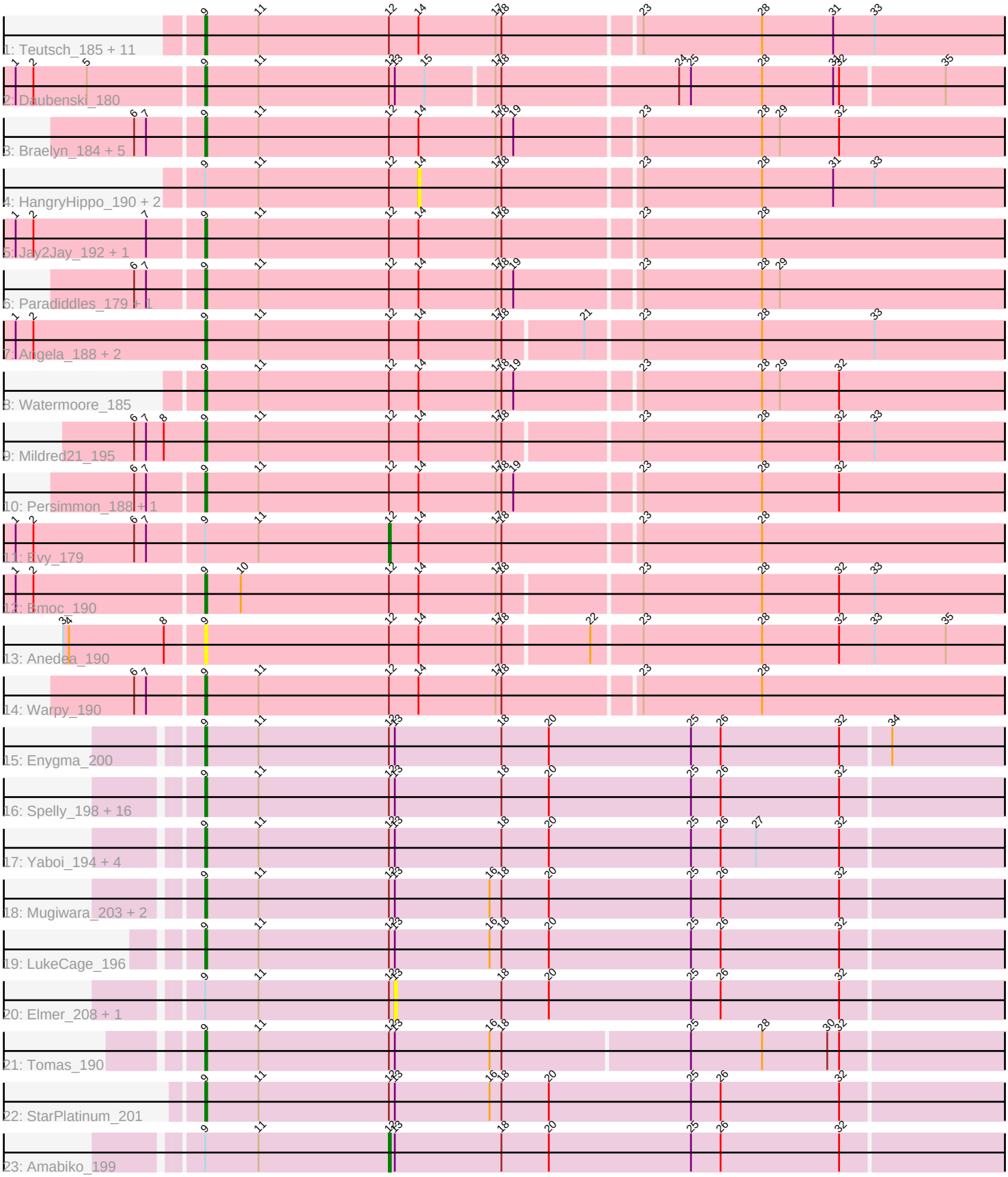
Pham 1844


1: Teutsch_185 + 11
2: Daubenski_180
3: Braelyn_184 + 5
4: HangryHippo_190 + 2
5: Jay2Jay_192 + 1
6: Paradiddles_179 + 1
7: Angela_188 + 2
8: Watermoore_185
9: Mildred21_195
10: Persimmon_188 + 1
11: Bvy_179
12: Bmoc_190
13: Anedea_190
14: Warpy_190
15: Enygma_200
16: Spelly_198 + 16
17: Yaboi_194 + 4
18: Mugiwara_203 + 2
19: LukeCage_196
20: Elmer_208 + 1
21: Tomas_190
22: StarPlatinum_201
23: Amabiko_199

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 1844 Report

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

Pham number 1844 has 69 members, 14 are drafts.

