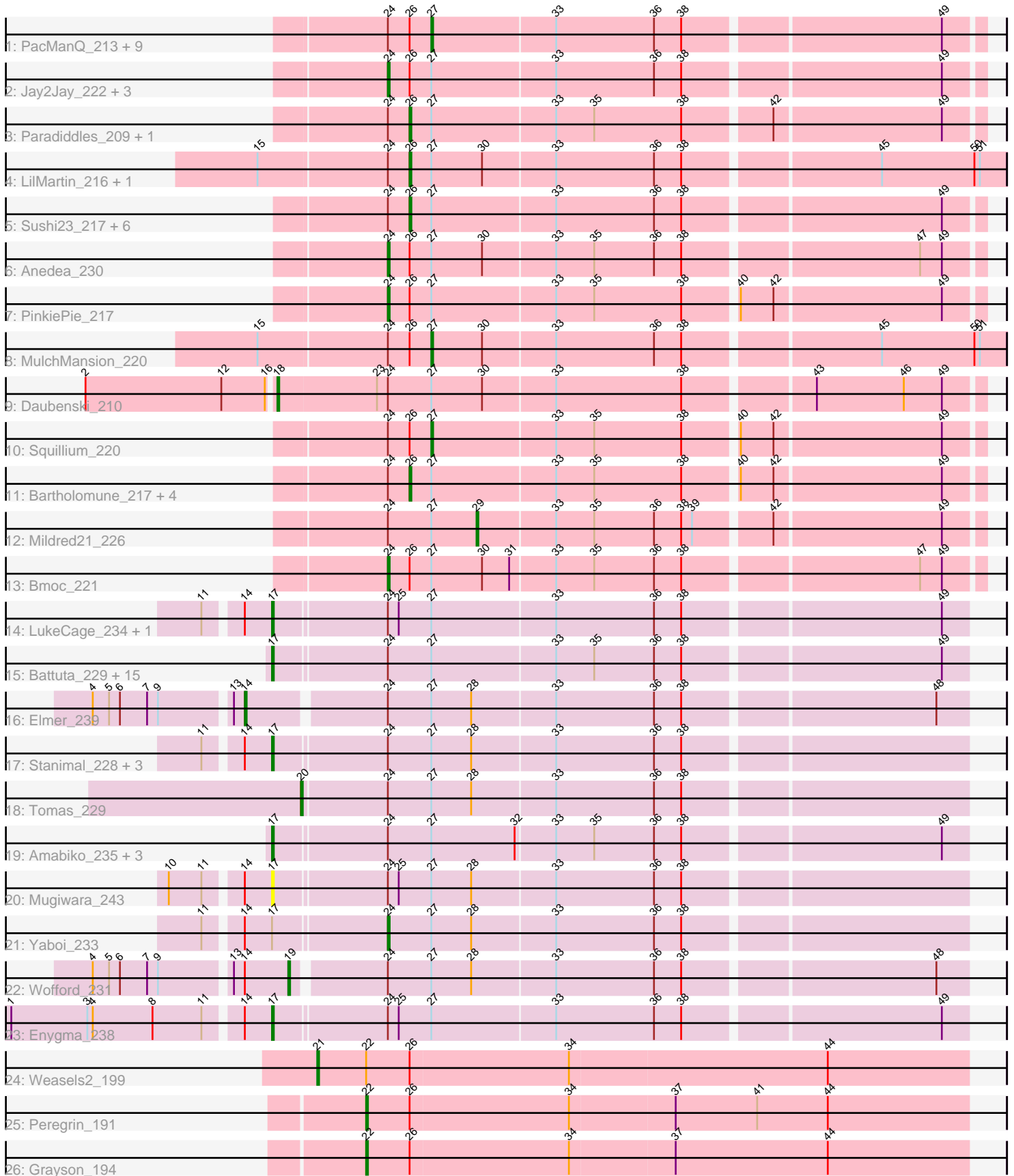


Pham 193972



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 193972 Report

This analysis was run 11/02/24 on database version 579.

Pham number 193972 has 72 members, 4 are drafts.

Phages represented in each track:

