 1 time for cluster GD3.

Info for manual annotations of cluster GD4:

- Start number 20 was manually annotated 2 times for cluster GD4.

Gene Information:

Gene: A3Wally_295 Start: 159634, Stop: 159978, Start Num: 19

Candidate Starts for A3Wally_295:

(Start: 19 @159634 has 3 MA's), (24, 159685), (27, 159703), (30, 159718), (42, 159760), (51, 159820), (54, 159832), (65, 159901), (70, 159937), (72, 159949),

Gene: Anedea_187 Start: 97403, Stop: 97726, Start Num: 14

Candidate Starts for Anedea_187:

(Start: 12 @97397 has 3 MA's), (Start: 14 @97403 has 53 MA's), (25, 97469), (46, 97562), (51, 97601), (54, 97613), (62, 97658), (67, 97691), (70, 97715),

Gene: Angela_185 Start: 97387, Stop: 97710, Start Num: 14

Candidate Starts for Angela_185:

(Start: 14 @97387 has 53 MA's), (25, 97453), (29, 97480), (38, 97510), (51, 97585), (54, 97597), (65, 97666), (67, 97675), (70, 97699),

Gene: Annadreamy_225 Start: 110680, Stop: 110970, Start Num: 14

Candidate Starts for Annadreamy_225:

(Start: 14 @110680 has 53 MA's), (26, 110746), (35, 110776), (37, 110779), (51, 110845), (54, 110857), (67, 110935),

Gene: ArianaSWT_192 Start: 98118, Stop: 98447, Start Num: 14

Candidate Starts for ArianaSWT_192:

(Start: 12 @98112 has 3 MA's), (Start: 14 @98118 has 53 MA's), (25, 98184), (33, 98223), (38, 98241), (46, 98277), (51, 98316), (54, 98328), (61, 98364), (62, 98373), (65, 98397), (67, 98406),

Gene: Bachita_5 Start: 1394, Stop: 1068, Start Num: 13

Candidate Starts for Bachita_5:

(3, 1457), (4, 1448), (7, 1421), (Start: 13 @1394 has 1 MA's), (Start: 20 @1379 has 10 MA's), (23, 1334), (36, 1283), (39, 1268), (48, 1232), (51, 1214), (57, 1193), (59, 1157), (60, 1154), (67, 1106), (69, 1082),

Gene: Bartholomune_183 Start: 96913, Stop: 97236, Start Num: 14

Candidate Starts for Bartholomune_183:

(Start: 12 @96907 has 3 MA's), (Start: 14 @96913 has 53 MA's), (25, 96979), (30, 97009), (38, 97036), (51, 97111), (54, 97123), (65, 97192), (67, 97201), (70, 97225),

Gene: Beuffert_234 Start: 114918, Stop: 115211, Start Num: 14

Candidate Starts for Beuffert_234:

(Start: 14 @114918 has 53 MA's), (35, 115014), (37, 115017), (51, 115083), (54, 115095), (67, 115173), (71, 115203),

Gene: Big4_161 Start: 92681, Stop: 93028, Start Num: 22

Candidate Starts for Big4_161:

(Start: 18 @92651 has 1 MA's), (Start: 22 @92681 has 1 MA's), (42, 92804), (50, 92855), (51, 92861), (54, 92873), (65, 92942),

Gene: BillNye_203 Start: 107481, Stop: 107771, Start Num: 14

Candidate Starts for BillNye_203:

(Start: 14 @107481 has 53 MA's), (21, 107487), (35, 107577), (41, 107601), (51, 107646), (54, 107658), (67, 107736), (69, 107760),

Gene: BlueOtter_184 Start: 98154, Stop: 98477, Start Num: 14

Candidate Starts for BlueOtter_184:

(Start: 12 @98148 has 3 MA's), (Start: 14 @98154 has 53 MA's), (25, 98220), (33, 98259), (38, 98277), (46, 98313), (51, 98352), (54, 98364), (61, 98400), (67, 98442), (70, 98466),

Gene: Blueeyedbeauty_237 Start: 114996, Stop: 115289, Start Num: 14

Candidate Starts for Blueeyedbeauty_237:

(Start: 14 @114996 has 53 MA's), (35, 115092), (51, 115161), (54, 115173), (67, 115251),

Gene: Bmoc_188 Start: 98157, Stop: 98480, Start Num: 14

Candidate Starts for Bmoc_188:

(Start: 12 @98151 has 3 MA's), (Start: 14 @98157 has 53 MA's), (25, 98223), (33, 98262), (38, 98280), (51, 98355), (54, 98367), (64, 98421), (67, 98445), (70, 98469),

Gene: Braelyn_182 Start: 97694, Stop: 97999, Start Num: 14

Candidate Starts for Braelyn_182:

(Start: 12 @97688 has 3 MA's), (Start: 14 @97694 has 53 MA's), (25, 97760), (29, 97787), (30, 97790), (45, 97847), (51, 97874), (54, 97886), (65, 97955), (67, 97964), (70, 97988),

Gene: Cadmus_179 Start: 97370, Stop: 97681, Start Num: 14

Candidate Starts for Cadmus_179:

(Start: 13 @97367 has 1 MA's), (Start: 14 @97370 has 53 MA's), (28, 97460), (45, 97523), (51, 97550), (54, 97562), (62, 97607), (65, 97631), (67, 97640),

Gene: Cardigan_179 Start: 90610, Stop: 90317, Start Num: 20

Candidate Starts for Cardigan_179:

(11, 90628), (Start: 20 @90610 has 10 MA's), (51, 90445), (52, 90442), (54, 90433), (60, 90403), (61, 90397), (67, 90355), (69, 90331),

Gene: Cece_155 Start: 97737, Stop: 98087, Start Num: 14

Candidate Starts for Cece_155:

(Start: 12 @97731 has 3 MA's), (Start: 14 @97737 has 53 MA's), (24, 97794), (32, 97833), (54, 97938), (65, 98007), (70, 98043),

Gene: Cece_154 Start: 97448, Stop: 97759, Start Num: 16

Candidate Starts for Cece_154:

(Start: 16 @97448 has 3 MA's), (24, 97505), (29, 97535), (41, 97562), (51, 97607), (53, 97613), (55, 97619), (70, 97724), (71, 97727),

Gene: Chaewon_205 Start: 107403, Stop: 107693, Start Num: 14

Candidate Starts for Chaewon_205:

(Start: 14 @107403 has 53 MA's), (21, 107409), (35, 107499), (41, 107523), (51, 107568), (54, 107580), (64, 107634), (67, 107658), (69, 107682),

Gene: Circinus_203 Start: 107088, Stop: 107384, Start Num: 14

Candidate Starts for Circinus_203:

(Start: 14 @107088 has 53 MA's), (21, 107094), (35, 107184), (41, 107208), (51, 107253), (54, 107265), (67, 107343),

Gene: Coogler_183 Start: 98823, Stop: 99146, Start Num: 14

Candidate Starts for Coogler_183:

(Start: 12 @98817 has 3 MA's), (Start: 14 @98823 has 53 MA's), (25, 98889), (33, 98928), (38, 98946), (46, 98982), (51, 99021), (54, 99033), (61, 99069), (67, 99111), (70, 99135),

Gene: Crater_34 Start: 27708, Stop: 27974, Start Num: 20

Candidate Starts for Crater_34:

(Start: 20 @27708 has 10 MA's), (29, 27786), (36, 27804), (52, 27861), (54, 27870), (61, 27909), (64, 27927), (67, 27951),

Gene: Cross_184 Start: 98799, Stop: 99122, Start Num: 14

Candidate Starts for Cross_184:

(Start: 12 @98793 has 3 MA's), (Start: 14 @98799 has 53 MA's), (25, 98865), (33, 98904), (38, 98922), (46, 98958), (51, 98997), (54, 99009), (61, 99045), (67, 99087), (70, 99111),

Gene: Cursive_183 Start: 97009, Stop: 97320, Start Num: 14

Candidate Starts for Cursive_183:

(Start: 13 @97006 has 1 MA's), (Start: 14 @97009 has 53 MA's), (28, 97099), (45, 97162), (51, 97189), (54, 97201), (62, 97246), (65, 97270), (67, 97279), (68, 97282),

Gene: Daubenski_178 Start: 98607, Stop: 98912, Start Num: 14

Candidate Starts for Daubenski_178:

(Start: 13 @98604 has 1 MA's), (Start: 14 @98607 has 53 MA's), (28, 98697), (45, 98760), (51, 98787), (54, 98799), (67, 98877), (70, 98901),

Gene: Davielle_185 Start: 97844, Stop: 98149, Start Num: 14

Candidate Starts for Davielle_185:

(Start: 12 @97838 has 3 MA's), (Start: 14 @97844 has 53 MA's), (25, 97910), (29, 97937), (30, 97940), (45, 97997), (51, 98024), (54, 98036), (65, 98105), (67, 98114), (70, 98138),

Gene: Dodo_290 Start: 159318, Stop: 159662, Start Num: 19

Candidate Starts for Dodo_290:

(Start: 19 @159318 has 3 MA's), (24, 159369), (27, 159387), (30, 159402), (42, 159444), (51, 159504), (54, 159516), (65, 159585), (70, 159621), (72, 159633),

Gene: Dorin_236 Start: 121224, Stop: 121532, Start Num: 16

Candidate Starts for Dorin_236:

(Start: 16 @121224 has 3 MA's), (31, 121314), (54, 121407), (67, 121485),

Gene: EGole_185 Start: 99577, Stop: 99888, Start Num: 14

Candidate Starts for EGole_185:

(Start: 12 @99571 has 3 MA's), (Start: 14 @99577 has 53 MA's), (25, 99643), (29, 99670), (30, 99673), (45, 99730), (51, 99757), (54, 99769), (62, 99814), (65, 99838), (67, 99847), (68, 99850),

Gene: Eliot67_184 Start: 96949, Stop: 97272, Start Num: 14

Candidate Starts for Eliot67_184:

(Start: 12 @96943 has 3 MA's), (Start: 14 @96949 has 53 MA's), (25, 97015), (30, 97045), (38, 97072), (51, 97147), (54, 97159), (65, 97228), (67, 97237), (70, 97261),

Gene: Erasmago_169 Start: 93346, Stop: 93693, Start Num: 22

Candidate Starts for Erasmago_169:

(2, 93172), (8, 93280), (Start: 18 @93316 has 1 MA's), (Start: 22 @93346 has 1 MA's), (42, 93469), (50, 93520), (51, 93526), (52, 93529), (54, 93538), (65, 93607), (70, 93643),

Gene: Evy_176 Start: 98474, Stop: 98779, Start Num: 14

Candidate Starts for Evy_176:

(Start: 12 @98468 has 3 MA's), (Start: 14 @98474 has 53 MA's), (25, 98540), (29, 98567), (30, 98570), (38, 98597), (45, 98627), (51, 98654), (53, 98660), (54, 98666), (62, 98711), (65, 98735), (67, 98744), (70, 98768),

Gene: Faust_239 Start: 116793, Stop: 117086, Start Num: 14

Candidate Starts for Faust_239:

(Start: 14 @116793 has 53 MA's), (35, 116889), (51, 116958), (54, 116970), (67, 117048), (71, 117078),

Gene: Francesca_237 Start: 121867, Stop: 122175, Start Num: 16

Candidate Starts for Francesca_237:

(Start: 16 @121867 has 3 MA's), (31, 121957), (54, 122050), (67, 122128),

Gene: FreddyDRoo_186 Start: 96949, Stop: 97272, Start Num: 14

Candidate Starts for FreddyDRoo_186:

(Start: 12 @96943 has 3 MA's), (Start: 14 @96949 has 53 MA's), (25, 97015), (30, 97045), (38, 97072), (51, 97147), (54, 97159), (65, 97228), (67, 97237), (70, 97261),

Gene: HangryHippo_184 Start: 98154, Stop: 98477, Start Num: 14

Candidate Starts for HangryHippo_184:

(Start: 12 @98148 has 3 MA's), (Start: 14 @98154 has 53 MA's), (25, 98220), (33, 98259), (38, 98277), (46, 98313), (51, 98352), (54, 98364), (61, 98400), (67, 98442), (70, 98466),

Gene: Jay2Jay_190 Start: 99148, Stop: 99459, Start Num: 12

Candidate Starts for Jay2Jay_190:

(5, 99103), (Start: 12 @99148 has 3 MA's), (Start: 14 @99154 has 53 MA's), (25, 99220), (29, 99247), (30, 99250), (45, 99307), (51, 99334), (54, 99346), (67, 99424), (70, 99448),

Gene: JonJames_176 Start: 92181, Stop: 91888, Start Num: 20

Candidate Starts for JonJames_176:

(15, 92184), (Start: 20 @92181 has 10 MA's), (45, 92043), (52, 92013), (53, 92010), (54, 92004), (60, 91974), (61, 91968), (63, 91953), (67, 91926), (68, 91923), (69, 91902),

Gene: Larnav_185 Start: 98774, Stop: 99097, Start Num: 14

Candidate Starts for Larnav_185:

(Start: 12 @98768 has 3 MA's), (Start: 14 @98774 has 53 MA's), (25, 98840), (33, 98879), (38, 98897), (46, 98933), (51, 98972), (54, 98984), (61, 99020), (67, 99062), (70, 99086),

Gene: Leo04_186 Start: 99165, Stop: 99488, Start Num: 14

Candidate Starts for Leo04_186:

(Start: 12 @99159 has 3 MA's), (Start: 14 @99165 has 53 MA's), (25, 99231), (33, 99270), (38, 99288), (46, 99324), (51, 99363), (54, 99375), (61, 99411), (67, 99453), (70, 99477),

Gene: Liandry_183 Start: 97656, Stop: 97979, Start Num: 14

Candidate Starts for Liandry_183:

(Start: 12 @97650 has 3 MA's), (Start: 14 @97656 has 53 MA's), (25, 97722), (30, 97752), (38, 97779), (51, 97854), (54, 97866), (65, 97935), (67, 97944), (70, 97968),

Gene: LilMartin_183 Start: 97006, Stop: 97329, Start Num: 14

Candidate Starts for LilMartin_183:

(Start: 14 @97006 has 53 MA's), (25, 97072), (29, 97099), (38, 97129), (51, 97204), (65, 97285), (67, 97294), (70, 97318),

Gene: LilSaint_180 Start: 96565, Stop: 96888, Start Num: 14

Candidate Starts for LilSaint_180:

(Start: 12 @96559 has 3 MA's), (Start: 14 @96565 has 53 MA's), (25, 96631), (46, 96724), (51, 96763), (54, 96775), (67, 96853),

Gene: Limpid_232 Start: 115993, Stop: 116283, Start Num: 14

Candidate Starts for Limpid_232:

(Start: 14 @115993 has 53 MA's), (26, 116059), (35, 116089), (37, 116092), (51, 116158), (54, 116170), (67, 116248),

Gene: Lululemon_183 Start: 97535, Stop: 97858, Start Num: 14

Candidate Starts for Lululemon_183:

(Start: 12 @97529 has 3 MA's), (Start: 14 @97535 has 53 MA's), (25, 97601), (33, 97640), (38, 97658), (46, 97694), (51, 97733), (54, 97745), (61, 97781), (67, 97823), (70, 97847),

Gene: Marsus_185 Start: 97961, Stop: 98284, Start Num: 14

Candidate Starts for Marsus_185:

(Start: 14 @97961 has 53 MA's), (Start: 22 @98003 has 1 MA's), (25, 98027), (29, 98054), (33, 98066), (46, 98120), (51, 98159), (54, 98171), (67, 98249), (70, 98273),

Gene: Mildred21_192 Start: 96624, Stop: 96923, Start Num: 14
Candidate Starts for Mildred21_192:

(Start: 14 @96624 has 53 MA's), (23, 96678), (25, 96684), (28, 96708), (34, 96726), (51, 96798), (54, 96810), (64, 96864), (67, 96888), (70, 96912),

Gene: Moab_245 Start: 117889, Stop: 118197, Start Num: 10
Candidate Starts for Moab_245:

(6, 117865), (Start: 10 @117889 has 2 MA's), (29, 117985), (41, 118027), (51, 118072), (67, 118162),

Gene: Morkie_29 Start: 24617, Stop: 24883, Start Num: 20
Candidate Starts for Morkie_29:

(Start: 20 @24617 has 10 MA's), (29, 24695), (36, 24713), (39, 24728), (51, 24767), (52, 24770), (54, 24779), (61, 24818), (67, 24860),

Gene: MulchMansion_186 Start: 98386, Stop: 98709, Start Num: 14
Candidate Starts for MulchMansion_186:

(Start: 14 @98386 has 53 MA's), (25, 98452), (29, 98479), (38, 98509), (51, 98584), (54, 98596), (65, 98665), (67, 98674), (70, 98698),

Gene: Muntaha_218 Start: 107200, Stop: 107490, Start Num: 14
Candidate Starts for Muntaha_218:

(Start: 14 @107200 has 53 MA's), (21, 107206), (35, 107296), (37, 107299), (41, 107320), (51, 107365), (54, 107377), (67, 107455), (69, 107479),

Gene: Navo_180 Start: 97075, Stop: 97380, Start Num: 14
Candidate Starts for Navo_180:

(Start: 12 @97069 has 3 MA's), (Start: 14 @97075 has 53 MA's), (25, 97141), (29, 97168), (30, 97171), (45, 97228), (51, 97255), (54, 97267), (65, 97336), (67, 97345), (70, 97369),

Gene: NiceHouse_245 Start: 126037, Stop: 126336, Start Num: 20
Candidate Starts for NiceHouse_245:

(Start: 20 @126037 has 10 MA's), (61, 126250), (67, 126292), (71, 126322),

Gene: NootNoot_180 Start: 96445, Stop: 96768, Start Num: 14
Candidate Starts for NootNoot_180:

(Start: 12 @96439 has 3 MA's), (Start: 14 @96445 has 53 MA's), (25, 96511), (30, 96541), (46, 96604), (51, 96643), (54, 96655), (67, 96733), (70, 96757),

Gene: PacManQ_183 Start: 97535, Stop: 97858, Start Num: 14
Candidate Starts for PacManQ_183:

(Start: 12 @97529 has 3 MA's), (Start: 14 @97535 has 53 MA's), (25, 97601), (33, 97640), (38, 97658), (46, 97694), (51, 97733), (54, 97745), (61, 97781), (67, 97823), (70, 97847),

Gene: Paradiddles_177 Start: 99258, Stop: 99581, Start Num: 14
Candidate Starts for Paradiddles_177:

(Start: 12 @99252 has 3 MA's), (Start: 14 @99258 has 53 MA's), (25, 99324), (30, 99354), (46, 99417), (51, 99456), (54, 99468), (67, 99546), (70, 99570),

Gene: Patelgo_244 Start: 118136, Stop: 118444, Start Num: 10
Candidate Starts for Patelgo_244:

(6, 118112), (Start: 10 @118136 has 2 MA's), (29, 118232), (41, 118274), (51, 118319), (67, 118409),

Gene: PauloDiaboli_295 Start: 156833, Stop: 157177, Start Num: 19

Candidate Starts for PauloDiaboli_295:

(Start: 19 @156833 has 3 MA's), (24, 156884), (27, 156902), (30, 156917), (42, 156959), (51, 157019), (54, 157031), (55, 157034), (65, 157100), (70, 157136), (72, 157148),

Gene: Peebs_183 Start: 98480, Stop: 98770, Start Num: 17

Candidate Starts for Peebs_183:

(Start: 14 @98474 has 53 MA's), (Start: 17 @98480 has 2 MA's), (34, 98573), (41, 98600), (51, 98645), (54, 98657), (61, 98693), (70, 98759),

Gene: Pepperwood_184 Start: 98432, Stop: 98728, Start Num: 14

Candidate Starts for Pepperwood_184:

(Start: 14 @98432 has 53 MA's), (Start: 17 @98438 has 2 MA's), (34, 98531), (41, 98558), (51, 98603), (54, 98615), (61, 98651), (70, 98717),

Gene: Persimmon_185 Start: 97092, Stop: 97397, Start Num: 14

Candidate Starts for Persimmon_185:

(Start: 12 @97086 has 3 MA's), (Start: 14 @97092 has 53 MA's), (25, 97158), (29, 97185), (30, 97188), (45, 97245), (51, 97272), (54, 97284), (65, 97353), (67, 97362), (70, 97386),

Gene: PhaoMing_28 Start: 25871, Stop: 26137, Start Num: 20

Candidate Starts for PhaoMing_28:

(Start: 20 @25871 has 10 MA's), (29, 25949), (36, 25967), (39, 25982), (52, 26024), (54, 26033), (61, 26072), (67, 26114),

Gene: PhinkBoden_5 Start: 1379, Stop: 1068, Start Num: 20

Candidate Starts for PhinkBoden_5:

(3, 1457), (4, 1448), (7, 1421), (Start: 13 @1394 has 1 MA's), (Start: 20 @1379 has 10 MA's), (23, 1334), (36, 1283), (39, 1268), (48, 1232), (51, 1214), (57, 1193), (59, 1157), (60, 1154), (67, 1106), (69, 1082),