Phages represented in each track:
• Track 1 : Teutsch_185, Samisti12_189, Cursive_187, Leo04_188, Sushi23_187, Lululemon_189, Pepperwood_186, PacManQ_190, EGole_190, Tribute_184, Cross_186, Peebs_185
• Track 2 : Daubenski_180
• Track 3 : Braelyn_184, Squillium_188, PinkiePie_185, Liandry_185, Bartholomune_185, Navo_189
• Track 4 : HangryHippo_190, BlueOtter_190, Larnav_196
• Track 5 : Jay2Jay_192, Targaryen_186
• Track 6 : Paradiddles_179, NootNoot_182
• Track 7 : Angela_188, MulchMansion_189, LilMartin_186
• Track 8 : Watermoore_185
• Track 9 : Mildred21_195
• Track 10 : Persimmon_188, WhereRU_192
• Track 11 : Evy_179
• Track 12 : Bmoc_190
• Track 13 : Anedea_190
• Track 14 : Warpy_190
• Track 15 : Enygma_200
• Track 16 : Spelly_198, CeilingFan_206, TomSawyer_200, Wofford_194, JimJam_202, Battuta_193, Gibbi_203, PumpkinSpice_197, Quaran19_195, Bordeaux_194, IchabodCrane_191, MindFlayer_188, Jollison_198, Wipeout_187, SaltySpitoon_194, Birchlyn_194, Starbow_193
• Track 17 : Yaboi_194, Genie2_190, Sollertia_191, BoomerJR_190, Stanimal_190
• Track 18 : Mugiwara_203, Spilled_201, Karimac_195
• Track 19 : LukeCage_196
• Track 20 : Elmer_208, KentuckyRacer_206
• Track 21 : Tomas_190
• Track 22 : StarPlatinum_201
• Track 23 : Amabiko_199

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

The start number called the most often in the published annotations is 9, it was called in 53 of the 55 non-draft genes in the pham.

Genes that call this "Most Annotated" start:
• Anedea_190, Angela_188, Bartholomune_185, Battuta_193, Birchlyn_194, Bmoc_190, BoomerJR_190, Bordeaux_194, Braelyn_184, CeilingFan_206, Cross_186, Cursive_187, Daubenski_180, EGole_190, Enygma_200, Genie2_190, Gibbi_203, IchabodCrane_191, Jay2Jay_192, JimJam_202, Jollison_198, Karimac_195, Leo04_188, Liandry_185, LilMartin_186, LukeCage_196, Lululemon_189, Mildred21_195, MindFlayer_188, Mugiwara_203, MulchMansion_189, Navo_189, NootNoot_182, PacManQ_190, Paradiddles_179, Peebs_185, Pepperwood_186, Persimmon_188, PinkiePie_185, PumpkinSpice_197, Quaran19_195, SaltySpitoon_194, Samisti12_189, Sollertia_191, Spelly_198, Spilled_201, Squillium_188, Stanimal_190, StarPlatinum_201, Starbow_193, Sushi23_187, Targaryen_186, Teutsch_185, TomSawyer_200, Tomas_190, Tribute_184, Warpy_190, Watermoore_185, WhereRU_192, Wipeout_187, Wofford_194, Yaboi_194,

Genes that have the "Most Annotated" start but do not call it:
• Amabiko_199, BlueOtter_190, Elmer_208, Evy_179, HangryHippo_190, KentuckyRacer_206, Larnav_196,

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

Summary by start number:

Start 9:
• Found in 69 of 69 (100.0%) of genes in pham
• Manual Annotations of this start: 53 of 55
• Called 89.9% of time when present
• Phage (with cluster) where this start called: Anedea_190 (BE1), Angela_188 (BE1), Bartholomune_185 (BE1), Battuta_193 (BE2), Birchlyn_194 (BE2), Bmoc_190 (BE1), BoomerJR_190 (BE2), Bordeaux_194 (BE2), Braelyn_184 (BE1), CeilingFan_206 (BE2), Cross_186 (BE1), Cursive_187 (BE1), Daubenski_180 (BE1), EGole_190 (BE1), Enygma_200 (BE2), Genie2_190 (BE2), Gibbi_203 (BE2), IchabodCrane_191 (BE2), Jay2Jay_192 (BE1), JimJam_202 (BE2), Jollison_198 (BE2), Karimac_195 (BE2), Leo04_188 (BE1), Liandry_185 (BE1), LilMartin_186 (BE1), LukeCage_196 (BE2), Lululemon_189 (BE1), Mildred21_195 (BE1), MindFlayer_188 (BE2), Mugiwara_203 (BE2), MulchMansion_189 (BE1), Navo_189 (BE1), NootNoot_182 (BE1), PacManQ_190 (BE1), Paradiddles_179 (BE1), Peebs_185 (BE1), Pepperwood_186 (BE1), Persimmon_188 (BE1), PinkiePie_185 (BE1), PumpkinSpice_197 (BE2), Quaran19_195 (BE2), SaltySpitoon_194 (BE2), Samisti12_189 (BE1), Sollertia_191 (BE2), Spelly_198 (BE2), Spilled_201 (BE2), Squillium_188 (BE1), Stanimal_190 (BE2), StarPlatinum_201 (BE2), Starbow_193 (BE2), Sushi23_187 (BE1), Targaryen_186 (BE1), Teutsch_185 (BE1), TomSawyer_200 (BE2), Tomas_190 (BE2), Tribute_184 (BE1), Warpy_190 (BE1), Watermoore_185 (BE1), WhereRU_192 (BE1), Wipeout_187 (BE2), Wofford_194 (BE2), Yaboi_194 (BE2),