- Track 1 : PacManQ_213, EGole_220, BlueOtter_215, Lululemon_213, Evy_207, HangryHippo_215, Peebs_214, Cross_216, Teutsch_216, Pepperwood_217
- Track 2 : Jay2Jay_222, Warpy_220, Targaryen_216, Leo04_217
- Track 3 : Paradiddles_209, NootNoot_214
- Track 4 : LilMartin_216, Angela_219
- Track 5 : Sushi23_217, Cursive_219, Larnav_216, Samisti12_221, Tribute_213, Watermoore_216, Scheme_220
- Track 6 : Anedea_230
- Track 7 : PinkiePie_217
- Track 8 : MulchMansion_220
- Track 9 : Daubenski_210
- Track 10 : Squillium_220
- Track 11 : Bartholomune_217, Persimmon_220, Braelyn_213, WhereRU_216, Navo_211
- Track 12 : Mildred21_226
- Track 13 : Bmoc_221
- Track 14 : LukeCage_234, StarPlatinum_238
- Track 15 : Battuta_229, SaltySpittoon_231, KentuckyRacer_237, Quaran19_231, CeilingFan_243, Spilled_238, PumpkinSpice_234, Starbow_228, Wipeout_221, TomSawyer_235, JimJam_238, Karimac_231, Bordeaux_229, Jollison_228, Spelly_236, Gibbi_239
- Track 16 : Elmer_239
- Track 17 : Stanimal_228, Genie2_228, Sollertia_229, BoomerJR_228
- Track 18 : Tomas_229
- Track 19 : Amabiko_235, IchabodCrane_225, MindFlayer_224, Birchlyn_230
- Track 20 : Mugiwara_243
- Track 21 : Yaboi_233
- Track 22 : Wofford_231
- Track 23 : Enygma_238
- Track 24 : Weasels2_199
- Track 25 : Peregrin_191
- Track 26 : Grayson_194

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

The start number called the most often in the published annotations is 17, it was called in 25 of the 68 non-draft genes in the pham.

Genes that call this "Most Annotated" start:

- Amabiko_235, Battuta_229, Birchlyn_230, BoomerJR_228, Bordeaux_229, CeilingFan_243, Enygma_238, Genie2_228, Gibbi_239, IchabodCrane_225, JimJam_238, Jollison_228, Karimac_231, KentuckyRacer_237, LukeCage_234, MindFlayer_224, Mugiwara_243, PumpkinSpice_234, Quaran19_231, SaltySpitooon_231, Sollertia_229, Spelly_236, Spilled_238, Stanimal_228, StarPlatinum_238, Starbow_228, TomSawyer_235, Wipeout_221,

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

- Yaboi_233,

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

- Anedeaa_230, Angela_219, Bartholomune_217, BlueOtter_215, Bmoc_221, Braelyn_213, Cross_216, Cursive_219, Daubenski_210, EGole_220, Elmer_239, Evy_207, Grayson_194, HangryHippo_215, Jay2Jay_222, Larnav_216, Leo04_217, LilMartin_216, Lululemon_213, Mildred21_226, MulchMansion_220, Navo_211, NootNoot_214, PacManQ_213, Paradiddles_209, Peebs_214, Pepperwood_217, Peregrin_191, Persimmon_220, PinkiePie_217, Samisti12_221, Scheme_220, Squillium_220, Sushi23_217, Targaryen_216, Teutsch_216, Tomas_229, Tribute_213, Warpy_220, Watermoore_216, Weasels2_199, WhereRU_216, Wofford_231,

Summary by start number:

Start 14:

- Found in 11 of 72 (15.3%) of genes in pham
- Manual Annotations of this start: 1 of 68
- Called 9.1% of time when present
- Phage (with cluster) where this start called: Elmer_239 (BE2),

Start 17:

- Found in 29 of 72 (40.3%) of genes in pham
- Manual Annotations of this start: 25 of 68
- Called 96.6% of time when present
- Phage (with cluster) where this start called: Amabiko_235 (BE2), Battuta_229 (BE2), Birchlyn_230 (BE2), BoomerJR_228 (BE2), Bordeaux_229 (BE2), CeilingFan_243 (BE2), Enygma_238 (BE2), Genie2_228 (BE2), Gibbi_239 (BE2), IchabodCrane_225 (BE2), JimJam_238 (BE2), Jollison_228 (BE2), Karimac_231 (BE2), KentuckyRacer_237 (BE2), LukeCage_234 (BE2), MindFlayer_224 (BE2), Mugiwara_243 (BE2), PumpkinSpice_234 (BE2), Quaran19_231 (BE2), SaltySpitooon_231 (BE2), Sollertia_229 (BE2), Spelly_236 (BE2), Spilled_238 (BE2), Stanimal_228 (BE2), StarPlatinum_238 (BE2), Starbow_228 (BE2), TomSawyer_235 (BE2), Wipeout_221 (BE2),

Start 18:

- Found in 1 of 72 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 68
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Daubenski_210 (BE1),

Start 19:

- Found in 1 of 72 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 68
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Wofford_231 (BE2),

Start 20:

- Found in 1 of 72 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 68
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Tomas_229 (BE2),

Start 21:

- Found in 1 of 72 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 68
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Weasels2_199 (CB),

Start 22:

- Found in 3 of 72 (4.2%) of genes in pham
- Manual Annotations of this start: 2 of 68
- Called 66.7% of time when present
- Phage (with cluster) where this start called: Grayson_194 (CB), Peregrin_191 (CB),

Start 24:

- Found in 69 of 72 (95.8%) of genes in pham
- Manual Annotations of this start: 8 of 68
- Called 11.6% of time when present
- Phage (with cluster) where this start called: Anedea_230 (BE1), Bmoc_221 (BE1), Jay2Jay_222 (BE1), Leo04_217 (BE1), PinkiePie_217 (BE1), Targaryen_216 (BE1), Warpy_220 (BE1), Yaboi_233 (BE2),