Gene: Phrappuccino_185 Start: 120149, Stop: 120544, Start Num: 20

Candidate Starts for Phrappuccino_185:

(Start: 20 @120149 has 10 MA's), (25, 120206), (29, 120233), (40, 120263), (41, 120266), (43, 120281), (66, 120401), (73, 120458),

Gene: PinkiePie_183 Start: 97656, Stop: 97979, Start Num: 14

Candidate Starts for PinkiePie_183:

(Start: 12 @97650 has 3 MA's), (Start: 14 @97656 has 53 MA's), (25, 97722), (30, 97752), (38, 97779), (51, 97854), (54, 97866), (65, 97935), (67, 97944), (70, 97968),

Gene: Pumpernickel_33 Start: 12977, Stop: 13294, Start Num: 20

Candidate Starts for Pumpernickel_33:

(1, 12728), (9, 12941), (Start: 20 @12977 has 10 MA's), (44, 13118), (47, 13130), (49, 13148), (54, 13169), (58, 13184),

Gene: Pumpernickel_334 Start: 179109, Stop: 179426, Start Num: 20

Candidate Starts for Pumpernickel_334:

(1, 178860), (9, 179073), (Start: 20 @179109 has 10 MA's), (44, 179250), (47, 179262), (49, 179280), (54, 179301), (58, 179316),

Gene: PynkPanther_195 Start: 98277, Stop: 98588, Start Num: 14

Candidate Starts for PynkPanther_195:

(Start: 12 @98271 has 3 MA's), (Start: 14 @98277 has 53 MA's), (25, 98343), (30, 98373), (38, 98400), (45, 98430), (51, 98457), (54, 98469), (62, 98514), (65, 98538), (67, 98547),

Gene: Riptide_180 Start: 96042, Stop: 96365, Start Num: 14

Candidate Starts for Riptide_180:

(Start: 12 @96036 has 3 MA's), (Start: 14 @96042 has 53 MA's), (25, 96108), (46, 96201), (51, 96240), (54, 96252), (62, 96297), (67, 96330), (70, 96354),

Gene: Samisti12_187 Start: 99855, Stop: 100184, Start Num: 12

Candidate Starts for Samisti12_187:

(Start: 12 @99855 has 3 MA's), (Start: 14 @99861 has 53 MA's), (25, 99927), (33, 99966), (38, 99984), (46, 100020), (51, 100059), (54, 100071), (61, 100107), (67, 100149), (70, 100173),

Gene: Scheme_188 Start: 100042, Stop: 100365, Start Num: 14

Candidate Starts for Scheme_188:

(Start: 12 @100036 has 3 MA's), (Start: 14 @100042 has 53 MA's), (25, 100108), (33, 100147), (38, 100165), (46, 100201), (51, 100240), (54, 100252), (61, 100288), (67, 100330), (70, 100354),

Gene: SeresaTree_243 Start: 117018, Stop: 117311, Start Num: 14

Candidate Starts for SeresaTree_243:

(Start: 14 @117018 has 53 MA's), (35, 117114), (45, 117156), (54, 117195), (67, 117273), (71, 117303),

Gene: Settecandela_210 Start: 128996, Stop: 129391, Start Num: 20

Candidate Starts for Settecandela_210:

(Start: 20 @128996 has 10 MA's), (25, 129053), (29, 129080), (40, 129110), (41, 129113), (43, 129128), (66, 129248), (73, 129305),

Gene: Sham_229 Start: 116538, Stop: 116831, Start Num: 14

Candidate Starts for Sham_229:

(Start: 14 @116538 has 53 MA's), (35, 116634), (51, 116703), (54, 116715), (67, 116793), (71, 116823),

Gene: Shuckle_182 Start: 98505, Stop: 98828, Start Num: 14

Candidate Starts for Shuckle_182:

(Start: 14 @98505 has 53 MA's), (25, 98571), (33, 98610), (51, 98703), (54, 98715), (61, 98751), (64, 98769), (67, 98793), (70, 98817),

Gene: Squillium_186 Start: 97658, Stop: 97981, Start Num: 14

Candidate Starts for Squillium_186:

(Start: 12 @97652 has 3 MA's), (Start: 14 @97658 has 53 MA's), (25, 97724), (30, 97754), (38, 97781), (51, 97856), (54, 97868), (65, 97937), (67, 97946), (70, 97970),

Gene: Sushi23_185 Start: 99544, Stop: 99834, Start Num: 17

Candidate Starts for Sushi23_185:

(Start: 14 @99538 has 53 MA's), (Start: 17 @99544 has 2 MA's), (34, 99637), (41, 99664), (51, 99709), (54, 99721), (61, 99757), (70, 99823),

Gene: Targaryen_184 Start: 99683, Stop: 99988, Start Num: 14

Candidate Starts for Targaryen_184:

(Start: 12 @99677 has 3 MA's), (Start: 14 @99683 has 53 MA's), (25, 99749), (29, 99776), (30, 99779), (45, 99836), (51, 99863), (54, 99875), (67, 99953), (70, 99977),

Gene: Teutsch_183 Start: 98959, Stop: 99282, Start Num: 14

Candidate Starts for Teutsch_183:

(Start: 12 @98953 has 3 MA's), (Start: 14 @98959 has 53 MA's), (25, 99025), (33, 99064), (38, 99082), (46, 99118), (51, 99157), (54, 99169), (67, 99247), (70, 99271),

Gene: Tribute_182 Start: 98976, Stop: 99299, Start Num: 14

Candidate Starts for Tribute_182:

(Start: 12 @98970 has 3 MA's), (Start: 14 @98976 has 53 MA's), (25, 99042), (33, 99081), (38, 99099), (46, 99135), (51, 99174), (54, 99186), (61, 99222), (67, 99264), (70, 99288),

Gene: Trina_251 Start: 126565, Stop: 126918, Start Num: 14

Candidate Starts for Trina_251:

(Start: 14 @126565 has 53 MA's), (29, 126652), (54, 126769), (56, 126775), (61, 126805), (66, 126841),

Gene: TunaTartare_236 Start: 118367, Stop: 118660, Start Num: 14

Candidate Starts for TunaTartare_236:

(Start: 14 @118367 has 53 MA's), (45, 118505), (54, 118544), (67, 118622), (71, 118652),

Gene: Wakanda_215 Start: 106585, Stop: 106875, Start Num: 14

Candidate Starts for Wakanda_215:

(Start: 14 @106585 has 53 MA's), (21, 106591), (35, 106681), (41, 106705), (51, 106750), (54, 106762), (67, 106840),

Gene: Warpy_187 Start: 98411, Stop: 98722, Start Num: 12

Candidate Starts for Warpy_187:

(Start: 12 @98411 has 3 MA's), (Start: 14 @98417 has 53 MA's), (25, 98483), (29, 98510), (30, 98513), (45, 98570), (51, 98597), (54, 98609), (65, 98678), (67, 98687), (70, 98711),

Gene: WashU_187 Start: 99050, Stop: 99373, Start Num: 14

Candidate Starts for WashU_187:

(Start: 12 @99044 has 3 MA's), (Start: 14 @99050 has 53 MA's), (25, 99116), (33, 99155), (38, 99173), (46, 99209), (51, 99248), (54, 99260), (61, 99296), (67, 99338), (70, 99362),

Gene: Watermoore_183 Start: 99370, Stop: 99693, Start Num: 14

Candidate Starts for Watermoore_183:

(Start: 12 @99364 has 3 MA's), (Start: 14 @99370 has 53 MA's), (25, 99436), (33, 99475), (38, 99493), (46, 99529), (51, 99568), (54, 99580), (61, 99616), (67, 99658), (70, 99682),

Gene: WhereRU_184 Start: 97844, Stop: 98149, Start Num: 14

Candidate Starts for WhereRU_184:

(Start: 12 @97838 has 3 MA's), (Start: 14 @97844 has 53 MA's), (25, 97910), (29, 97937), (30, 97940), (45, 97997), (51, 98024), (54, 98036), (65, 98105), (67, 98114), (70, 98138),

Gene: Yvonnetastic_172 Start: 88432, Stop: 88139, Start Num: 20

Candidate Starts for Yvonnetastic_172:

(11, 88450), (Start: 20 @88432 has 10 MA's), (51, 88267), (52, 88264), (54, 88255), (60, 88225), (61, 88219), (67, 88177), (69, 88153),

Gene: Zooman_148 Start: 90246, Stop: 90623, Start Num: 18

Candidate Starts for Zooman_148:

(Start: 18 @90246 has 1 MA's), (Start: 22 @90276 has 1 MA's), (42, 90399), (50, 90450), (51, 90456),
(54, 90468), (65, 90537),