Start 12:
• Found in 69 of 69 (100.0%) of genes in pham
• Manual Annotations of this start: 2 of 55
• Called 2.9% of time when present
• Phage (with cluster) where this start called: Amabiko_199 (BE2), Evy_179 (BE1),

Start 13:
• Found in 33 of 69 (47.8%) of genes in pham
• No Manual Annotations of this start.
• Called 6.1% of time when present
• Phage (with cluster) where this start called: Elmer_208 (BE2), KentuckyRacer_206 (BE2),

Start 14:
• Found in 36 of 69 (52.2%) of genes in pham
• No Manual Annotations of this start.
• Called 8.3% of time when present
• Phage (with cluster) where this start called: BlueOtter_190 (BE1), HangryHippo_190 (BE1), Larnav_196 (BE1),

Summary by clusters:

There are 2 clusters represented in this pham: BE2, BE1,

Info for manual annotations of cluster BE1:
•Start number 9 was manually annotated 28 times for cluster BE1.
•Start number 12 was manually annotated 1 time for cluster BE1.

Info for manual annotations of cluster BE2:
•Start number 9 was manually annotated 25 times for cluster BE2.
•Start number 12 was manually annotated 1 time for cluster BE2.

Gene Information:

Gene: Amabiko_199 Start: 98710, Stop: 99021, Start Num: 12
Candidate Starts for Amabiko_199:
(Start: 9 @98617 has 53 MA's), (11, 98644), (Start: 12 @98710 has 2 MA's), (13, 98713), (18, 98767), (20, 98791), (25, 98863), (26, 98878), (32, 98938),

Gene: Anedea_190 Start: 98149, Stop: 98556, Start Num: 9
Candidate Starts for Anedea_190:
(3, 98080), (4, 98083), (8, 98131), (Start: 9 @98149 has 53 MA's), (Start: 12 @98242 has 2 MA's), (14, 98257), (17, 98296), (18, 98299), (22, 98341), (23, 98365), (28, 98425), (32, 98464), (33, 98482), (35, 98518),

Gene: Angela_188 Start: 98136, Stop: 98543, Start Num: 9
Candidate Starts for Angela_188:
(1, 98040), (2, 98049), (Start: 9 @98136 has 53 MA's), (11, 98163), (Start: 12 @98229 has 2 MA's), (14, 98244), (17, 98283), (18, 98286), (21, 98325), (23, 98352), (28, 98412), (33, 98469),

Gene: Bartholomune_185 Start: 97405, Stop: 97812, Start Num: 9
Candidate Starts for Bartholomune_185:
(6, 97372), (7, 97378), (Start: 9 @97405 has 53 MA's), (11, 97432), (Start: 12 @97498 has 2 MA's), (14, 97513), (17, 97552), (18, 97555), (19, 97561), (23, 97621), (28, 97681), (29, 97690), (32, 97720),

Gene: Battuta_193 Start: 97933, Stop: 98337, Start Num: 9

Candidate Starts for Battuta_193:
(Start: 9 @97933 has 53 MA's), (11, 97960), (Start: 12 @98026 has 2 MA's), (13, 98029), (18, 98083), (20, 98107), (25, 98179), (26, 98194), (32, 98254),

Gene: Birchlyn_194 Start: 95865, Stop: 96269, Start Num: 9
Candidate Starts for Birchlyn_194:
(Start: 9 @95865 has 53 MA's), (11, 95892), (Start: 12 @95958 has 2 MA's), (13, 95961), (18, 96015), (20, 96039), (25, 96111), (26, 96126), (32, 96186),

Gene: BlueOtter_190 Start: 98757, Stop: 99056, Start Num: 14
Candidate Starts for BlueOtter_190:
(Start: 9 @98649 has 53 MA's), (11, 98676), (Start: 12 @98742 has 2 MA's), (14, 98757), (17, 98796), (18, 98799), (23, 98865), (28, 98925), (31, 98961), (33, 98982),