Start 26:

- Found in 38 of 72 (52.8%) of genes in pham
- Manual Annotations of this start: 15 of 68
- Called 42.1% of time when present
- Phage (with cluster) where this start called: Angela_219 (BE1), Bartholomune_217 (BE1), Braelyn_213 (BE1), Cursive_219 (BE1), Larnav_216 (BE1), LilMartin_216 (BE1), Navo_211 (BE1), NootNoot_214 (BE1), Paradiddles_209 (BE1), Persimmon_220 (BE1), Samisti12_221 (BE1), Scheme_220 (BE1), Sushi23_217 (BE1), Tribute_213 (BE1), Watermoore_216 (BE1), WhereRU_216 (BE1),

Start 27:

- Found in 69 of 72 (95.8%) of genes in pham
- Manual Annotations of this start: 12 of 68
- Called 17.4% of time when present
- Phage (with cluster) where this start called: BlueOtter_215 (BE1), Cross_216 (BE1), EGole_220 (BE1), Evy_207 (BE1), HangryHippo_215 (BE1), Lululemon_213 (BE1), MulchMansion_220 (BE1), PacManQ_213 (BE1), Peebs_214 (BE1), Pepperwood_217 (BE1), Squillium_220 (BE1), Teutsch_216 (BE1),

Start 29:

- Found in 1 of 72 (1.4%) of genes in pham
- Manual Annotations of this start: 1 of 68
- Called 100.0% of time when present
- Phage (with cluster) where this start called: Mildred21_226 (BE1),

Summary by clusters:

There are 3 clusters represented in this pham: BE2, CB, BE1,

Info for manual annotations of cluster BE1:

- Start number 18 was manually annotated 1 time for cluster BE1.
- Start number 24 was manually annotated 7 times for cluster BE1.
- Start number 26 was manually annotated 15 times for cluster BE1.
- Start number 27 was manually annotated 12 times for cluster BE1.
- Start number 29 was manually annotated 1 time for cluster BE1.

Info for manual annotations of cluster BE2:

- Start number 14 was manually annotated 1 time for cluster BE2.
- Start number 17 was manually annotated 25 times for cluster BE2.
- Start number 19 was manually annotated 1 time for cluster BE2.
- Start number 20 was manually annotated 1 time for cluster BE2.
- Start number 24 was manually annotated 1 time for cluster BE2.

Info for manual annotations of cluster CB:

- Start number 21 was manually annotated 1 time for cluster CB.
- Start number 22 was manually annotated 2 times for cluster CB.

Gene Information:

Gene: Amabiko_235 Start: 109135, Stop: 109503, Start Num: 17

Candidate Starts for Amabiko_235:

(Start: 17 @109135 has 25 MA's), (Start: 24 @109195 has 8 MA's), (Start: 27 @109219 has 12 MA's), (32, 109264), (33, 109285), (35, 109306), (36, 109339), (38, 109354), (49, 109489),

Gene: Anedea_230 Start: 109729, Stop: 110043, Start Num: 24

Candidate Starts for Anedea_230:

(Start: 24 @109729 has 8 MA's), (Start: 26 @109741 has 15 MA's), (Start: 27 @109753 has 12 MA's), (30, 109780), (33, 109819), (35, 109840), (36, 109873), (38, 109888), (47, 110011), (49, 110023),

Gene: Angela_219 Start: 107471, Stop: 107788, Start Num: 26

Candidate Starts for Angela_219:

(15, 107390), (Start: 24 @107459 has 8 MA's), (Start: 26 @107471 has 15 MA's), (Start: 27 @107483 has 12 MA's), (30, 107510), (33, 107549), (36, 107603), (38, 107618), (45, 107720), (50, 107771), (51, 107774),

Gene: Bartholomune_217 Start: 107720, Stop: 108022, Start Num: 26

Candidate Starts for Bartholomune_217:

(Start: 24 @107708 has 8 MA's), (Start: 26 @107720 has 15 MA's), (Start: 27 @107732 has 12 MA's), (33, 107798), (35, 107819), (38, 107867), (40, 107894), (42, 107912), (49, 108002),

Gene: Battuta_229 Start: 108450, Stop: 108818, Start Num: 17

Candidate Starts for Battuta_229:

(Start: 17 @108450 has 25 MA's), (Start: 24 @108510 has 8 MA's), (Start: 27 @108534 has 12 MA's), (33, 108600), (35, 108621), (36, 108654), (38, 108669), (49, 108804),

Gene: Birchlyn_230 Start: 106383, Stop: 106751, Start Num: 17

Candidate Starts for Birchlyn_230:

(Start: 17 @106383 has 25 MA's), (Start: 24 @106443 has 8 MA's), (Start: 27 @106467 has 12 MA's), (32, 106512), (33, 106533), (35, 106554), (36, 106587), (38, 106602), (49, 106737),