Gene: Bmoc_190 Start: 98649, Stop: 99056, Start Num: 9
Candidate Starts for Bmoc_190:
(1, 98556), (2, 98565), (Start: 9 @98649 has 53 MA's), (10, 98667), (Start: 12 @98742 has 2 MA's), (14, 98757), (17, 98796), (18, 98799), (23, 98865), (28, 98925), (32, 98964), (33, 98982),

Gene: BoomerJR_190 Start: 97909, Stop: 98313, Start Num: 9
Candidate Starts for BoomerJR_190:
(Start: 9 @97909 has 53 MA's), (11, 97936), (Start: 12 @98002 has 2 MA's), (13, 98005), (18, 98059), (20, 98083), (25, 98155), (26, 98170), (27, 98188), (32, 98230),

Gene: Bordeaux_194 Start: 98516, Stop: 98920, Start Num: 9
Candidate Starts for Bordeaux_194:
(Start: 9 @98516 has 53 MA's), (11, 98543), (Start: 12 @98609 has 2 MA's), (13, 98612), (18, 98666), (20, 98690), (25, 98762), (26, 98777), (32, 98837),

Gene: Braelyn_184 Start: 98168, Stop: 98575, Start Num: 9
Candidate Starts for Braelyn_184:
(6, 98135), (7, 98141), (Start: 9 @98168 has 53 MA's), (11, 98195), (Start: 12 @98261 has 2 MA's), (14, 98276), (17, 98315), (18, 98318), (19, 98324), (23, 98384), (28, 98444), (29, 98453), (32, 98483),

Gene: CeilingFan_206 Start: 99310, Stop: 99714, Start Num: 9
Candidate Starts for CeilingFan_206:
(Start: 9 @99310 has 53 MA's), (11, 99337), (Start: 12 @99403 has 2 MA's), (13, 99406), (18, 99460), (20, 99484), (25, 99556), (26, 99571), (32, 99631),

Gene: Cross_186 Start: 99294, Stop: 99701, Start Num: 9
Candidate Starts for Cross_186:
(Start: 9 @99294 has 53 MA's), (11, 99321), (Start: 12 @99387 has 2 MA's), (14, 99402), (17, 99441), (18, 99444), (23, 99510), (28, 99570), (31, 99606), (33, 99627),

Gene: Cursive_187 Start: 98196, Stop: 98603, Start Num: 9
Candidate Starts for Cursive_187:
(Start: 9 @98196 has 53 MA's), (11, 98223), (Start: 12 @98289 has 2 MA's), (14, 98304), (17, 98343), (18, 98346), (23, 98412), (28, 98472), (31, 98508), (33, 98529),

Gene: Daubenski_180 Start: 99081, Stop: 99476, Start Num: 9
Candidate Starts for Daubenski_180:
(1, 98988), (2, 98997), (5, 99024), (Start: 9 @99081 has 53 MA's), (11, 99108), (Start: 12 @99174 has 2 MA's), (13, 99177), (15, 99192), (17, 99225), (18, 99228), (24, 99315), (25, 99321), (28, 99357), (31,

99393), (32, 99396), (35, 99447),

Gene: EGole_190 Start: 100949, Stop: 101356, Start Num: 9
Candidate Starts for EGole_190:
(Start: 9 @100949 has 53 MA's), (11, 100976), (Start: 12 @101042 has 2 MA's), (14, 101057), (17, 101096), (18, 101099), (23, 101165), (28, 101225), (31, 101261), (33, 101282),

Gene: Elmer_208 Start: 101512, Stop: 101820, Start Num: 13
Candidate Starts for Elmer_208:
(Start: 9 @101416 has 53 MA's), (11, 101443), (Start: 12 @101509 has 2 MA's), (13, 101512), (18, 101566), (20, 101590), (25, 101662), (26, 101677), (32, 101737),

Gene: Enygma_200 Start: 101147, Stop: 101551, Start Num: 9
Candidate Starts for Enygma_200:
(Start: 9 @101147 has 53 MA's), (11, 101174), (Start: 12 @101240 has 2 MA's), (13, 101243), (18, 101297), (20, 101321), (25, 101393), (26, 101408), (32, 101468), (34, 101492),

Gene: Evy_179 Start: 99219, Stop: 99533, Start Num: 12
Candidate Starts for Evy_179:
(1, 99033), (2, 99042), (6, 99093), (7, 99099), (Start: 9 @99126 has 53 MA's), (11, 99153), (Start: 12 @99219 has 2 MA's), (14, 99234), (17, 99273), (18, 99276), (23, 99342), (28, 99402),

Gene: Genie2_190 Start: 98023, Stop: 98427, Start Num: 9
Candidate Starts for Genie2_190:
(Start: 9 @98023 has 53 MA's), (11, 98050), (Start: 12 @98116 has 2 MA's), (13, 98119), (18, 98173), (20, 98197), (25, 98269), (26, 98284), (27, 98302), (32, 98344),

Gene: Gibbi_203 Start: 98803, Stop: 99207, Start Num: 9
Candidate Starts for Gibbi_203:
(Start: 9 @98803 has 53 MA's), (11, 98830), (Start: 12 @98896 has 2 MA's), (13, 98899), (18, 98953), (20, 98977), (25, 99049), (26, 99064), (32, 99124),

Gene: HangryHippo_190 Start: 98757, Stop: 99056, Start Num: 14
Candidate Starts for HangryHippo_190:
(Start: 9 @98649 has 53 MA's), (11, 98676), (Start: 12 @98742 has 2 MA's), (14, 98757), (17, 98796), (18, 98799), (23, 98865), (28, 98925), (31, 98961), (33, 98982),

Gene: IchabodCrane_191 Start: 98318, Stop: 98722, Start Num: 9
Candidate Starts for IchabodCrane_191:
(Start: 9 @98318 has 53 MA's), (11, 98345), (Start: 12 @98411 has 2 MA's), (13, 98414), (18, 98468), (20, 98492), (25, 98564), (26, 98579), (32, 98639),

Gene: Jay2Jay_192 Start: 99628, Stop: 100035, Start Num: 9
Candidate Starts for Jay2Jay_192:
(1, 99535), (2, 99544), (7, 99601), (Start: 9 @99628 has 53 MA's), (11, 99655), (Start: 12 @99721 has 2 MA's), (14, 99736), (17, 99775), (18, 99778), (23, 99844), (28, 99904),

Gene: JimJam_202 Start: 100239, Stop: 100643, Start Num: 9
Candidate Starts for JimJam_202:
(Start: 9 @100239 has 53 MA's), (11, 100266), (Start: 12 @100332 has 2 MA's), (13, 100335), (18, 100389), (20, 100413), (25, 100485), (26, 100500), (32, 100560),

Gene: Jollison_198 Start: 98449, Stop: 98853, Start Num: 9

Candidate Starts for Jollison_198:
(Start: 9 @98449 has 53 MA's), (11, 98476), (Start: 12 @98542 has 2 MA's), (13, 98545), (18, 98599), (20, 98623), (25, 98695), (26, 98710), (32, 98770),

Gene: Karimac_195 Start: 98643, Stop: 99047, Start Num: 9
Candidate Starts for Karimac_195:
(Start: 9 @98643 has 53 MA's), (11, 98670), (Start: 12 @98736 has 2 MA's), (13, 98739), (16, 98787), (18, 98793), (20, 98817), (25, 98889), (26, 98904), (32, 98964),

Gene: KentuckyRacer_206 Start: 100250, Stop: 100558, Start Num: 13
Candidate Starts for KentuckyRacer_206:
(Start: 9 @100154 has 53 MA's), (11, 100181), (Start: 12 @100247 has 2 MA's), (13, 100250), (18, 100304), (20, 100328), (25, 100400), (26, 100415), (32, 100475),

Gene: Larnav_196 Start: 99377, Stop: 99676, Start Num: 14
Candidate Starts for Larnav_196:
(Start: 9 @99269 has 53 MA's), (11, 99296), (Start: 12 @99362 has 2 MA's), (14, 99377), (17, 99416), (18, 99419), (23, 99485), (28, 99545), (31, 99581), (33, 99602),

Gene: Leo04_188 Start: 99660, Stop: 100067, Start Num: 9
Candidate Starts for Leo04_188:
(Start: 9 @99660 has 53 MA's), (11, 99687), (Start: 12 @99753 has 2 MA's), (14, 99768), (17, 99807), (18, 99810), (23, 99876), (28, 99936), (31, 99972), (33, 99993),

Gene: Liandry_185 Start: 98148, Stop: 98555, Start Num: 9
Candidate Starts for Liandry_185:
(6, 98115), (7, 98121), (Start: 9 @98148 has 53 MA's), (11, 98175), (Start: 12 @98241 has 2 MA's), (14, 98256), (17, 98295), (18, 98298), (19, 98304), (23, 98364), (28, 98424), (29, 98433), (32, 98463),

Gene: LilMartin_186 Start: 97755, Stop: 98162, Start Num: 9
Candidate Starts for LilMartin_186:
(1, 97659), (2, 97668), (Start: 9 @97755 has 53 MA's), (11, 97782), (Start: 12 @97848 has 2 MA's), (14, 97863), (17, 97902), (18, 97905), (21, 97944), (23, 97971), (28, 98031), (33, 98088),