Gene: BlueOtter_215 Start: 107854, Stop: 108144, Start Num: 27

Candidate Starts for BlueOtter_215:

(Start: 24 @107830 has 8 MA's), (Start: 26 @107842 has 15 MA's), (Start: 27 @107854 has 12 MA's), (33, 107920), (36, 107974), (38, 107989), (49, 108124),

Gene: Bmoc_221 Start: 107925, Stop: 108239, Start Num: 24

Candidate Starts for Bmoc_221:

(Start: 24 @107925 has 8 MA's), (Start: 26 @107937 has 15 MA's), (Start: 27 @107949 has 12 MA's), (30, 107976), (31, 107991), (33, 108015), (35, 108036), (36, 108069), (38, 108084), (47, 108207), (49, 108219),

Gene: BoomerJR_228 Start: 109040, Stop: 109408, Start Num: 17

Candidate Starts for BoomerJR_228:

(11, 109007), (Start: 14 @109025 has 1 MA's), (Start: 17 @109040 has 25 MA's), (Start: 24 @109100 has 8 MA's), (Start: 27 @109124 has 12 MA's), (28, 109145), (33, 109190), (36, 109244), (38, 109259),

Gene: Bordeaux_229 Start: 109033, Stop: 109401, Start Num: 17

Candidate Starts for Bordeaux_229:

(Start: 17 @109033 has 25 MA's), (Start: 24 @109093 has 8 MA's), (Start: 27 @109117 has 12 MA's), (33, 109183), (35, 109204), (36, 109237), (38, 109252), (49, 109387),

Gene: Braelyn_213 Start: 107367, Stop: 107669, Start Num: 26

Candidate Starts for Braelyn_213:

(Start: 24 @107355 has 8 MA's), (Start: 26 @107367 has 15 MA's), (Start: 27 @107379 has 12 MA's), (33, 107445), (35, 107466), (38, 107514), (40, 107541), (42, 107559), (49, 107649),

Gene: CeilingFan_243 Start: 109828, Stop: 110196, Start Num: 17

Candidate Starts for CeilingFan_243:

(Start: 17 @109828 has 25 MA's), (Start: 24 @109888 has 8 MA's), (Start: 27 @109912 has 12 MA's), (33, 109978), (35, 109999), (36, 110032), (38, 110047), (49, 110182),

Gene: Cross_216 Start: 108499, Stop: 108789, Start Num: 27

Candidate Starts for Cross_216:

(Start: 24 @108475 has 8 MA's), (Start: 26 @108487 has 15 MA's), (Start: 27 @108499 has 12 MA's), (33, 108565), (36, 108619), (38, 108634), (49, 108769),

Gene: Cursive_219 Start: 108171, Stop: 108473, Start Num: 26

Candidate Starts for Cursive_219:

(Start: 24 @108159 has 8 MA's), (Start: 26 @108171 has 15 MA's), (Start: 27 @108183 has 12 MA's), (33, 108249), (36, 108303), (38, 108318), (49, 108453),

Gene: Daubenski_210 Start: 108498, Stop: 108872, Start Num: 18

Candidate Starts for Daubenski_210:

(2, 108396), (12, 108471), (16, 108495), (Start: 18 @108498 has 1 MA's), (23, 108552), (Start: 24 @108558 has 8 MA's), (Start: 27 @108582 has 12 MA's), (30, 108609), (33, 108648), (38, 108717), (43, 108783), (46, 108831), (49, 108852),

Gene: EGole_220 Start: 110229, Stop: 110519, Start Num: 27

Candidate Starts for EGole_220:

(Start: 24 @110205 has 8 MA's), (Start: 26 @110217 has 15 MA's), (Start: 27 @110229 has 12 MA's), (33, 110295), (36, 110349), (38, 110364), (49, 110499),

Gene: Elmer_239 Start: 112604, Stop: 112984, Start Num: 14

Candidate Starts for Elmer_239:

(4, 112526), (5, 112535), (6, 112541), (7, 112556), (9, 112562), (13, 112598), (Start: 14 @112604 has 1 MA's), (Start: 24 @112676 has 8 MA's), (Start: 27 @112700 has 12 MA's), (28, 112721), (33, 112766), (36, 112820), (38, 112835), (48, 112967),

Gene: Enygma_238 Start: 111845, Stop: 112213, Start Num: 17

Candidate Starts for Enygma_238:

(1, 111707), (3, 111749), (4, 111752), (8, 111785), (11, 111812), (Start: 14 @111830 has 1 MA's), (Start: 17 @111845 has 25 MA's), (Start: 24 @111905 has 8 MA's), (25, 111911), (Start: 27 @111929 has 12 MA's), (33, 111995), (36, 112049), (38, 112064), (49, 112199),

Gene: Evy_207 Start: 108670, Stop: 108960, Start Num: 27

Candidate Starts for Evy_207:

(Start: 24 @108646 has 8 MA's), (Start: 26 @108658 has 15 MA's), (Start: 27 @108670 has 12 MA's), (33, 108736), (36, 108790), (38, 108805), (49, 108940),

Gene: Genie2_228 Start: 109165, Stop: 109533, Start Num: 17

Candidate Starts for Genie2_228:

(11, 109132), (Start: 14 @109150 has 1 MA's), (Start: 17 @109165 has 25 MA's), (Start: 24 @109225 has 8 MA's), (Start: 27 @109249 has 12 MA's), (28, 109270), (33, 109315), (36, 109369), (38, 109384),

Gene: Gibbi_239 Start: 109321, Stop: 109689, Start Num: 17

Candidate Starts for Gibbi_239:

(Start: 17 @109321 has 25 MA's), (Start: 24 @109381 has 8 MA's), (Start: 27 @109405 has 12 MA's), (33, 109471), (35, 109492), (36, 109525), (38, 109540), (49, 109675),

Gene: Grayson_194 Start: 100750, Stop: 101079, Start Num: 22

Candidate Starts for Grayson_194:

(Start: 22 @100750 has 2 MA's), (Start: 26 @100774 has 15 MA's), (34, 100861), (37, 100918), (44, 101002),

Gene: HangryHippo_215 Start: 107854, Stop: 108144, Start Num: 27

Candidate Starts for HangryHippo_215:

(Start: 24 @107830 has 8 MA's), (Start: 26 @107842 has 15 MA's), (Start: 27 @107854 has 12 MA's), (33, 107920), (36, 107974), (38, 107989), (49, 108124),

Gene: IchabodCrane_225 Start: 108836, Stop: 109204, Start Num: 17

Candidate Starts for IchabodCrane_225:

(Start: 17 @108836 has 25 MA's), (Start: 24 @108896 has 8 MA's), (Start: 27 @108920 has 12 MA's), (32, 108965), (33, 108986), (35, 109007), (36, 109040), (38, 109055), (49, 109190),

Gene: Jay2Jay_222 Start: 108801, Stop: 109115, Start Num: 24

Candidate Starts for Jay2Jay_222:

(Start: 24 @108801 has 8 MA's), (Start: 26 @108813 has 15 MA's), (Start: 27 @108825 has 12 MA's), (33, 108891), (36, 108945), (38, 108960), (49, 109095),

Gene: JimJam_238 Start: 110757, Stop: 111125, Start Num: 17

Candidate Starts for JimJam_238:

(Start: 17 @110757 has 25 MA's), (Start: 24 @110817 has 8 MA's), (Start: 27 @110841 has 12 MA's), (33, 110907), (35, 110928), (36, 110961), (38, 110976), (49, 111111),

Gene: Jollison_228 Start: 108967, Stop: 109335, Start Num: 17

Candidate Starts for Jollison_228:

(Start: 17 @108967 has 25 MA's), (Start: 24 @109027 has 8 MA's), (Start: 27 @109051 has 12 MA's), (33, 109117), (35, 109138), (36, 109171), (38, 109186), (49, 109321),

Gene: Karimac_231 Start: 109152, Stop: 109520, Start Num: 17

Candidate Starts for Karimac_231:

(Start: 17 @109152 has 25 MA's), (Start: 24 @109212 has 8 MA's), (Start: 27 @109236 has 12 MA's), (33, 109302), (35, 109323), (36, 109356), (38, 109371), (49, 109506),

Gene: KentuckyRacer_237 Start: 110672, Stop: 111040, Start Num: 17

Candidate Starts for KentuckyRacer_237:

(Start: 17 @110672 has 25 MA's), (Start: 24 @110732 has 8 MA's), (Start: 27 @110756 has 12 MA's), (33, 110822), (35, 110843), (36, 110876), (38, 110891), (49, 111026),

Gene: Larnav_216 Start: 108336, Stop: 108638, Start Num: 26

Candidate Starts for Larnav_216:

(Start: 24 @108324 has 8 MA's), (Start: 26 @108336 has 15 MA's), (Start: 27 @108348 has 12 MA's), (33, 108414), (36, 108468), (38, 108483), (49, 108618),

Gene: Leo04_217 Start: 108856, Stop: 109170, Start Num: 24

Candidate Starts for Leo04_217:

(Start: 24 @108856 has 8 MA's), (Start: 26 @108868 has 15 MA's), (Start: 27 @108880 has 12 MA's), (33, 108946), (36, 109000), (38, 109015), (49, 109150),

Gene: LilMartin_216 Start: 106835, Stop: 107152, Start Num: 26

Candidate Starts for LilMartin_216:

(15, 106754), (Start: 24 @106823 has 8 MA's), (Start: 26 @106835 has 15 MA's), (Start: 27 @106847 has 12 MA's), (30, 106874), (33, 106913), (36, 106967), (38, 106982), (45, 107084), (50, 107135), (51, 107138),

Gene: LukeCage_234 Start: 111003, Stop: 111371, Start Num: 17

Candidate Starts for LukeCage_234:

(11, 110970), (Start: 14 @110988 has 1 MA's), (Start: 17 @111003 has 25 MA's), (Start: 24 @111063 has 8 MA's), (25, 111069), (Start: 27 @111087 has 12 MA's), (33, 111153), (36, 111207), (38, 111222), (49, 111357),

Gene: Lululemon_213 Start: 107235, Stop: 107525, Start Num: 27

Candidate Starts for Lululemon_213:

(Start: 24 @107211 has 8 MA's), (Start: 26 @107223 has 15 MA's), (Start: 27 @107235 has 12 MA's), (33, 107301), (36, 107355), (38, 107370), (49, 107505),

Gene: Mildred21_226 Start: 106654, Stop: 106920, Start Num: 29

Candidate Starts for Mildred21_226:

(Start: 24 @106606 has 8 MA's), (Start: 27 @106630 has 12 MA's), (Start: 29 @106654 has 1 MA's), (33, 106696), (35, 106717), (36, 106750), (38, 106765), (39, 106771), (42, 106810), (49, 106900),

Gene: MindFlayer_224 Start: 108352, Stop: 108720, Start Num: 17

Candidate Starts for MindFlayer_224:

(Start: 17 @108352 has 25 MA's), (Start: 24 @108412 has 8 MA's), (Start: 27 @108436 has 12 MA's), (32, 108481), (33, 108502), (35, 108523), (36, 108556), (38, 108571), (49, 108706),

Gene: Mugiwara_243 Start: 111539, Stop: 111907, Start Num: 17

Candidate Starts for Mugiwara_243:

(10, 111488), (11, 111506), (Start: 14 @111524 has 1 MA's), (Start: 17 @111539 has 25 MA's), (Start: 24 @111599 has 8 MA's), (25, 111605), (Start: 27 @111623 has 12 MA's), (28, 111644), (33, 111689), (36, 111743), (38, 111758),

Gene: MulchMansion_220 Start: 108481, Stop: 108786, Start Num: 27

Candidate Starts for MulchMansion_220:

(15, 108388), (Start: 24 @108457 has 8 MA's), (Start: 26 @108469 has 15 MA's), (Start: 27 @108481 has 12 MA's), (30, 108508), (33, 108547), (36, 108601), (38, 108616), (45, 108718), (50, 108769), (51, 108772),

Gene: Navo_211 Start: 106571, Stop: 106873, Start Num: 26

Candidate Starts for Navo_211:

(Start: 24 @106559 has 8 MA's), (Start: 26 @106571 has 15 MA's), (Start: 27 @106583 has 12 MA's), (33, 106649), (35, 106670), (38, 106718), (40, 106745), (42, 106763), (49, 106853),

Gene: NootNoot_214 Start: 107088, Stop: 107390, Start Num: 26

Candidate Starts for NootNoot_214:

(Start: 24 @107076 has 8 MA's), (Start: 26 @107088 has 15 MA's), (Start: 27 @107100 has 12 MA's), (33, 107166), (35, 107187), (38, 107235), (42, 107280), (49, 107370),

Gene: PacManQ_213 Start: 107235, Stop: 107525, Start Num: 27

Candidate Starts for PacManQ_213:

(Start: 24 @107211 has 8 MA's), (Start: 26 @107223 has 15 MA's), (Start: 27 @107235 has 12 MA's), (33, 107301), (36, 107355), (38, 107370), (49, 107505),

Gene: Paradiddles_209 Start: 109463, Stop: 109765, Start Num: 26

Candidate Starts for Paradiddles_209:

(Start: 24 @109451 has 8 MA's), (Start: 26 @109463 has 15 MA's), (Start: 27 @109475 has 12 MA's), (33, 109541), (35, 109562), (38, 109610), (42, 109655), (49, 109745),

Gene: Peebs_214 Start: 108319, Stop: 108609, Start Num: 27

Candidate Starts for Peebs_214:

(Start: 24 @108295 has 8 MA's), (Start: 26 @108307 has 15 MA's), (Start: 27 @108319 has 12 MA's), (33, 108385), (36, 108439), (38, 108454), (49, 108589),

Gene: Pepperwood_217 Start: 108551, Stop: 108841, Start Num: 27

Candidate Starts for Pepperwood_217:

(Start: 24 @108527 has 8 MA's), (Start: 26 @108539 has 15 MA's), (Start: 27 @108551 has 12 MA's), (33, 108617), (36, 108671), (38, 108686), (49, 108821),

Gene: Peregrin_191 Start: 101143, Stop: 101472, Start Num: 22

Candidate Starts for Peregrin_191:

(Start: 22 @101143 has 2 MA's), (Start: 26 @101167 has 15 MA's), (34, 101254), (37, 101311), (41, 101356), (44, 101395),

Gene: Persimmon_220 Start: 107589, Stop: 107891, Start Num: 26

Candidate Starts for Persimmon_220:

(Start: 24 @107577 has 8 MA's), (Start: 26 @107589 has 15 MA's), (Start: 27 @107601 has 12 MA's), (33, 107667), (35, 107688), (38, 107736), (40, 107763), (42, 107781), (49, 107871),

Gene: PinkiePie_217 Start: 108231, Stop: 108545, Start Num: 24

Candidate Starts for PinkiePie_217:

(Start: 24 @108231 has 8 MA's), (Start: 26 @108243 has 15 MA's), (Start: 27 @108255 has 12 MA's), (33, 108321), (35, 108342), (38, 108390), (40, 108417), (42, 108435), (49, 108525),

Gene: PumpkinSpice_234 Start: 109573, Stop: 109941, Start Num: 17

Candidate Starts for PumpkinSpice_234:

(Start: 17 @109573 has 25 MA's), (Start: 24 @109633 has 8 MA's), (Start: 27 @109657 has 12 MA's), (33, 109723), (35, 109744), (36, 109777), (38, 109792), (49, 109927),

Gene: Quaran19_231 Start: 109014, Stop: 109382, Start Num: 17

Candidate Starts for Quaran19_231:

(Start: 17 @109014 has 25 MA's), (Start: 24 @109074 has 8 MA's), (Start: 27 @109098 has 12 MA's), (33, 109164), (35, 109185), (36, 109218), (38, 109233), (49, 109368),

Gene: SaltySpittoon_231 Start: 108556, Stop: 108924, Start Num: 17

Candidate Starts for SaltySpittoon_231:

(Start: 17 @108556 has 25 MA's), (Start: 24 @108616 has 8 MA's), (Start: 27 @108640 has 12 MA's), (33, 108706), (35, 108727), (36, 108760), (38, 108775), (49, 108910),

Gene: Samisti12_221 Start: 110133, Stop: 110435, Start Num: 26

Candidate Starts for Samisti12_221:

(Start: 24 @110121 has 8 MA's), (Start: 26 @110133 has 15 MA's), (Start: 27 @110145 has 12 MA's), (33, 110211), (36, 110265), (38, 110280), (49, 110415),

Gene: Scheme_220 Start: 109778, Stop: 110080, Start Num: 26

Candidate Starts for Scheme_220:

(Start: 24 @109766 has 8 MA's), (Start: 26 @109778 has 15 MA's), (Start: 27 @109790 has 12 MA's), (33, 109856), (36, 109910), (38, 109925), (49, 110060),

Gene: Sollertia_229 Start: 109154, Stop: 109522, Start Num: 17

Candidate Starts for Sollertia_229:

(11, 109121), (Start: 14 @109139 has 1 MA's), (Start: 17 @109154 has 25 MA's), (Start: 24 @109214 has 8 MA's), (Start: 27 @109238 has 12 MA's), (28, 109259), (33, 109304), (36, 109358), (38, 109373),

Gene: Spelly_236 Start: 108485, Stop: 108853, Start Num: 17

Candidate Starts for Spelly_236:

(Start: 17 @108485 has 25 MA's), (Start: 24 @108545 has 8 MA's), (Start: 27 @108569 has 12 MA's), (33, 108635), (35, 108656), (36, 108689), (38, 108704), (49, 108839),

Gene: Spilled_238 Start: 109689, Stop: 110057, Start Num: 17

Candidate Starts for Spilled_238:

(Start: 17 @109689 has 25 MA's), (Start: 24 @109749 has 8 MA's), (Start: 27 @109773 has 12 MA's), (33, 109839), (35, 109860), (36, 109893), (38, 109908), (49, 110043),

Gene: Squillium_220 Start: 108257, Stop: 108547, Start Num: 27

Candidate Starts for Squillium_220:

(Start: 24 @108233 has 8 MA's), (Start: 26 @108245 has 15 MA's), (Start: 27 @108257 has 12 MA's), (33, 108323), (35, 108344), (38, 108392), (40, 108419), (42, 108437), (49, 108527),

Gene: Stanimal_228 Start: 109526, Stop: 109894, Start Num: 17

Candidate Starts for Stanimal_228:

(11, 109493), (Start: 14 @109511 has 1 MA's), (Start: 17 @109526 has 25 MA's), (Start: 24 @109586 has 8 MA's), (Start: 27 @109610 has 12 MA's), (28, 109631), (33, 109676), (36, 109730), (38, 109745),

Gene: StarPlatinum_238 Start: 111486, Stop: 111854, Start Num: 17

Candidate Starts for StarPlatinum_238:

(11, 111453), (Start: 14 @111471 has 1 MA's), (Start: 17 @111486 has 25 MA's), (Start: 24 @111546 has 8 MA's), (25, 111552), (Start: 27 @111570 has 12 MA's), (33, 111636), (36, 111690), (38, 111705), (49, 111840),

Gene: Starbow_228 Start: 108529, Stop: 108897, Start Num: 17

Candidate Starts for Starbow_228:

(Start: 17 @108529 has 25 MA's), (Start: 24 @108589 has 8 MA's), (Start: 27 @108613 has 12 MA's), (33, 108679), (35, 108700), (36, 108733), (38, 108748), (49, 108883),

Gene: Sushi23_217 Start: 109173, Stop: 109475, Start Num: 26

Candidate Starts for Sushi23_217:

(Start: 24 @109161 has 8 MA's), (Start: 26 @109173 has 15 MA's), (Start: 27 @109185 has 12 MA's), (33, 109251), (36, 109305), (38, 109320), (49, 109455),

Gene: Targaryen_216 Start: 109330, Stop: 109644, Start Num: 24

Candidate Starts for Targaryen_216:

(Start: 24 @109330 has 8 MA's), (Start: 26 @109342 has 15 MA's), (Start: 27 @109354 has 12 MA's), (33, 109420), (36, 109474), (38, 109489), (49, 109624),

Gene: Teutsch_216 Start: 108974, Stop: 109264, Start Num: 27

Candidate Starts for Teutsch_216:

(Start: 24 @108950 has 8 MA's), (Start: 26 @108962 has 15 MA's), (Start: 27 @108974 has 12 MA's), (33, 109040), (36, 109094), (38, 109109), (49, 109244),

Gene: TomSawyer_235 Start: 111000, Stop: 111368, Start Num: 17

Candidate Starts for TomSawyer_235:

(Start: 17 @111000 has 25 MA's), (Start: 24 @111060 has 8 MA's), (Start: 27 @111084 has 12 MA's), (33, 111150), (35, 111171), (36, 111204), (38, 111219), (49, 111354),

Gene: Tomas_229 Start: 109990, Stop: 110343, Start Num: 20

Candidate Starts for Tomas_229:

(Start: 20 @109990 has 1 MA's), (Start: 24 @110035 has 8 MA's), (Start: 27 @110059 has 12 MA's), (28, 110080), (33, 110125), (36, 110179), (38, 110194),

Gene: Tribute_213 Start: 109127, Stop: 109429, Start Num: 26

Candidate Starts for Tribute_213:

(Start: 24 @109115 has 8 MA's), (Start: 26 @109127 has 15 MA's), (Start: 27 @109139 has 12 MA's), (33, 109205), (36, 109259), (38, 109274), (49, 109409),

Gene: Warpy_220 Start: 108239, Stop: 108553, Start Num: 24

Candidate Starts for Warpy_220:

(Start: 24 @108239 has 8 MA's), (Start: 26 @108251 has 15 MA's), (Start: 27 @108263 has 12 MA's), (33, 108329), (36, 108383), (38, 108398), (49, 108533),

Gene: Watermoore_216 Start: 109485, Stop: 109787, Start Num: 26

Candidate Starts for Watermoore_216:

(Start: 24 @109473 has 8 MA's), (Start: 26 @109485 has 15 MA's), (Start: 27 @109497 has 12 MA's), (33, 109563), (36, 109617), (38, 109632), (49, 109767),

Gene: Weasels2_199 Start: 104456, Stop: 104812, Start Num: 21

Candidate Starts for Weasels2_199:

(Start: 21 @104456 has 1 MA's), (Start: 22 @104483 has 2 MA's), (Start: 26 @104507 has 15 MA's), (34, 104594), (44, 104735),

Gene: WhereRU_216 Start: 107768, Stop: 108070, Start Num: 26

Candidate Starts for WhereRU_216:

(Start: 24 @107756 has 8 MA's), (Start: 26 @107768 has 15 MA's), (Start: 27 @107780 has 12 MA's), (33, 107846), (35, 107867), (38, 107915), (40, 107942), (42, 107960), (49, 108050),

Gene: Wipeout_221 Start: 109952, Stop: 110320, Start Num: 17

Candidate Starts for Wipeout_221:

(Start: 17 @109952 has 25 MA's), (Start: 24 @110012 has 8 MA's), (Start: 27 @110036 has 12 MA's), (33, 110102), (35, 110123), (36, 110156), (38, 110171), (49, 110306),

Gene: Wofford_231 Start: 112242, Stop: 112598, Start Num: 19

Candidate Starts for Wofford_231:

(4, 112140), (5, 112149), (6, 112155), (7, 112170), (9, 112176), (13, 112212), (Start: 14 @112218 has 1 MA's), (Start: 19 @112242 has 1 MA's), (Start: 24 @112290 has 8 MA's), (Start: 27 @112314 has 12 MA's), (28, 112335), (33, 112380), (36, 112434), (38, 112449), (48, 112581),

Gene: Yaboi_233 Start: 109149, Stop: 109457, Start Num: 24

Candidate Starts for Yaboi_233:

(11, 109056), (Start: 14 @109074 has 1 MA's), (Start: 17 @109089 has 25 MA's), (Start: 24 @109149 has 8 MA's), (Start: 27 @109173 has 12 MA's), (28, 109194), (33, 109239), (36, 109293), (38, 109308),