Gene: LukeCage_196 Start: 99748, Stop: 100152, Start Num: 9
Candidate Starts for LukeCage_196:
(Start: 9 @99748 has 53 MA's), (11, 99775), (Start: 12 @99841 has 2 MA's), (13, 99844), (16, 99892), (18, 99898), (20, 99922), (25, 99994), (26, 100009), (32, 100069),

Gene: Lululemon_189 Start: 98030, Stop: 98437, Start Num: 9
Candidate Starts for Lululemon_189:
(Start: 9 @98030 has 53 MA's), (11, 98057), (Start: 12 @98123 has 2 MA's), (14, 98138), (17, 98177), (18, 98180), (23, 98246), (28, 98306), (31, 98342), (33, 98363),

Gene: Mildred21_195 Start: 97273, Stop: 97680, Start Num: 9
Candidate Starts for Mildred21_195:
(6, 97237), (7, 97243), (8, 97252), (Start: 9 @97273 has 53 MA's), (11, 97300), (Start: 12 @97366 has 2 MA's), (14, 97381), (17, 97420), (18, 97423), (23, 97489), (28, 97549), (32, 97588), (33, 97606),

Gene: MindFlayer_188 Start: 97834, Stop: 98238, Start Num: 9
Candidate Starts for MindFlayer_188:
(Start: 9 @97834 has 53 MA's), (11, 97861), (Start: 12 @97927 has 2 MA's), (13, 97930), (18, 97984), (20, 98008), (25, 98080), (26, 98095), (32, 98155),

Gene: Mugiwara_203 Start: 99976, Stop: 100380, Start Num: 9
Candidate Starts for Mugiwara_203:
(Start: 9 @99976 has 53 MA's), (11, 100003), (Start: 12 @100069 has 2 MA's), (13, 100072), (16, 100120), (18, 100126), (20, 100150), (25, 100222), (26, 100237), (32, 100297),

Gene: MulchMansion_189 Start: 99135, Stop: 99542, Start Num: 9
Candidate Starts for MulchMansion_189:
(1, 99039), (2, 99048), (Start: 9 @99135 has 53 MA's), (11, 99162), (Start: 12 @99228 has 2 MA's), (14, 99243), (17, 99282), (18, 99285), (21, 99324), (23, 99351), (28, 99411), (33, 99468),

Gene: Navo_189 Start: 97549, Stop: 97956, Start Num: 9
Candidate Starts for Navo_189:
(6, 97516), (7, 97522), (Start: 9 @97549 has 53 MA's), (11, 97576), (Start: 12 @97642 has 2 MA's), (14, 97657), (17, 97696), (18, 97699), (19, 97705), (23, 97765), (28, 97825), (29, 97834), (32, 97864),

Gene: NootNoot_182 Start: 96937, Stop: 97344, Start Num: 9
Candidate Starts for NootNoot_182:
(6, 96904), (7, 96910), (Start: 9 @96937 has 53 MA's), (11, 96964), (Start: 12 @97030 has 2 MA's), (14, 97045), (17, 97084), (18, 97087), (19, 97093), (23, 97153), (28, 97213), (29, 97222),

Gene: PacManQ_190 Start: 98030, Stop: 98437, Start Num: 9
Candidate Starts for PacManQ_190:
(Start: 9 @98030 has 53 MA's), (11, 98057), (Start: 12 @98123 has 2 MA's), (14, 98138), (17, 98177), (18, 98180), (23, 98246), (28, 98306), (31, 98342), (33, 98363),

Gene: Paradiddles_179 Start: 99750, Stop: 100157, Start Num: 9
Candidate Starts for Paradiddles_179:
(6, 99717), (7, 99723), (Start: 9 @99750 has 53 MA's), (11, 99777), (Start: 12 @99843 has 2 MA's), (14, 99858), (17, 99897), (18, 99900), (19, 99906), (23, 99966), (28, 100026), (29, 100035),

Gene: Peebs_185 Start: 98942, Stop: 99349, Start Num: 9
Candidate Starts for Peebs_185:
(Start: 9 @98942 has 53 MA's), (11, 98969), (Start: 12 @99035 has 2 MA's), (14, 99050), (17, 99089), (18, 99092), (23, 99158), (28, 99218), (31, 99254), (33, 99275),

Gene: Pepperwood_186 Start: 98900, Stop: 99307, Start Num: 9
Candidate Starts for Pepperwood_186:
(Start: 9 @98900 has 53 MA's), (11, 98927), (Start: 12 @98993 has 2 MA's), (14, 99008), (17, 99047), (18, 99050), (23, 99116), (28, 99176), (31, 99212), (33, 99233),

Gene: Persimmon_188 Start: 97744, Stop: 98151, Start Num: 9
Candidate Starts for Persimmon_188:
(6, 97711), (7, 97717), (Start: 9 @97744 has 53 MA's), (11, 97771), (Start: 12 @97837 has 2 MA's), (14, 97852), (17, 97891), (18, 97894), (19, 97900), (23, 97960), (28, 98020), (32, 98059),

Gene: PinkiePie_185 Start: 98148, Stop: 98555, Start Num: 9
Candidate Starts for PinkiePie_185:
(6, 98115), (7, 98121), (Start: 9 @98148 has 53 MA's), (11, 98175), (Start: 12 @98241 has 2 MA's), (14, 98256), (17, 98295), (18, 98298), (19, 98304), (23, 98364), (28, 98424), (29, 98433), (32, 98463),

Gene: PumpkinSpice_197 Start: 99055, Stop: 99459, Start Num: 9
Candidate Starts for PumpkinSpice_197:

(Start: 9 @99055 has 53 MA's), (11, 99082), (Start: 12 @99148 has 2 MA's), (13, 99151), (18, 99205), (20, 99229), (25, 99301), (26, 99316), (32, 99376),

Gene: Quaran19_195 Start: 98496, Stop: 98900, Start Num: 9
Candidate Starts for Quaran19_195:
(Start: 9 @98496 has 53 MA's), (11, 98523), (Start: 12 @98589 has 2 MA's), (13, 98592), (18, 98646), (20, 98670), (25, 98742), (26, 98757), (32, 98817),

Gene: SaltySpitoon_194 Start: 98038, Stop: 98442, Start Num: 9
Candidate Starts for SaltySpitoon_194:
(Start: 9 @98038 has 53 MA's), (11, 98065), (Start: 12 @98131 has 2 MA's), (13, 98134), (18, 98188), (20, 98212), (25, 98284), (26, 98299), (32, 98359),

Gene: Samisti12_189 Start: 100356, Stop: 100763, Start Num: 9
Candidate Starts for Samisti12_189:
(Start: 9 @100356 has 53 MA's), (11, 100383), (Start: 12 @100449 has 2 MA's), (14, 100464), (17, 100503), (18, 100506), (23, 100572), (28, 100632), (31, 100668), (33, 100689),

Gene: Sollertia_191 Start: 98023, Stop: 98427, Start Num: 9
Candidate Starts for Sollertia_191:
(Start: 9 @98023 has 53 MA's), (11, 98050), (Start: 12 @98116 has 2 MA's), (13, 98119), (18, 98173), (20, 98197), (25, 98269), (26, 98284), (27, 98302), (32, 98344),

Gene: Spelly_198 Start: 97967, Stop: 98371, Start Num: 9
Candidate Starts for Spelly_198:
(Start: 9 @97967 has 53 MA's), (11, 97994), (Start: 12 @98060 has 2 MA's), (13, 98063), (18, 98117), (20, 98141), (25, 98213), (26, 98228), (32, 98288),

Gene: Spilled_201 Start: 99171, Stop: 99575, Start Num: 9
Candidate Starts for Spilled_201:
(Start: 9 @99171 has 53 MA's), (11, 99198), (Start: 12 @99264 has 2 MA's), (13, 99267), (16, 99315), (18, 99321), (20, 99345), (25, 99417), (26, 99432), (32, 99492),

Gene: Squillium_188 Start: 98150, Stop: 98557, Start Num: 9
Candidate Starts for Squillium_188:
(6, 98117), (7, 98123), (Start: 9 @98150 has 53 MA's), (11, 98177), (Start: 12 @98243 has 2 MA's), (14, 98258), (17, 98297), (18, 98300), (19, 98306), (23, 98366), (28, 98426), (29, 98435), (32, 98465),

Gene: Stanimal_190 Start: 98384, Stop: 98788, Start Num: 9
Candidate Starts for Stanimal_190:
(Start: 9 @98384 has 53 MA's), (11, 98411), (Start: 12 @98477 has 2 MA's), (13, 98480), (18, 98534), (20, 98558), (25, 98630), (26, 98645), (27, 98663), (32, 98705),

Gene: StarPlatinum_201 Start: 100437, Stop: 100841, Start Num: 9
Candidate Starts for StarPlatinum_201:
(Start: 9 @100437 has 53 MA's), (11, 100464), (Start: 12 @100530 has 2 MA's), (13, 100533), (16, 100581), (18, 100587), (20, 100611), (25, 100683), (26, 100698), (32, 100758),

Gene: Starbow_193 Start: 98011, Stop: 98415, Start Num: 9
Candidate Starts for Starbow_193:
(Start: 9 @98011 has 53 MA's), (11, 98038), (Start: 12 @98104 has 2 MA's), (13, 98107), (18, 98161), (20, 98185), (25, 98257), (26, 98272), (32, 98332),

Gene: Sushi23_187 Start: 100006, Stop: 100413, Start Num: 9
Candidate Starts for Sushi23_187:
(Start: 9 @100006 has 53 MA's), (11, 100033), (Start: 12 @100099 has 2 MA's), (14, 100114), (17, 100153), (18, 100156), (23, 100222), (28, 100282), (31, 100318), (33, 100339),

Gene: Targaryen_186 Start: 100157, Stop: 100564, Start Num: 9
Candidate Starts for Targaryen_186:
(1, 100064), (2, 100073), (7, 100130), (Start: 9 @100157 has 53 MA's), (11, 100184), (Start: 12 @100250 has 2 MA's), (14, 100265), (17, 100304), (18, 100307), (23, 100373), (28, 100433),

Gene: Teutsch_185 Start: 99454, Stop: 99861, Start Num: 9
Candidate Starts for Teutsch_185:
(Start: 9 @99454 has 53 MA's), (11, 99481), (Start: 12 @99547 has 2 MA's), (14, 99562), (17, 99601), (18, 99604), (23, 99670), (28, 99730), (31, 99766), (33, 99787),

Gene: TomSawyer_200 Start: 100482, Stop: 100886, Start Num: 9
Candidate Starts for TomSawyer_200:
(Start: 9 @100482 has 53 MA's), (11, 100509), (Start: 12 @100575 has 2 MA's), (13, 100578), (18, 100632), (20, 100656), (25, 100728), (26, 100743), (32, 100803),

Gene: Tomas_190 Start: 98313, Stop: 98714, Start Num: 9
Candidate Starts for Tomas_190:
(Start: 9 @98313 has 53 MA's), (11, 98340), (Start: 12 @98406 has 2 MA's), (13, 98409), (16, 98457), (18, 98463), (25, 98556), (28, 98592), (30, 98625), (32, 98631),

Gene: Tribute_184 Start: 99471, Stop: 99878, Start Num: 9
Candidate Starts for Tribute_184:
(Start: 9 @99471 has 53 MA's), (11, 99498), (Start: 12 @99564 has 2 MA's), (14, 99579), (17, 99618), (18, 99621), (23, 99687), (28, 99747), (31, 99783), (33, 99804),

Gene: Warpy_190 Start: 99069, Stop: 99476, Start Num: 9
Candidate Starts for Warpy_190:
(6, 99036), (7, 99042), (Start: 9 @99069 has 53 MA's), (11, 99096), (Start: 12 @99162 has 2 MA's), (14, 99177), (17, 99216), (18, 99219), (23, 99285), (28, 99345),

Gene: Watermoore_185 Start: 99865, Stop: 100272, Start Num: 9
Candidate Starts for Watermoore_185:
(Start: 9 @99865 has 53 MA's), (11, 99892), (Start: 12 @99958 has 2 MA's), (14, 99973), (17, 100012), (18, 100015), (19, 100021), (23, 100081), (28, 100141), (29, 100150), (32, 100180),

Gene: WhereRU_192 Start: 98496, Stop: 98903, Start Num: 9
Candidate Starts for WhereRU_192:
(6, 98463), (7, 98469), (Start: 9 @98496 has 53 MA's), (11, 98523), (Start: 12 @98589 has 2 MA's), (14, 98604), (17, 98643), (18, 98646), (19, 98652), (23, 98712), (28, 98772), (32, 98811),

Gene: Wipeout_187 Start: 99434, Stop: 99838, Start Num: 9
Candidate Starts for Wipeout_187:
(Start: 9 @99434 has 53 MA's), (11, 99461), (Start: 12 @99527 has 2 MA's), (13, 99530), (18, 99584), (20, 99608), (25, 99680), (26, 99695), (32, 99755),

Gene: Wofford_194 Start: 101376, Stop: 101780, Start Num: 9
Candidate Starts for Wofford_194:

(Start: 9 @101376 has 53 MA's), (11, 101403), (Start: 12 @101469 has 2 MA's), (13, 101472), (18, 101526), (20, 101550), (25, 101622), (26, 101637), (32, 101697),

Gene: Yaboi_194 Start: 97958, Stop: 98362, Start Num: 9
Candidate Starts for Yaboi_194:
(Start: 9 @97958 has 53 MA's), (11, 97985), (Start: 12 @98051 has 2 MA's), (13, 98054), (18, 98108), (20, 98132), (25, 98204), (26, 98219), (27, 98237), (32, 98279),